Graduate Council Curriculum Subcommittee
November 14, 2007
1:30 p.m., 243 MH

Agenda

1. Welcome and call to order
2. Review revisions for the MA in Applied Learning and Instruction (COEd)
3. Review revisions for the MS in Technology (Interdisciplinary)
4. Addition of a Graduate Certificate in Emergency Management and Homeland Security
5. Review of courses and special topics
6. Approval of minutes from October 30, 2007
7. Announcements and adjournment
8. Next meeting: November 27, 2007, 12:30 p.m., MH 243

Florida Board of Governors
Request to Offer a New Degree Program

UNIVERSITY OF CENTRAL FLORIDA University Submitting Proposal	FALL 2008 Proposed Implementation Date
COLLEGE OF EDUCATION Name of College or School	EDUCATIONAL STUDIES Name of Department(s)
EDUCATION Academic Specialty or Field	MASTER OF ARTS IN APPLIED LEARNING AND INSTRUCTION-13.0101 Complete Name of Degree (Include Proposed CIP Code)

The submission of this proposal constitutes a commitment by the university that, if the proposal is approved, the necessary financial resources and the criteria for establishing new programs have been met prior to the initiation of the program.

Date Approved by the University Board of Trustees		President	Date
Signature of Chair, Board of Trustees	Date	Vice President for Academic Affairs	Date

Provide headcount (HC) and full-time equivalent (FTE) student estimates of majors for Years 1 through 5. HC and FTE estimates should be identical to those in Table 1. Indicate the program costs for the first and the fifth years of implementation as shown in the appropriate columns in Table 2. Calculate an Educational and General (E&G) cost per FTE for Years 1 and 5 (Total E&G divided by FTE).

Implementation Timeframe	Projected Student Enrollment (From Table 1)		Projected Program Costs (From Table 2)		
	HC	FTE	Total E&G Funding	Contract & Grants Funding	E&G Cost per FTE
Year 1	10	3.75	$49,086	0	$13,090
Year 2	25	10.31			
Year 3	45	16.41			
Year 4	55	19.69			
Year 5	60	20.63	$100,477	0	$4,870

Note: This outline and the questions pertaining to each section must be reproduced

within the body of the proposal to ensure that all sections have been satisfactorily addressed.

INTRODUCTION

I. Program Description and Relationship to System-Level Goals

A. Briefly describe within a few paragraphs the degree program under consideration, including (a) level; (b) emphases, including concentrations, tracks, or specializations; (c) total number of credit hours; and (d) overall purpose, including examples of employment or education opportunities that may be available to program graduates.

This 33 semester hour MA in Applied Learning and Instruction is designed for part-time students within our metropolitan region who work in business, government and schools and are interested in advanced educational training. It is anticipated that 10 students will enroll the first year and ultimately 60 students will be enrolled by the fifth year. Graduates of the program will be prepared for a wide range of professional education, government, and industry positions, conducting activities such as instruction, training, evaluation, and consulting. Housed in the Department of Educational Studies, the program will enable students to become scholars and practitioners in specialized areas of learning and instruction with potential application in post-secondary education and public and private sector instructional environments. This program also has a strong emphasis on improving learning and teaching effectiveness in the kindergarten to 12^{th} grade setting.

Envisioned Business Student Profile
The ideal program candidate from a business career will likely have a background in human resources, training, knowledge management, organizational effectiveness, administration, or communications and work in the private, government, or not-for-profit sectors. The candidate will frequently use presentation skills as a means to facilitate knowledge growth in coworkers and instill an organizational culture that emphasizes learning and skill development. Ideal candidates for this MA program are described below.

The candidate may have previously designed training and knowledge-based programs, but may have limited or no formal training in these areas. The candidate likely uses traditional methods of direct instruction as their preferred teaching method. The individual will have a desire to learn new and innovative ways to design programs, deliver instruction, motivate participants, and evaluate the success of their learning endeavors. The candidate will demonstrate a desire to enhance their personal effectiveness as an instructor with the goal of applying the latest evidence-based practices to promote organizational success.

Envisioned Education Student Profile
The ideal program candidate from an educational career will likely be a recently alternative certified teacher (a teacher who did not obtain state teacher certification through a state approved education degree program) or a newly certified teacher

employed in a kindergarten to 12th grade setting who is considering leaving the teaching professional prematurely due to a lack of teaching methodologies and professional knowledge which define a highly qualified teacher. This student will have a passion to teach, and the appropriate content knowledge, but will lack the strong academic background in educational psychology and applied curricular and instructional knowledge necessary to become a successful and highly qualified teacher. Note: According to the Bureau of Labor Statistics, 2007, alternate certification or licensure programs are for teachers who hold a bachelor's degree in the subject they will teach, but do not have the necessary education courses for regular licensure. (Bureau of Labor Statistics. Retrieved November 1, 2007 from http://www.bls.gov/oco/ocos069.htm.)

The primary objective of this MA in Applied Learning and Instruction is to prepare these students to work as trainers, educators, supervisors, or advanced practitioners in academic and corporate settings with a focus on extending the knowledge base of the instructional profession by using a multi-disciplinary orientation. To this end, we offer five specialization areas for students in this program.

- Psychological Foundations
- Business/Training
- Instructional Design
- Teaching
- Program Evaluation

All graduate students will take core courses in research methods, motivation, and human development, and will be engaged in research activities and the practical application of educational theories throughout their program. This extended work in learning and instruction will allow educators, particularly those who are alternatively certified, to extend their pedagogy and expertise via application of principles of educational psychology, which will, by extension, improve their students' learning and academic achievement. It will also provide those business candidates with training designed to enrich their roles as corporate educators.

An MA in Applied Learning and Instruction will assist the University of Central Florida in achieving its goal of becoming a premier metropolitan university. With the initiation of this master's program, the Department of Educational Studies will offer more advanced and varied courses related to research design, data analysis and learning to a broad graduate student audience interested in improving their classroom teaching or receiving advanced training in educational psychology and its applications to business and technology.

Given the program's emphasis on improving the knowledge base and skills in applied learning and instruction, its benefits will rapidly and significantly impact the state of Florida as well as the local community. For example, graduates in the MA in Applied Learning and Instruction will provide more highly skilled teachers to local schools, while providing business and industry with more effective and knowledgeable educators and trainers. In addition, one of the specializations, Teaching, is particularly well suited for

alternatively certified teachers who seek to advance their understanding of how to promote student learning in the classroom. This is imperative to positive school outcomes in our era of accountability.

Lastly, the design of this program represents a new and innovative approach to the professional development of classroom teachers and instructors within the business community. Unlike those of any other program in the country, program graduates will be prepared through their coursework to be excellent researchers and contributors to the developing field of learning specialists. This will be accomplished through the merging of theories from the fields of educational psychology, motivation and human learning to praxis in classroom and organizational instruction, program evaluation and instructional design. The program's applied focus will have a domain area of emphasis in both business and education. This is also unique. There are graduate programs in educational psychology, educational measurement, and teaching and learning. But, there is no program, to our knowledge, that emphasizes all three areas with an applied focus.

B. Describe how the proposed program is consistent with the current State University System (SUS) Strategic Planning Goals. Identify which goals the program will directly support and which goals the program will indirectly support. (See the SUS Strategic Plan at http://www.flbog.org/StrategicResources

Program Goals Alignment with SUS Strategic Plan Mission Statement

The SUS Mission

The Board has established specific, measurable goals related to: access to and production of degrees, meeting statewide professional and workforce needs, and building world-class academic programs and research capacity, while defining and approving university missions that meet community needs and fulfill unique institutional responsibilities.

Program Goals Alignment with SUS Strategic Plan Mission Statement

The programmatic goals for the MA in Applied Learning and Instruction are clearly aligned with the aforementioned SUS mission statement in the following ways:

* *Access to Degrees*
Multiple courses within the program will have a modified online component, with courses being delivered face to face, through media-enhanced courses, and through fully on-line courses. For example, 60% of the required core courses are currently offered as media-enhanced "M" courses, and 27% of the Teaching specialization courses are offered as fully online "W" courses. In online courses, a broader cross-section of students will have greater opportunity to enroll in UCF classes, helping the university to gain broad recognition while achieving its diversity goals.

* *Meeting Statewide Professional and Workforce Needs*

The MA program in Applied Learning and Instruction is designed to positively impact Florida's professional and workforce needs. It will accomplish this by producing graduates who are:

- Highly qualified classroom teachers.
- Professional educators, trainers and instructional designers for business and industry.
- Professionally trained program evaluators for schools and industry.

* *Building World Class Academic Programs*
The proposed program will provide a cutting-edge academic program with a cross-functional focus. By including applied elements directly related to careers in business, education and psychology, the MA in Applied Learning and Instruction is built on a multi-disciplinary base through partnerships with industry, education and business.

Currently there is no MA in the college (or the state of Florida) that provides opportunities for the diversity of students being targeted by this program. The new program will allow students to tailor their education to meet their personal and professional goals by building on existing coursework in the areas of learning theory and research methodology.

INSTITUTIONAL AND STATE LEVEL ACCOUNTABILITY

II. Need and Demand

A. Need: Describe national, state, and/or local data that support the need for more people to be prepared in this program at this level. Reference national, state, and/or local plans or reports that support the need for this program and requests for the proposed program which have emanated from a perceived need by agencies or industries in your service area. Cite any specific need for research and service that the program would fulfill.

Demonstrated Need for Program (academic, state, regional, national):

The proposed MA in Applied Learning and Instruction will meet the needs of professionals and practitioners in education, business and industry, as well as alternatively certified teachers by allowing students to individualize their program emphasis, with students selecting one of the following specializations:

- Psychological Foundations
- Business/Training
- Instructional Design
- Teaching
- Program Evaluation

Through this proposed program demonstrated needs in the education and business communities will be met, as discussed below.

Meeting the Needs of the Education Community

This program will meet the needs of a variety of professionals interested in increasing their understanding and application of psychological principles applied to educational settings, and is particularly well suited for alternatively certified teachers. The psychological foundations specialization will serve students interested in an advanced understanding of educational psychology. Currently, only two state universities offer a masters' degree in educational psychology. Principles of learning and instruction are also highly relevant to professionals working in the fields of instructional design and program evaluation. The proposed program is the only one in the state that allows students to specialize in these applied areas by first giving them a rigorous foundation in theories and research related to educational psychology.

The need for this program has become quite clear as an increasing percentage of teaching vacancies are filled by minimally qualified and alternatively certified teachers at a time when state and national guidelines are underscoring the need for more highly qualified teachers. The program's teaching specialization has been designed for professional educators with minimal certification, such as alternate certification. In the state of Florida the number of alternately certified teachers rose from 13,355 during the 1998-1999 school year to 17,918 during the 2003-2004 school year (The National Center for Education Information, 2007). Moreover, in Florida it is estimated that school districts will hire an estimated 20,000 teachers each year for the next five years (FLDOE, FCTM Conference, October 2007), and Central Florida school districts report that they expect about one-third (approximately 1,000) of their annual new hires to be alternately certified (Report from Certification Officers in Brevard, Volusia, Seminole, Lake, Orange and Osceola County School Districts, October 2007).This growing reliance on alternately certified teachers in the state of Florida comes at a time of national, state and local drives to improve the effectiveness and positive outcomes of various educational programs (such as the No Child Left Behind Act and Florida's A+ plan for Kindergarten through 12^{th} Grade).

> This increased dependency on alternatively certified teachers has been studied to better understand its strengths and shortcomings. For example, one study compared the characteristics of traditionally certified (TC) and alternatively certified (AC) teachers by analyzing data from a nationally representative sample of public school teachers (N = 14,721). The sample was constructed from the Schools and Staffing Survey 1993-1994, a national survey conducted by the National Center for Education Statistics. The findings supported some of the arguments for AC, such as alleviating teacher shortages in mathematics and science and in urban schools and diversifying the teaching force by recruiting more people of minorities into teaching. (Shen, 1997; p.276)

However, this report also raised serious concerns regarding the impact of alternatively certified (AC) policy:

- AC teachers appeared to have lower academic qualifications than did TC teachers;

- AC policy failed to recruit a significant number of experienced personnel from other occupations, and a large number of fresh college graduates took advantage of AC policy to circumvent the traditional teacher education program;
- A lower percentage of AC teachers treated teaching as a lifelong career than did TC teachers; and
- A high percentage of AC teachers working in inner-city schools raised the important issue of educational equity." (Shen, 1997; p. 276)

The proposed MA in Applied Learning and Instruction has a specialization particularly designed for these minimally prepared or alternatively certified teachers by providing them with value added advanced education courses focused on improving classroom instruction and assessment, as well as courses designed to make them more effective teachers in the non-traditional classroom setting. Moreover, as retention is often cited as a more critical issue than initial recruitment (Darling-Hammond & Sykes; 2003), the proposed program will be even more valuable as it is designed to improve the pedagogical knowledge and skills of minimally certified teachers currently struggling to remain in the classroom.

Envisioned Education Student Profile

The ideal program candidate from an educational career will likely be a recently alternative certified teacher (a teacher who did not obtain state teacher certification through a state approved education degree program) or a relatively new certified teacher employed in a kindergarten to 12^{th} grade setting who is considering leaving the teaching professional prematurely due to a lack of teaching methodologies and professional knowledge which define a highly qualified teacher.

Meeting the Needs of the Business and Industry Community

In addition to meeting the pressing needs of the education community, the proposed program will also meet the needs of professionals and practitioners involved in education within business and industry. Growing awareness of how learning integrates with social and psychological factors is increasing the demand for trainers and educators within the corporate setting who have augmented their technical knowledge with practical applications of pedagogical and psychological foundations (such as those offered within this program).

As business organizations move to further professionalize their training and development processes, it is projected that there will be a greater need for 'learning' rather than training (Garger; 1999). According to Lynch & Sugrue (2006), executives responsible for corporate learning need to have a solid grasp of theory and methods in both education and business, coupled with the abilities to lead, motivate and communicate. These authors conclude that chief learning officers needed to be solid corporate managers with specialized skills in learning and education. They further argue that corporate trainers and chief learning officers will require competencies in human psychology, motivation, and teaching and instructional methodology that addresses the needs of diverse learners. The core courses in the proposed Masters of Arts in Applied Learning address the competencies that are identified as vital for human resource development (McLagan;

1997). Key among these are:

- **Adult Learning Understanding** — knowing how adults acquire and use knowledge, skills, attitudes; understanding individual differences in learning. The proposed program will have a strong focus on theories of learning.
- **Training and Development Theories and Techniques Understanding** — knowing the theories and methods used in training and understanding their appropriate use. The proposed program will have a strong focus on theories of learning.
- **Research Skill** — selecting, developing, and using methodologies such as statistical and data collection techniques for formal inquiry. A required course of the proposed program is educational research methods. Students will also regularly study empirical research.
- **Organization Behavior Understanding** — seeing organizations as dynamic political, economic, and social systems which have multiple goals; using this larger perspective as a framework for understanding and influencing events and change. The proposed course will emphasize the motivation of individuals in an organizational setting.
- **Organization Development Theories and Techniques Understanding** — knowing the techniques and methods used in organization development; understanding their appropriate use. The proposed course will assist practitioners in determining organizational needs and appropriate implementations.
- **Relationship-Building Skill** — establishing relationships and networks across a broad range of people and groups. The proposed course will include a discussion of the social and culturally based influence upon learning and the diversity of learners.
- **Writing Skill** — preparing written material that follows generally accepted rules of style and form, is appropriate for the audience, is creative and accomplishes its intended purpose. Participants will be required to complete a writing project as one of the major degree assessments.
- **Data Reduction Skill** — scanning, synthesizing, and drawing conclusions from data. Students will learn data analysis techniques in several of the core courses in the proposed course.
- **Information Search Skill** — gathering information from printed and other recorded sources; identifying and using information specialists and reference services and aids. Students in the proposed course will be required to hone research and literature review skills.
- **Intellectual Versatility** — recognizing, exploring, and using a broad range of ideas and practices; thinking logically and creatively without undue influence from personal biases. Several of the core courses in learning and instruction have a critical thinking component and students will be encouraged to demonstrate problem-solving and analysis skills.

The growth of the chief learning officer is itself a demonstration of the trend in business corporations to get more efficiency and effectiveness from their training programs. In a survey of 92 chief learning officers from some of the leading business organizations

(Sugrue & Lynch; 2006), many respondents reported that they had received no formal training as trainers, but rather, had arrived at their current positions through a variety of career paths. For a role that is so vital to the success of an organization, the study highlighted a gap in training that addresses the needs of corporate trainers. Sugrue and Lynch advance the argument that the increasingly rigorous demands placed on training and development are a reflection of the rapidly changing and global nature of today's world and demand for a more strategic view of training and development that will better prepare employees to deal with the complexities of corporate demands. The proposed MA in Applied Learning and Instruction contains coursework that addresses these issues and is a vital step in ensuring that UCF maintains a competitive edge in serving the needs of a fast-growing business corridor in the Central Florida region and beyond.

Envisioned Business Student Profile

The ideal program candidate from a business career will likely have a background in human resources, training, knowledge management, organizational effectiveness, administration, or communications and work in the private, government, or not-for-profit sectors. The candidate will frequently use presentation skills as a means to facilitate knowledge growth in coworkers and instill an organizational culture that emphasizes learning and skill development.

B. Demand: Describe data that support the assumption that students will enroll in the proposed program. Include descriptions of surveys or other communications with prospective students.

Demand from the Educational Community

Based on focus group discussions and written communications with our public school partners in the central Florida area, program designers have identified a high demand from senior teachers, principals and administrators for a program which will help strengthen alternatively certified and/or struggling teachers in their schools. For example, a focus group of 12 teachers, principals, area superintendents and Title I directors from Seminole, Orange and Osceola Public School Districts met on October 19, 2007 with College of Education faculty and administrators to identify teacher qualities that must be addressed by graduate courses designed for currently certified, but struggling teachers. A sample of these needed qualities, which will be met by the proposed MA in Applied Learning and Instruction, follows:

- Behavior management
- Motivation of students in "F" schools
- Skills necessary for communicating with parents, teachers and the community
- Affective skills including empathy and compassion
- Ability to provide more flexible curriculum
- Conflict resolution skills
- Ability to handle power relationships
- Creative approaches to teaching
- Able to use assessment to modify curriculum
- Capable of building a supportive school environment
- Stress management skills

- Skills to effectively teach children living in poverty
- Professional pedagogical skills

The College of Education also surveys principals who supervised recent UCF teacher graduates with its annual "Employer's Survey for College of Education Program Completers." While the results of this survey strongly affirm current programs (with positive responses for the 2006 survey ranging from 72% to 86% regarding performance directly related to benchmarks for the 12 Florida Educator Accomplished Practices), the Principal's Survey does suggest areas where new, and often struggling teachers need to improve. These areas of need, as reflected by school principals in the central Florida area (listed below), are met by the proposed MA in Applied Learning and Instruction:

- Greater knowledge of human development and learning
- Better able to communicate with families, colleagues and community stakeholders
- Better able to effectively collect, interpretation and use of assessment data
- More frequent application of critical thinking and problem solving skills
- Better able to accommodate diverse student needs

An additional survey conducted by faculty designing this program during spring 2007 included 14 central Florida principals and ascertained their interest in topics proposed in the MA in Applied Learning and Instruction program. The following content topics, which have since been imbedded within the program, were reported by principals to be of "High" or "Moderate" interest:

- Theories about how people learn (100% of Principals)
- Educational research methods (100% of Principals)
- Motivating the unmotivated student (93% of Principals)
- Changing beliefs, behaviors, and attitudes (93% of Principals)
- Theories and research related to instruction (93% of Principals)
- Human development (71% of Principals)

Demand from the Education Student Population

Program designers obtained information on program satisfaction and future educational goals from the "UCF Graduating Graduate Student Survey, 2006-2007." Based on this survey it is clear that the proposed MA in Applied Learning and Instruction will meet these demands. In particular, the program will continue to fulfill student needs, which have already been highlighted as current strength in College of Education graduate programs:

- Courses scheduled at convenient, and often non-traditional times
- Opportunity to interact with faculty
- Quality of research in program
- Preparation for employment
    - 80% expect a higher salary due to a graduate degree in education
    - 93% expect employment in an education field upon graduation

The proposed program will also address the following unmet needs highlighted by current graduate students in the College of Education through the "UCF Graduating

Student Survey, 2006-2007":

- 56% indicated no conference papers submitted. (The proposed program makes this part of the Independent Learning Requirement.)
- 60% indicated no conference paper presentations. (The proposed program makes this part of the Independent Learning Requirement.)
- 64% indicated no journal article submitted. (The proposed program makes this part of the Independent Learning Requirement.)
- 84% indicated no journal article accepted. (The proposed program make this part of the Independent Learning Requirement.)

Program designers obtained information on undergraduate satisfaction, goals and needs from the "UCF Graduating Seniors 2006-2007 Questionnaire." Based on information obtained from this survey, the proposed MA in Applied Learning and Instruction has built upon the positive experiences expected by UCF education majors. These include:

- Positive experiences in frequently offered on-line classes.
- Positive academic experiences in undergraduate education program.

In designing the proposed MA in Applied Learning and Instruction, faculty have also addressed the following needs and desires of education majors expressed in the "UCF Graduating Seniors 2006-2007 Questionnaire."

- Need for more thinking/analytical problem solving. (Only 22% Rated as Excellent.)
- Need for independent learning experiences. (Only 35% Rated as Excellent.)
- Need for more academic emphasis on respecting different philosophies and cultures. (Only 31% Rated as Excellent.)
- Need for more emphasis on ethical practices. (Only 29% Rated as Excellent.)
- Need more emphasis on professional practices. (Only 35% Rated as Excellent.)

It should also be noted that 66% of the graduating College of Education seniors who completed the survey expected to earn a master's degree, and that this degree would be the highest education sought.

Demand from the Business and Industry Community

Data from the American Society for Training and Development (ASTD) indicate that the amount of money organizations in the United States spend on employee learning and development continues to increase. The average annual expenditure per employee in Benchmarking Forum organizations increased to $1,424 per employee in 2005, an increase of 4.0 % over 2004. The increased allocation of resources for training is an indication of the prevailing belief that smarter, better-trained workers increase chances of success. Companies are seeking a more strategic view of training and development, leading to the establishment of the chief learning officer, a role that until recently, was viewed as a novelty. There is a fast-growing need to move organizations from traditional methods of 'grandfathering' persons from the line into trainer positions based only on their years of experience. Organizations now place more importance on the enhancement of their training and development programs to ensure they are responsive to 'new

diversity', a reference to personality and learning style as key influences in training and development (Stuart; 2005).

As evidenced in the research of Lynch & Sugrue (2006), there is great demand for academic based programs that prepare professional trainers for the ever changing needs of corporate training and development. In a survey of 92 chief learning officers from some of the leading business organizations, the respondents listed the following as major challenges they faced in their role: communicating and measuring value, responding to organizational change, and content consistency and delivery. Although many of the respondents in this survey had received no formal training as trainers and arrived at their current positions through a variety of career paths, there was consensus that experience and education were valuable preparation for their position (Sugrue & Lynch, 2006). For a role that is so vital to the success of an organization, the study highlighted a gap in training that addresses the needs of corporate trainers.

Moreover, the US Department of Labor projects a 20% increase in the total employment of training and development specialists by the year 2014, with 58% holding a bachelors degree or higher. Human resources, training and labor relations specialists are projected to increase by 24%, while training and development managers are projected to grow by 26%, with 61% of these holding a bachelors degree or higher.

As the hospitality industry is the leading industry in the Orlando area, it is important to consider this industry in assessing the overall need for the proposed degree program. Professional organizations such as the Council of Hotel and Restaurant Trainers (CHART) clearly state the *Technical Knowledge and Education* required of industry trainers. CHART's expectations for industry trainers which underscore the outcomes of the MA in Applied Learning and Instruction include:

- **Personal Excellence**
  - Shows a passion for teaching others
  - Has a desire to facilitate learning
- **Self-Development Behaviors:**
  - Utilizes the experience and expertise of others
  - Engages in professional development
  - Takes the time to enhance professional knowledge
- **Technical Knowledge/Education**
  - Demonstrates basic training skills
  - Understands how to create an optimal learning environment
  - Excels in both verbal and written communication
  - Ensures that content is aligned with needs of the organization
- **Presentation Effectiveness**
  - Provides an interactive learning experience
  - Encourages class participation and sharing of ideas
  - Demonstrates group facilitation skills
  - Demonstrates a participant-centered approach
  - Maintains focus on the key objectives

- **Feedback and Development**
  - Uses positive reinforcement to build confidence
  - Sets clear expectations and holds trainees accountable for learning objectives
  - Provides constructive feedback
  - Engages trainees in learning by identifying and appealing to their strengths
  - Monitors trainee progress and provides useful feedback
- **Managing Relationships**
  - Appreciates the educational and cultural backgrounds of the students
  - Respects and treats all trainees in a fair and consistent manner
  - Shows empathy for trainees
  - Is comfortable with the diversity of trainees
  - Addresses conflict directly ands respectfully
- **Process Improvement**
  - Consistently evaluates effectiveness of training program
  - Involved in design of training curriculum
  - Actively shares best practices, knowledge and expertise with other instructors
  - Collaborates with others to develop effective training methods
- **Flexibility/Adapting to the Environment**
  - Anticipates individual training needs
  - Is able to cope with disruptive or challenging trainees
  - Quickly assesses the experience and skill level of new trainees
  - Engages disinterested trainees in the learning process

Not only do professional business organizations such as CHART underscore the need for trainers who have the skills and knowledge that can be derived from our proposed program, but it also underscores a financial benefit to appropriate and professional training. Quite simply put, "CHART members with higher training budgets had higher profit levels….CHART members reporting higher profit levels reported greater levels of training effectiveness…Profits are reportedly higher where the training function is well integrated with HR and senior executives show very positive support for training." (http://www.chart.org. Accessed on November 1, 2007). It is clear therefore, that business and industry see support of effective training as directly equated to higher profits. This is also echoed in the ASTD report that indicates a belief among companies that better trained workers increase chances of success. Thus, a demand for higher profits can be equated for a demand in more effective training, which is a direct end product of our proposed MA program for business and industry.

Moreover, some organizations are taking their corporate training to new innovative levels by introducing their own universities. Retail giant, Wal-Mart, has recently overhauled its entire training and development operations and doubled the training budget from $12 million to $24 million, a move that is likely to be copied by other business organizations. However, most organizations prefer to outsource their training and development so that the main focus remains on the business core. To this end, tuition reimbursement for

professional development and training continues to be a major budget item, rising from 11% in 2000 to 13.5% in 2005. Institutions of higher education are beginning to respond to the demand for professional training by offering programs that will cater to the needs of organizations. For example, the Graduate School of Education at the University of Pennsylvania recently introduced an executive doctoral degree in work-based learning leadership in 2006 to address what has been identified as a gap in the training of corporate training and learning officers. The University of South Florida has also recently proposed a master's degree program in educational psychology. UCF's proposed MA in Applied Learning and Instruction is a vital step in ensuring that UCF maintains a competitive edge in serving the needs of a fast-growing business corridor in the Central Florida region and beyond.

To determine if this need for better educated trainers was also reflected by central Florida business, a survey of 17 of the largest revenue generating business in Orlando was conducted by faculty during spring 2007 to ascertain interest in topics proposed in the MA in Applied Learning and Instruction program (which has a specialization in Business/Industry). The following content topics, which have since been imbedded within the program, were reported by they surveyed businesses as being of "High" or "Moderate" interest:

- Motivating the unmotivated student (95% of Businesses)
- Changing beliefs, behaviors, and attitudes (83% of Businesses)
- Human development (70% of Principals)

It is of interest to note that 12 of the 17 business surveyed reported supporting employee continuing education through tuition reimbursement or financial subsidy schemes for their employees.

Demand from the Business/Industry Student Population

Program designers obtained results of the 2006-2007 Graduating Graduate Students Survey from the College of Business Administration at UCF. The results indicated that 93% of students regard the reputation of a program as important in their selection of a graduate program. The proposed MA in Applied Learning and Instruction has drawn faculty who have established themselves or are in the process of becoming renowned researchers and scholars in their field, building upon several combined years of experience both in education and business. This will be important in building the reputation of the program.

The proposed program will also address areas that emerge as opportunities for growth as indicated in the above referenced Graduating Graduate Students Survey results. For example, only 24% of the students rated the 'preparation given to graduate students for teaching' as Excellent. The course work in the proposed program will provide an overview of instructional methods and theories of learning as well as the design of instructional materials.

A review of the results from the above survey indicated a need for growth in areas of student research productivity. The following areas emerged as needing further development:

- Conference papers submitted (75% indicated none).
- Conference paper presented (84% indicated none)
- Journal articles submitted (90% indicated none).
- Journal articles accepted (92% indicated none).

Additionally, only 18% of the responding students rated the opportunity to interact with faculty as Excellent, and 8.5% of students rated the availability of faculty to work with students on research as Excellent. Research is a significant element of the proposed MA program from the onset, and students begin with a critical analysis and review of the literature in Applied Learning and Instruction, and the Fundamentals of Graduate Research in Education course. Further, the Independent Learning Requirement in the proposed MA program requires the completion of a research project. By the end of the fourth semester, students must either submit a research study to a refereed journal, or submit a proposal for a presentation at an annual conference of a national or local organization. Interaction with faculty will also be enhanced by the appointment of a faculty member as program coordinator. This individual will be charged with the responsibility of advising students and providing them with any necessary support.

In designing the proposed MA in Applied Learning and Instruction, faculty have also addressed the following needs and desires of business administration graduate students expressed in the "UCF Graduating Graduate Students 2006-2007 Questionnaire."

- Availability of courses at convenient times. (Only 14% rated as Excellent.)
- Ability to carry our systematic research. (Only 30% positive responses in this area)

The proposed MA combines multiple course delivery formats and infuses research requirements at all levels of the program.

In the results of the 2006-2007 Graduating Seniors Survey from the UCF College of Business Administration, 69% of students responding indicated that they planned to pursue a master's degree. More than 95% of these students rated their experience at UCF as Good, Very Good or Excellent. Based on this rating, it is therefore likely that these students would look for graduate programs within UCF. The proposed MA in Applied Learning and Instruction will target these students, thereby providing them with further options to advance their studies.

In addition, the proposed program will continue to fulfill student needs, building upon areas in which students express satisfaction. For example, of students who used online class scheduling frequently, 90% rated their experience as Good, Very Good, or Excellent. The proposed MA will combine multiple delivery formats for the courses available in the program, with a large number of the courses offering W sections.

In addition, the program will seek to strengthen the following areas that the results of the Graduating Seniors Survey highlight as needing further development:

- Thinking logically/resolving analytical problems. (Only 22% rated preparation in this area as Excellent.)
- Working independently/Learning on your own. (Only 26% rated preparation in this area as Excellent.)
- Working cooperatively in a group (Only 32% rated preparation in this area as Excellent.)
- Respecting different philosophies and cultures. (Only 18% rated preparation as Excellent.)
- Need for more emphasis on ethical practices. (Only 29% Rated as Excellent.)
- Need more emphasis on professional practices. (Only 35% Rated as Excellent.)

It should be noted that over 95% of students rated their overall experience at UCF as positive and almost 90% of students would recommend UCF to a friend or relative considering college.

(See Appendix E for Supporting Communication)

C. If similar programs (either private or public) exist in the state, identify the institution(s) and geographic location(s). Summarize the outcome(s) of any communication with such programs with regard to the potential impact on their enrollment and opportunities for possible collaboration (instruction and research).

When we began developing this program, we conducted a competitor analysis to examine programs within UCF, the State of Florida, and nationally so that we could determine if there was a need for our program and whether there was significant overlap between local or state programs and the one we were designing. We analyzed local and state programs related to learning and cognition and educational psychology. We also examined national programs to identify common program elements that we might want to include in our program. From this analysis (see Appendix F), we planned a series of meetings with UCF faculty and administrators who might have interest in our program and/or who might have interest in collaborating with us on this program. First, we met with Dr. Diane Chase, the UCF coordinator for Interdisciplinary Studies, to have her determine the interest other departments might have in collaborating with faculty linked to this proposed program. Then, based on her feedback, we met with the Dr. Jaishankar Ganesh, director of graduate program in the College of Business, as well as with Dr. Robert Dipboye, chair of the Psychology Department. Dr. Ganesh was very interested in collaborating with us and saw no conflict of interest between our programs; hence, we added a specialization in business and training to the MA in Applied Learning and Instruction. Dr. Dipboye suggested we meet with the Psychology Department during a faculty meeting and present our proposal. The psychology faculties saw no potential conflicts between our programs and were interested in collaboration between our two

departments. We added a specialization area in psychological foundations due to their feedback.

Our analysis of local UCF programs indicated a potential conflict between our program and the School Psychology Program housed in the College of Education, but in several meetings and emails with the program coordinator and faculty, the School Psychology Program indicated support for our program and no conflict, though they were less sure of any areas of potential collaboration.

Next, we examined state and national programs (see Appendix F). Within the state of Florida, no other universities have a similar program in Applied Learning and Instruction. The program at Florida State centers on "learning and cognition," a component of our proposed program, but they do not specifically target alternatively certified teachers or the business community. The University of Florida has an MA in Educational Psychology degree program, but that degree program is specifically a research degree designed to prepare students to enter the Ph.D. in educational psychology; whereas our MA in Applied Learning and Instruction is primarily an applied degree program targeting existing teachers, business leaders, and graduating seniors interested in applying learning and instruction principles to practice. The University of South Florida and Florida International University do not have educational psychology programs; however, the University of South Florida currently offers "Cognate Studies in Educational Psychology/Human Development in Education" within its College of Education, and is "currently working toward the development of an independent graduate program, at both the master's and doctoral levels" (USF on-line catalog, accessed October 25, 2007), a clear indication of our need to remain competitive.

The University of Miami, the University of North Florida, the University of West Florida, Stetson University, Barry University, The University of Phoenix and Nova Southeastern University do not currently offer graduate programs targeting the broad population that we intend to serve, nor do they offer the flexibility in student degree emphasis, thereby allowing UCF to establish a niche in this market.

Our analysis of national programs indicated that we are offering a unique master's degree, yet our core course offerings reflect standard practice in the field of educational psychology. Where the MA in Applied Learning and Instruction differs from national programs is in our variety of specialization courses offered, as well as our focus on application rather than only research.

(Refer to appendix F for Supporting Documentation)

D. Use Table 1 (A for undergraduate and B for graduate) to categorize projected student headcount (HC) and Full Time Equivalents (FTE) according to primary sources. Generally undergraduate FTE will be calculated as 40 credit hours per year and graduate FTE will be calculated as 32 credit hours per year. Describe the rationale underlying enrollment projections. If, initially, students within the institution are expected to change majors to enroll in the proposed program, describe the shifts from disciplines that will likely occur.

TABLE 1-B
PROJECTED HEADCOUNT FROM POTENTIAL SOURCES
(MA in Applied Learning and Graduate Degree Program)

Source of Students (Non-duplicated headcount in any given year)*	Year 1		Year 2		Year 3		Year 4		Year 5	
	HC	FTE	HC	FTE	HC	FTE	HC	FTE	HC	FTE
Individuals drawn from agencies/industries in your service area (e.g., older returning students)	3	1.13	8	3.28	14	5.16	17	6.00	18	6.19
Students who transfer from other graduate programs within the university**	0	0.00	0	0	0	0	0	0	0	0
Individuals who have recently graduated from preceding degree programs at this university	5	1.88	13	5.34	23	8.44	28	9.94	30	10.31
Individuals who graduated from preceding degree programs at other Florida public universities	1	0.38	2	0.84	4	1.41	5	1.88	6	2.06
Individuals who graduated from preceding degree programs at non-public Florida institutions	1	0.38	2	0.84	4	1.41	5	1.88	6	2.06
Additional in-state residents***	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Additional out-of-state residents***	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Additional foreign residents***	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Other (Explain)***	0	0.00	0	0.00	0	0.00	0	0.00	0	0.000
Totals	**10**	**3.75**	**25**	**10.31**	**45**	**16.41**	**55**	**19.69**	**60**	**20.63**

* List projected yearly cumulative ENROLLMENTS instead of admissions
** If numbers appear in this category, they should go DOWN in later years.

*** Do not include individuals counted in any PRIOR category in a given COLUMN.

The rationale for the development of graduate enrollment projections in Table 1-B, above, is based on current enrollment patterns within the College of Education. The College of Education attracts a large portion of its master's students from its current undergraduate population (in some programs up to 70%). Thus, the headcount figures in Table 1-B reflects a conservative 50% of the projected enrollment coming from its undergraduate population. As the program is designed to attract graduates currently working in industry/business or in school/private clinics (Specializations in Business/Training, Psychological Foundations and Instructional Design), approximately 30% of the projected enrollment is expected to come from "Individuals drawn from agencies/industries in your service area", while the remainder, as a reflection of our current graduate student body, are expected to come from "Individuals who graduated from preceding degree programs at UCF or at Other Florida public universities."

E. Indicate what steps will be taken to achieve a diverse student body in this program, and identify any minority groups that will be favorably or unfavorably impacted. <u>The university's Equal Opportunity Officer should read this section and then sign and date in the area below.</u>

The College of Education proposes to actively recruit minority students and under-represented populations for the MA in Applied Learning and Instruction program in the following ways:

- A marketing strategy to increase diversity will be developed to include broad advertising on campus, both in Education and in other majors. UCF's Office of Student Involvement (http://www.osa.ucf.edu/home.html) maintains a list of minority student organizations which include the African American Student Union, the Asian Student Association, the Hispanic American Student Association, and Society for Women Educators. These groups will be the focus of a special effort to increase diversity in our program.
- The program will selectively advertise in national journals and newsletters aimed at educational professionals. These may include professional organization journals and newsletters from *The Florida Education Association*.
- Regional and local minority-targeted media sources such as *FLAVOR: Black Life and Style,* and *El Sentinel* are also important outlets to attract minority students.
- The program will maintain an active, carefully constructed website of the proposed program, faculty, research opportunities, internship sites, and career opportunities, and will provide information about admission, curriculum, and graduation requirements.
- Information announcing the program will be sent to all colleges and universities that offer undergraduate degrees and graduate certificates in Education, including those universities that have high minority student enrollment. Also, we will use the SUS database of college juniors and seniors at other state universities to target particular majors.
- UCF is collaborating with Orange County Public Schools (OCPS) in developing courses and collaborating in research projects related to Applied Learning and Instruction. This collaboration will also provide a great opportunity to recruit

minority students from OCPS to apply to UCF's Applied Learning and Instruction degree program once it is in place.

Currently (Fall 2007) of the 5,249 active students enrolled in the College of Education, 502 students are of Hispanic/Latino ethnic origin, 350 African American, 27 Native American, and 121 Asian. The gender distribution is male 958 and female 4,291. Thus it seems the College of Education attracts students from under-represented groups, though some gender imbalance remains, which is reflective of the profession.

_____ _____

Equal Opportunity Officer Date

III. Budget

A. Use Table 2 to display projected costs and associated funding sources for Year 1 and Year 5 of program operation. Use Table 3 to show how existing Education & General funds will be shifted to support the new program in Year 1. In narrative form, summarize the contents of both tables, identifying the source of both current and new resources to be devoted to the proposed program. (Data for Year 1 and Year 5 reflect snapshots in time rather than cumulative costs.)

TABLE 2
PROJECTED COSTS AND FUNDING SOURCES

Instruction & Research Costs (non-cumulative)	Year 1						Year 5				
	Funding Source						Funding Source				
	Reallocated Base * (E&G)	Enrollment Growth (E&G)	Other New Recurring (E&G)	New Non-Recurring (E&G)	Contracts & Grants (C&G)	Subtotal E&G and C&G	Continuing Base** (E&G)	New Enrollment Growth (E&G)	Other*** (E&G)	Contracts & Grants (C&G)	Subtotal E&G and C&G
Faculty Salaries and Benefits	$8,348	$22,261	$0	$0	$0	$30,608	$0	$83,477	$0	$0	$83,477
A&P Salaries and Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
USPS Salaries and Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Personnel Services	$0	$0	$12,000	$0	$0	$12,000	$0	$0	$12,000	$0	$12,000
Assistantships and Fellowships	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Library	$0	$2,000	$0	$0	$0	$2,000	$0	$0	$0	$0	$0
Expenses	$5,000	$0	$0	$0	$0	$5,000	$5,000	$0	$0	$0	$5,000
Operating Capital Outlay	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Special Categories	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Costs	$13,348	$24,261	$12,000	$0	$0	$49,608	$5,000	$83,477	$12,000	$0	$100,477

*Identify reallocation sources in Table 3.

**Includes recurring E&G funded costs ("reallocated base", "enrollment growth", and "other new recurring") from Years 1-4 that continue into Year 5.

Faculty and Staff Summary

Total Positions (person-years)	Year 1	Year 5
Faculty	0.17	0.83
A&P	0	0
USPS	0	0

Calculated Cost per Student FTE

		Year 1	Year 5
Total E&G Funding		$49,608	$100,477
Annual Student FTE		3.75	20.625
E&G Cost per FTE		$13,229	$4,872

Worksheet Table 2 Budget

New E&G	$36,261	New E&G	$95,477

The rationale for the development of graduate enrollment projections in Table 1-B, above, is based on current enrollment patterns within the College of Education. The College of Education attracts a large portion of its master's students from its current undergraduate population (in some programs up to 70%). Thus, the headcount figures in Table 1-B reflects a conservative 50% of the projected enrollment coming from its undergraduate population. As the program is designed to attract graduates currently working in industry/business or in school/private clinics (Specializations in Business/Training, Psychological Foundations and Instructional Design), approximately 30% of the projected enrollment is expected to come from "Individuals drawn from agencies/industries in your service area", while the remainder, as a reflection of our current graduate student body, are expected to come from "Individuals who graduated from preceding degree programs at UCF or at Other Florida public universities."

TABLE 3
ANTICIPATED REALLOCATION OF EDUCATION AND GENERAL FUNDS

Program and/or E&G account from which current funds will be reallocated during Year 1	Base before reallocation	Amount to be reallocated	Base after reallocation
14 26 0001 Educational Studies	$1,809,176	$0.00	$1,809,176
Totals	$1,809,176	$0	$1,809,176

Worksheet Table 3 Reallocation

To control startup costs, the program has been designed to begin the first year with courses already offered on the regular schedule (as reflected in Table 3, above). No new classes or sections will be offered until the beginning of year two when the second student cohort is enrolled, providing a large enough student base to require new sections/courses. For comparison, the fifth year budget will include $20,000 for adjunct replacement costs for existing faculty to teach the equivalent of 10 additional sections of new course sections. This budget also includes the adjunct costs related to the reassignment of the Program Director (one class each fall semester and one class each spring semester, for an additional $5,000). The total reallocated amount in the fifth year is equal to approximately 1.4% of the total Educational Studies Department budget for one year.

B. If other programs will be impacted by a reallocation of resources for the proposed program, identify the program and provide a justification for reallocating resources. Specifically address the potential negative impacts that implementation of the proposed program will have on related undergraduate programs (i.e., shift in faculty effort, reallocation of instructional resources, reduced enrollment rates, greater use of adjunct faculty and teaching assistants). Explain what steps will be taken to mitigate any such impacts. Also, discuss the potential positive impacts that the proposed program might have on related undergraduate programs (i.e., increased undergraduate research opportunities, improved quality of instruction associated with cutting-edge research, improved labs and library resources).

While some undergraduate and/or graduate courses in the Educational Studies Department may initially be impacted through the assignment of more adjuncts (to replace faculty reallocated to this new program), this will not begin until year two of the program, and will have negligible impact until year three. It is anticipated that this impact will be overcome by the hiring of new full-time faculty from enrollment growth funds to teach these undergraduate classes. Potential positive impacts to undergraduate education may occur from opportunities to participate in research projects generated from this new program, as well as access to augmented library resources.

C. Describe other potential impacts on related programs or departments (e.g., increased need for general education or common prerequisite courses, or increased need for required or elective courses outside of the proposed major).

As reflected in budget calculations, two new course sections of existing courses from the Educational Research, Technology and Leadership Department (EDF 6481 and EME 6613) will be added in years three and four of the program. This should be counterbalanced by earned SCHs. As it is unclear what specializations will be selected by enrolled students, no immediate predictions can be made regarding the need for additional sections of specialization electives, though it is not anticipated that any one course would be heavily impacted given the number of electives being offered.

D. Describe what steps have been taken to obtain information regarding resources (financial and in-kind) available outside the institution (businesses, industrial organizations, governmental entities, etc.). Describe the external resources that appear to be available to support the proposed program.

At this point, internal resources from the College of Education and Department of Educational Studies will be used for this program, though it is anticipated that external funding will be sought from government and foundation sources, as has been done (successfully) with multiple programs within the College (such as the Lockheed Martin Academy, the T-MAST Program and the Toni Jennings Exceptional Education Institute in the College of Education's Teaching Academy).

IV. Projected Benefit of the Program to the University, Local Community, and State

Use information from Table 1, Table 2, and the supporting narrative for "Need and Demand" to prepare a concise statement that describes the projected benefit to the university, local community, and the state if the program is implemented. The projected benefits can be both quantitative and qualitative in nature, but there needs to be a clear distinction made between the two in the narrative.

Quantitative Benefits to University, Community, and State

The need for this program has become quite clear as an increasing percentage of teaching vacancies are filled by minimally qualified and alternatively certified teachers at a time when state and national guidelines are underscoring the need for more highly qualified teachers. The program's teaching specialization has been designed for professional educators with minimal certification, such as alternate certification. In the state of Florida the number of alternately certified teachers rose from 13,355 during the 1998-1999 school year to 17,918 during the 2003-2004 school year (The National Center for Education Information, 2007). Moreover, in Florida it is estimated that school districts will hire an estimated 20,000 teachers each year for the next five years (FLDOE, FCTM Conference, October 2007), and Central Florida school districts report that they expect about one-third (approximately 1,000) of their annual new hires to be alternately certified (Report from Certification Officers in Brevard, Volusia, Seminole, Lake, Orange and Osceola County School Districts, October 2007).This growing reliance on alternately certified teachers in the state of Florida comes at a time of national, state and local drives to improve the effectiveness and positive outcomes of various educational programs (such as the No Child Left Behind Act and Florida's A+ plan for Kindergarten through 12^{th} Grade).

Data from the American Society for Training and Development (ASTD) indicate that the amount of money organizations in the United States spend on employee learning and development continues to increase. The average annual expenditure per employee in Benchmarking Forum organizations increased to $1,424 per employee in 2005, an increase of 4.0 % over 2004. The increased allocation of resources for training is an indication of the prevailing belief that smarter, better-trained workers increase chances of

success. Companies are seeking a more strategic view of training and development, leading to the establishment of the chief learning officer, a role that until recently, was viewed as a novelty. There is a fast-growing need to move organizations from traditional methods of 'grandfathering' persons from the line into trainer positions based only on their years of experience. Organizations now place more importance on the enhancement of their training and development programs to ensure they are responsive to 'new diversity', a reference to personality and learning style as key influences in training and development (Stuart; 2005).

Moreover, the US Department of Labor projects a 20% increase in the total employment of training and development specialists by the year 2014, with 58% holding a bachelors degree or higher. Human resources, training and labor relations specialists are projected to increase by 24%, while training and development managers are projected to grow by 26%, with 61% of these holding a bachelors degree or higher.

Given these quantitative needs within the fields of education and business, this proposed program is designed to enroll up to 60 graduate students per year by the end of the fifth year, thus helping to alleviate the needs for more highly qualified classroom teachers and skilled corporate trainers. This program will also help to meet the needs of our undergraduate students who have indicated their desire for completing a masters program at UCF. The headcount figures in Table 1-B reflect a conservative 50% of the projected enrollment coming from its undergraduate population. As the program is designed to attract graduates currently working in industry/business or in school/private clinics (Specializations in Business/Training, Psychological Foundations and Instructional Design), approximately 30% of the projected enrollment is expected to come from "Individuals drawn from agencies/industries in your service area", while the remainder, as a reflection of our current graduate student body, are expected to come from "Individuals who graduated from preceding degree programs at UCF or at Other Florida public universities." (See Table 1-B and Section II.)

Qualitative Benefits to University, Community, and State

Benefits to the University

An MA in Applied Learning and Instruction will assist the University of Central Florida in achieving its goal of becoming a premier metropolitan university. With the initiation of this master's program, the Department of Educational Studies will offer more advanced and varied courses related to research design, data analysis and learning to a broad graduate student audience interested in improving their classroom teaching or receiving advanced training in educational psychology and its applications to business and technology.

The programmatic goals for the MA in Applied Learning and Instruction are also beneficial as it fulfills its mission in the following ways:

- *Access to Degrees*

Multiple courses within the program will have a modified online component, with courses being delivered face to face, through media-enhanced courses, and through fully

on-line courses. Sixty percent of the required core courses are currently offered as media-enhanced "M" courses, and 27% of the Teaching specialization courses are offered as fully online "W" courses. In online courses, a broader cross-section of students will have greater opportunity to enroll in UCF classes, helping the university to gain broad recognition while achieving its diversity goals.

- *Meeting Statewide Professional and Workforce Needs*

The MA program in Applied Learning and Instruction is designed to positively impact Florida's professional and workforce needs. It will accomplish this by producing graduates who are:

  - Highly qualified classroom teachers.
  - Professional educators, trainers and instructional designers for business and industry.
  - Professionally trained program evaluators for schools and industry.

- *Building World Class Academic Programs*

The proposed program will provide a cutting-edge academic program with a cross-functional focus. By including applied elements directly related to careers in business, education and psychology, the MA in Applied Learning and Instruction is built on a multi-disciplinary base through partnerships with industry, education and business.

Finally, an MA in Applied Learning and Instruction will assist the University of Central Florida in achieving its goal of becoming a premier metropolitan university. With the initiation of this master's program, the Department of Educational Studies will offer more advanced and varied courses related to research design, data analysis and learning to a broad graduate student audience interested in improving their classroom teaching or receiving advanced training in educational psychology and its applications to business and technology. Currently there is no MA in the college (or the state of Florida) that provides opportunities for the diversity of students being targeted by this program. The new program will allow students to tailor their education to meet their personal and professional goals by building on existing coursework in the areas of learning theory and research methodology.

Benefits to UCF's Students

The proposed program will benefit the UCF's students by being designed to achieve the following unmet needs highlighted by current graduate students in the College of Education through the "UCF Graduating Student Survey, 2006-2007":

- 56% indicated no conference papers submitted. (The proposed program makes this part of the Independent Learning Requirement.)
- 60% indicated no conference paper presentations. (The proposed program makes this part of the Independent Learning Requirement.)
- 64% indicated no journal article submitted. (The proposed program makes this part of the Independent Learning Requirement.)
- 84% indicated no journal article accepted. (The proposed program make this part of the Independent Learning Requirement.)

The proposed program will also directly benefit undergraduate students who plan to obtain a master's degree by addressing the following needs which were reported in the

"UCF Graduating Seniors 2006-2007 Questionnaire."

- Need for more thinking/analytical problem solving. (Only 22% Rated as Excellent.)
- Need for independent learning experiences. (Only 35% Rated as Excellent.)
- Need for more academic emphasis on respecting different philosophies and cultures. (Only 31% Rated as Excellent.)
- Need for more emphasis on ethical practices. (Only 29% Rated as Excellent.)
- Need more emphasis on professional practices. (Only 35% Rated as Excellent.)

It should also be noted that 66% of the graduating College of Education seniors who completed the survey expected to earn a master's degree, and that this new MA program in Applied Learning and Instruction will provide them with a new and innovative option..

Benefits to the Community and State

Given the program's emphasis on improving the knowledge base and skills in applied learning and instruction, its benefits will rapidly and significantly impact the state of Florida as well as the local community. For example, graduates in the MA in Applied Learning and Instruction will provide more highly skilled teachers to local schools, while providing business and industry with more effective and knowledgeable educators and trainers. In addition, one of the specializations, Teaching, is particularly well suited for alternatively certified teachers who seek to advance their understanding of how to promote student learning in the classroom. This is imperative to positive school outcomes in our era of accountability.

Lastly, the design of this program represents a new and innovative approach to the professional development of classroom teachers and instructors within the business community. Unlike those of any other program in the country, program graduates will be prepared through their coursework to be excellent researchers and contributors to the developing field of learning specialists. This will be accomplished through the merging of theories from the fields of educational psychology, motivation and human learning to praxis in classroom and organizational instruction, program evaluation and instructional design. The program's applied focus will have a domain area of emphasis in both business and education. This is also unique. There are graduate programs in educational psychology, educational measurement, and teaching and learning. But, there is no program, to our knowledge, that emphasizes all three areas with an applied focus.

Education Options: Specific Benefits to the Community and State

This program will benefit a variety of professionals interested in increasing their understanding and application of psychological principles applied to educational settings, and is particularly well suited for alternatively certified teachers. The psychological foundations specialization will serve students interested in an advanced understanding of educational psychology. Currently, only two state universities offer a masters' degree in educational psychology. Principles of learning and instruction are also highly relevant to professionals working in the fields of instructional design and program evaluation. The proposed program is the only one in the state that allows students to specialize in these applied areas by first giving them a rigorous foundation in theories and research related to

educational psychology.

Moreover, the proposed MA in Applied Learning and Instruction has a specialization particularly designed to benefit minimally prepared or alternatively certified teachers by providing them with value added advanced education courses focused on improving classroom instruction and assessment, as well as courses designed to make them more effective teachers in the non-traditional classroom setting. Moreover, as retention is often cited as a more critical issue than initial recruitment (Darling-Hammond & Sykes; 2003), the proposed program will be even more valuable as it is designed to improve the pedagogical knowledge and skills of minimally certified teachers currently struggling to remain in the classroom.

Business Option: Specific Benefits to the Community and State

In addition to the obvious benefits to the education community, the proposed program will also benefit professionals and practitioners involved in education within business and industry. Growing awareness of how learning integrates with social and psychological factors is increasing the demand for trainers and educators within the corporate setting who have augmented their technical knowledge with practical applications of pedagogical and psychological foundations (such as those offered within this program).

As business organizations move to further professionalize their training and development processes, it is projected that there will be a greater need for 'learning' rather than training (Garger; 1999). According to Lynch & Sugrue (2006), executives responsible for corporate learning will benefit from having a solid grasp of theory and methods in both education and business, coupled with the abilities to lead, motivate and communicate. These authors conclude that chief learning officers needed to be solid corporate managers with specialized skills in learning and education. They further argue that corporate trainers and chief learning officers will require competencies in human psychology, motivation, and teaching and instructional methodology that addresses the needs of diverse learners. The core courses in the proposed Masters of Arts in Applied Learning address the competencies that have been identified as vital for human resource development (McLagan; 1997).

An MA in Applied Learning and Instruction will assist the University of Central Florida in achieving its goal of becoming a premier metropolitan university. As is common at other such universities, UCF's Department of Educational Studies offers courses that are taken by students in other departments in the College of Education and throughout the university. With the initiation of this master's program, the Department of Educational Studies will offer more advanced and varied courses related to research design, data analysis and learning to a broad graduate student audience interested in improving their classroom teaching or receiving advanced training in educational psychology and its applications to business and technology.

Given the program's emphasis on improving the knowledge base and skills in applied learning and instruction, its benefits will rapidly and significantly impact the state of Florida as well as the local community. For example, graduates in the MA in Applied

Learning and Instruction will provide more highly skilled teachers to local schools, while providing business and industry with effective and knowledgeable educators and trainers.

V. Access and Articulation – Bachelor's Degrees Only

A. If the total number of credit hours to earn a degree exceeds 120, provide a justification for an exception to the policy of a 120 maximum and submit a request to the BOG for an exception along with notification of the program's approval. (See criteria in BOG Regulation 6C-8.014)

Not applicable. This is a Masters Degree Program

B. List program prerequisites and provide assurance that they are the same as the approved common prerequisites for other such degree programs within the SUS (see Common Prerequisite Manual http://www.facts.org). The courses in the Common Prerequisite Counseling Manual are intended to be those that are required of both native and transfer students prior to entrance to the major program, not simply lower-level courses that are required prior to graduation. The common prerequisites and substitute courses are mandatory for all institution programs listed, and must be approved by the Articulation Coordinating Committee (ACC). This requirement includes those programs designated as "limited access."

If the proposed prerequisites are not listed in the Manual, provide a rationale for a request for exception to the policy of common prerequisites. NOTE: Typically, all lower-division courses required for admission into the major will be considered prerequisites. The curriculum can require lower-division courses that are not prerequisites for admission into the major, as long as those courses are built into the curriculum for the upper-level 60 credit hours. If there are already common prerequisites for other degree programs with the same proposed CIP, every effort must be made to utilize the previously approved prerequisites instead of recommending an additional "track" of prerequisites for that CIP. Additional tracks may not be approved by the ACC, thereby holding up the full approval of the degree program. Programs will not be entered into the State University System Inventory until any exceptions to the approved common prerequisites are approved by the ACC.

Not applicable. This is a Masters Degree Program

C. If the university intends to seek formal Limited Access status for the proposed program, provide a rationale that includes an analysis of diversity issues with respect to such a designation. Explain how the university will ensure that community college transfer students are not disadvantaged by the Limited Access status. NOTE: The policy and criteria for Limited Access are identified in BOG Regulation 6C-8.013. Submit the Limited Access Program Request form along with this document.

Not applicable. This is a Masters Degree Program

D. If the proposed program is an AS-to-BS capstone, ensure that it adheres to the guidelines approved by the Articulation Coordinating Committee for such programs, as set forth in Rule 6A-10.024 (see Statewide Articulation Manual http://www.facts.org). List the prerequisites, if any, including the specific AS degrees which may transfer into the program.

Not applicable. This is a Masters Degree Program

INSTITUTIONAL READINESS

VI. Related Institutional Mission and Strength

A. Describe how the goals of the proposed program relate to the institutional mission statement as contained in the SUS Strategic Plan and the University Strategic Plan.

Program Goals Alignment with UCF Strategic Plan Mission Statement

UCF's Mission
The University of Central Florida is a public, multi-campus, metropolitan research university, dedicated to serving its surrounding communities with their diverse and expanding populations, technological corridors, and international partners. The mission of the university is to offer high-quality undergraduate and graduate education, student development, and continuing education; to conduct research and creative activities; to provide services that enhance the intellectual, cultural, environmental, and economic development of the metropolitan region, address national and international issues in key areas, establish UCF as a major presence, and contribute to the global community.

Service to Surrounding Communities
This program, oriented towards those in our community who want better educational training skills in K-12 classrooms or in business, is designed to deliver on UCF's mission of providing services that enhance the intellectual development and contributions of those in our metropolitan region. The proposed degree is related to UCF's Mission, Vision, Goals, and Strategic Initiatives, and the curriculum is timely and important for the growth of a metropolitan research university.

For example, one UCF goal, which is to increase the quantity and quality of education in instructional design, using cutting-edge technology, is embedded within the new program. Not only will the curriculum in this program provide an excellent educational experience for UCF students, but the collaborative research will also continue to enhance the national and international prominence and visibility of UCF in this program.

Also, this program provides access to our local community to both business and K-12 educators needing further education to improve their lives. This program will be delivered in several formats, some face-to-face, some on-line, and some using mixed

modes. The online portions of the program will clearly provide access to those that are place-bound.

High Quality Graduate Education

The design of the program represents a new and innovative approach to the professional development of classroom teachers and trainers within the business community. Unlike any other program in the country, our graduates would be prepared through their coursework to be excellent researchers and contributors to the developing field of learning specialists. This will be accomplished through the merging of theories from the fields of educational psychology, motivation and human learning to praxis in classroom and organizational instruction, program evaluation and instructional design. Our applied focus will have a domain area of emphasis in both business and education. This is also unique. There are graduate programs in educational psychology, educational measurement, and teaching and learning. But, there is no program, to our knowledge, that emphasizes all three areas with an applied focus.

Services to Enhance Intellectual and Economic Development

The MA in Applied Learning and Instruction has strong potential to become a cross-functional program. Elements of the program will include application to careers in business, education, and psychology. Based upon the multi-disciplinary focus, partnerships with Organizational/Industrial Education and Business programs would be likely. These partnerships would be instrumental in marketing the proposed degree to both perspective educators as well as those people in business interested in applying learning psychology to organizational interventions. Businesses may also wish to establish scholarships to assist students in funding their education providing additional revenue to the University.

Currently there is no MA within UCF's College of Education (or the state of Florida) that provides opportunities for the diversity of students being targeted by this proposal. The new program will allow students to tailor their education to meet their personal and professional goals by building on existing coursework in the areas of learning theory and research methodology.

B. Describe how the proposed program specifically relates to existing institutional strengths, such as programs of emphasis, other academic programs, and/or institutes and centers.

The proposed MA program in Applied Learning and Instruction reflects and builds upon the current strengths within the College of Education and the Department of Educational Studies. For example, the College recently received an award from AACTE (American Association of Colleges of Teacher Education) for its partnerships. These partnerships included a "2 plus 2" program with Osceola County Public Schools and Valencia Community College to provide an on-site teacher education program for school paraprofessionals, and partnerships which led to the Lockheed Martin Science and Math Academy and the T-MAST program. Moreover, the College of Education has developed an Academy for Teaching and Leadership, with the help, support and direction of the

community. With the development of this Academy the College attracted state support and recurring funding for the Toni Jennings Exceptional Education Institute, which is now permanently housed within the Academy. The philosophy behind the proposed MA in Applied Learning and Instruction is based, in part, on this College record of working for and with the community to produce rigorous programs and high-quality graduates.

C. Provide a narrative of the planning process leading up to submission of this proposal. Include a chronology (table) of activities, listing both university personnel directly involved and external individuals who participated in planning. Provide a timetable of events necessary for the implementation of the proposed program.

The process for planning and development of the MA in Applied Learning and Instruction was deliberate and thoughtful. The initial planning began in March 2004 with the full proposal coming to fruition in October of 2007. Building upon the need for more highly skilled teachers, professional trainers and instructors in industry, as well as educational psychologists and researchers, faculty within the Department of Educational Studies submitted a letter of interest and white papers early in the 2006 Fall semester. With the help of the College of Education's initiative funding (internal funding for developing new programs in the COE), faculty proceeded with the development of the program through a competitor analysis (where the proposed program was compared with other internal, state and national programs) and a needs assessment (measuring needs and interest in relevant educational and business settings as well as on the UCF campus, see Appendix F).

Faculty applied for and received UCF Faculty Center for Teaching and Learning funds to participate in the Summer 2007 program development project where course descriptions and syllabi were drafted. From late Spring through Fall 2007, faculty, in consultation with College administration, finalized the conceptualization and program of study for the proposed MA in Applied Learning and Instruction.

Planning Process

Tasks	Person Responsible	Due Date
Preliminary planning sessions	Karen Biraimah/Michele Gill	March 2004
Discussion with Bob Hoffman during interview process for Assistant Professor.	Karen Biraimah	January 2006
Submitted letter of interest in creating the MA in Applied Learning and Instruction to department chair, Karen Biraimah.	Bob Hoffman/Michele Gill	9/7/2006

Submitted white paper overview of the MA in Applied Learning and Instruction degree program to department chair, Karen Biraimah	Bob Hoffman/Michele Gill	10/12/2006
Idea for Program Conceived	Bob Hoffman/Michele Gill	Fall 2006
Competitor analysis		
UCF program analysis	Michele Gill/Bob Hoffman	1/16/07
Comparison with other programs	Michele Gill	Jan – Feb. 2007
Internal program analysis	Bob Hoffman	1/23/07
Statewide	Bob Hoffman	1/23/07
National	Bob Hoffman	1/23/07
Needs assessment		
Drafted corporate letter	Bob Hoffman/Michele Gill	1/23/07
Drafted administrator letter	Bob Hoffman/Michele Gill	1/23/07
Identified target companies	Bob Hoffman/Michele Gill	1/23/07
Mailed letters	Bob Hoffman/Michele Gill	1/30/07
Developed program interest		
Scheduled appointments with business/other Departments	Bob Hoffman/Michele Gill	2/12/07-2/16/07
Developed presentation PowerPoint	Bob Hoffman/Michele Gill	2/13/07
Met with business contacts	Bob Hoffman/Michele Gill	2/20/07-3/09/07
Drafted student survey	Bob Hoffman/Michele Gill	2/13/07
Distributed student survey	Graduate student	2/20/07-3/09/07
Compiled/reported student survey results	Graduate student	3/20/07
Applied for summer conference	Michele Gill	2/27/07
Program development		
Course listing (tentative)	Bob Hoffman/Michele Gill	2/13/07
Course descriptions	Bob Hoffman/Michele Gill	3/27/07
Syllabi	Bob Hoffman/Michele Gill	4/30-5/4/07 (summer conf)
Prepared plan document		
First draft	Bob Hoffman/Michele Gill	4/17/07
Second draft	Bob Hoffman/Michele Gill	4/23/07
Revised plan of study during summer Conference	Bob Hoffman/Michele Gill	4/30-5/4/07
Final draft sent to Karen Biraimah, Department Chair	Bob Hoffman/Michele Gill	5/07/07

Program approval meetings		
Met with College of Education Dean	Sandra Robinson, Bob Hoffman, Michele Gill, Grant Hayes & Louis Nadelson	09/06/07
Met with Vice-Provost and Dean of Graduate Studies	Bob Hoffman, Michele Gill, Grant Hayes, Patricia Bishop & Louis Nadelson	10/11/07
Department of Educational Studies approval	Faculty of Educational Studies	10/24/07
College of Education Graduate Committee approval	Graduate Committee	10/29/07
University Graduate Council approval	Graduate Council	10/30/07
Education Programs Subcommittee of Board of Trustees review and approval	UCF Board of Trustees	11/1/07
Board of Trustees approval	UCF Board of Trustees	11/29/07

Events Leading to Implementation

Date	Implementation Activity
2008	Spring –, Appoint program director, develop program webpage, develop program handbook, develop recruiting materials, recruit students schedule courses
2008	Fall – First courses offered
2010	Spring - First graduates of MA Degree in Applied Learning and Instruction program (including those who already have an alternative certificate in education)

VII. Program Quality Indicators - Reviews and Accreditation

Identify program reviews, accreditation visits, or internal reviews for any university degree programs related to the proposed program, especially any within the same academic unit. List all recommendations and summarize the institution's progress in implementing the recommendations.

The Professional Education Unit (PEU) at the University of Central Florida is nationally accredited by the National Council for Accreditation of Teacher Education (NCATE). The PEU consists of all academic programs that prepare teachers and other education professionals to work in Pre-Kindergarten to 12th grade school settings. This includes programs that prepare candidates for initial teacher certification as well as advanced programs for certified teachers and other education professions. The new program proposed in this Request to Offer a New Degree Program is designed as an advanced program for certified teachers. Preliminary results of the most recent NCATE

reaccreditation visit (spring 2007) cited one area for improvement regarding advanced programs: "(Advanced Preparation) Data used for assessment of candidates in programs for teachers do not consistently identify proficiencies and criteria." The College of Education has implemented a curriculum and assessment mapping system that identifies the core curriculum content in a program and indicates where applicable competencies are formatively and summatively assessed in the program. A curriculum & assessment mapping template has been designed for consistent implementation across programs, and program-level maps are currently being compiled by program faculty.

A number of programs housed in the College of Education and which will participate in this proposed new degree underwent formal Program Review during 2006-2007. Additional programs in the College are currently undergoing Program Review (2007-2008). While recommendations resulting from last year's Program Reviews are tentative pending the completion of program reviews for all programs in the College of Education, the following 2006-2007 recommendations are directly relevant to this proposal:

- Increase graduate enrollment.
- Actively recruit from "out of field" teachers and under-prepared teachers in need of professional development. With a demand for new teachers that far exceeds the production capacity of current state-approved post-secondary teacher education programs, additional and often expedited routes to teacher certification are growing exponentially. This, and the continued hiring of "out of field" teachers will generate a significant population of under-prepared teachers in need of professional development. Many will choose to acquire needed knowledge and skills in a graduate program of study.
- Develop two new master's degree programs to meet the needs of professionally and alternatively certified teachers:
    - Urban Education
    - Applied Learning and Instruction

The status of specific recommendations pertaining to programs that will participate in this new degree follow:

- Counselor Education M.A. & M.Ed.

    This program should continue to build on its national reputation for excellence in teaching, research, and curriculum. **Status: At the 2007 national meeting of the Association for Counselor Education and Supervision in Columbus Ohio, Dr. Mark Young was awarded the Counselor Educator of the Year Award for a Professor with tenure and Dr. Glenn Lambie was awarded the Counselor Educator of the Year Award for a professor without tenure. In addition, counselor education faculty received external funding in the amount of $644,943 from the US Dept of Health & Human Services to develop the Marriage Research Institute at UCF.**

    - Seek means, including enhanced support from the UCF Foundation, to expand its support to the Community Counseling Center which provides assistance to more than 1000 children, adolescents, adults, and families in Central Florida. **Status: Program faculty continue to seek potential**

donors to support and enhance activities provided by the Community Counseling Center.

- Curriculum & Instruction M.A. & M.Ed.
    - The program should actively recruit from "out of field" teachers and under-prepared teachers in need of professional development. Within Florida, alternative, and often expedited routes to teacher certification are growing exponentially. This, coupled with the continued hiring of "out of field" teachers, will generate a significant population of under-prepared teachers in need of professional development. Many will choose to acquire knowledge and skills in a graduate program of study. This program is an excellent solution for individuals in this population. **Status: Continuing follow-up from the 2006-2007 program review, including the use of practitioner advisory groups, has identified a need for a degree focusing on teacher leadership including the special demands of urban settings as well as a need for a degree to serve under-prepared teachers. There remains a need for a curriculum & instruction program emphasizing educational psychology. The unit's overall strategy to meet these three various needs is to evolve the curriculum & instruction M.A. and M.Ed. into the teacher leadership/urban education and educational psychology-focused programs while activating a new program to serve under-prepared teachers: this proposed program in Applied Learning & Instruction.**

- Instructional Technology M.A. & M.Ed.
    - This program and its assigned faculty members were transferred from the Department of Teaching and Learning Principles to the Department of Educational Research, Technology, and Leadership on January 1, 2007. The impact of this integration of the entire Instructional Technology program under a single department (ERTL) will be evaluated in 2007-2008. **Status: Early indications are that the reorganization/consolidation of the program will enhance overall program efficiently and effectiveness. For example, program coordinators are now actively collaborating across tracks, which were previously managed independently in separate departments.**

- School Psychology Ed.S.
    - Continue working with the college to help enhance graduate programs to include:
        - Working internally and in cooperation with UCF Graduate Studies to pursue expanded funding for assistantships and fellowships. **Status: On hold due to budget reductions.**
        - Maintain ongoing commitment from UCF Foundation to maintain a College of Education-based Development Officer. **Status: UCF Foundation has agreed to maintain a College of Education-based Development Officer through AY 2007-2008. The**

College is continuing to work with the UCF Foundation to extend that commitment beyond AY 2007-2008.

VIII. Curriculum

A. Describe the specific expected student learning outcomes associated with the proposed program. If a bachelor's degree program, include a web link to the Academic Learning Compact or include the document itself as an appendix.

The MA in Applied Learning and Instruction degree program is designed for students from diverse academic majors who have an interest in the application of psychological theories and research to improve learning, instruction, and training in a variety of instructional contexts. Graduates of the program will be prepared for a wide range of professional education, government, and industry positions, conducting activities such as instruction, training, evaluation, and consulting.

Envisioned Education Student Profile
The ideal program candidate from an educational career will likely be a recently alternative certified teacher (a teacher who did not obtain state teacher certification through a state approved education degree program) or a relatively new certified teacher employed in a Kindergarten to 12th Grade setting who is considering leaving the teaching professional prematurely due to a lack of teaching methodologies and professional knowledge which define a highly qualified teacher. This student will have a passion to teach, and the appropriate content knowledge, but will lack the strong academic background in educational psychology and applied curricular and instructional knowledge necessary to become a successful and highly qualified teacher. Note: According to the Bureau of Labor Statistics, 2007, alternate certification or licensure programs are for teachers who hold a bachelor's degree in the subject they will teach, but do not have the necessary education courses for regular licensure. (Bureau of Labor Statistics. Retrieved November 1, 2007 from http://www.bls.gov/oco/ocos069.htm.)

Envisioned Business Student Profile
The ideal program candidate from a business career will likely have a background in human resources, training, knowledge management, organizational effectiveness, administration, or communications and work in the private, government, or not-for-profit sectors. The candidate will frequently use presentation skills as a means to facilitate knowledge growth in coworkers and instill an organizational culture that emphasizes learning and skill development.

The candidate may have previously designed training and knowledge programs, but may have limited or no formal training in these areas. The candidate likely uses traditional methods of direct instruction as their preferred teaching method. The individual will have a desire to learn new and innovative ways to design programs, deliver instruction, motivate participants, and evaluate the success of their learning endeavors. The candidate will demonstrate a passion focused upon enhancing their personal effectiveness in instruction with the goal of applying the latest evidence-based practices to promote

organizational success.

Students are able to tailor the program to meet their particular needs and interests by choosing among a large variety of courses for their concentration, including courses in teaching, instructional design, program evaluation, and psychological foundations.

Specialization and core courses are offered in the areas of the psychology of teaching and learning, motivation, human development, measurement, and research methodology. All students will be required to complete a comprehensive examination before completing the program.

In anticipation of approval for this new program, the following Institutional Effectiveness Matrix has been constructed.

Institutional Effectiveness Matrix
MA Applied Learning and Instruction

Mission: To meet the challenges of education in Central Florida, the MA in Applied Learning and Instruction is committed to providing leadership and scholarship in our field, collaborating with community partners, and educating well-rounded instruction professionals who understand how to create and deliver instruction while achieving effective learning outcomes. The MA in Applied Learning and Instruction prepares degreed individuals with advanced certification in a particular teaching area while concentrating on an area of specialized focus in teaching, business, psychological foundations, instructional design or business.

Outcomes	Measures
1. Graduates will demonstrate knowledge and skills needed in their area of specialization	1.1 Ninety percent of graduate students will complete a culminating experience with a "pass" as judged by a panel of program area faculty on the first attempt. Culminating experiences may include a comprehensive examination or creation of a master's thesis
	1.2 One hundred percent of the MA in Applied Learning and Instruction graduates will maintain a GPA of 3.0 or better
2. Upon graduation individuals will demonstrate the characteristics of a competent educator	2.1. One hundred percent of the MA in Applied Learning and Instruction graduates will demonstrate content proficiency by completing a conference proposal or presentation
	2.2 Ninety percent of program graduates will prepare a professional manuscript or publication based upon the results of their proposal/presentation or an independently designed program of research
3. Program graduates will be well equipped to meet the profession demands of teaching in either an educational, business, or evaluation position	3.1 After completing their first full year of employment, ninety percent of MA in Applied Learning and Instruction graduates for whom follow-up surveys are returned will be rehired or eligible for rehire according to school or industry administrators.
	3.2 Ninety percent or greater of program graduates who return surveys will indicate that the MA in Applied Learning and Instruction has prepared them to be more effective in their current roles

B. Describe the admission standards and graduation requirements for the program.

In addition to the general admission requirements, applicants must provide:

1. A baccalaureate degree or equivalent from a regionally accredited institution or from a recognized foreign institution, GPA of 3.0 or higher (on a 4.0 maximum) while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours), and competitive Graduate Record Examination (GRE) (in lieu of the GRE, a GMAT score may be used for admission consideration).

2. International students must demonstrate their proficiency in the English language. International students, except those who are from countries where English is the only official language or those who have earned a degree from a regionally accredited U.S. institution, are required to submit a score on the Test of English as a Foreign Language (TOEFL) before they can be admitted to the university. A computer-based TOEFL score of 220 or 80 on the internet-based TOEFL (or equivalent score on the paper-based test) is required unless otherwise specified by the program.

3. A one-page statement of professional interests and goals that addresses why the candidate is interested in this degree.

4. A sample of scholarly or professional writing sample.

Applications for admission will be considered once a year. The deadline for receipt of applications is February 1.

Program completion requirements (credit hours, grade point average, subject matter distribution, prerequisites).

1. Residence Requirement

Once admitted, the student is expected to enroll continuously, excluding summer sessions. If a program of study must be interrupted, the student may apply for leave status not to exceed one calendar year. For those pursuing the thesis option, continuous enrollment is required in three hours of thesis until graduation, including summers.

2. Publication Requirement (Independent Learning Activity)

The MA program requires the completion of a research project. Research projects are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in

the program. In this program, by the end of the fourth semester, each student must satisfy a scholarly product requirement (Review I). This requirement can be met in one of two ways: students could submit a research study to a refereed journal, or submit a proposal for a presentation at an annual conference of a national or local organization. The student must be primarily responsible for conceptualizing, carrying out, and reporting the results in both of these options. The student is responsible for obtaining approval of the product from his or her master's committee.

3. Comprehensive Examination

If electing the non-thesis option, the student must take the comprehensive examination (Review II). For those who choose to do a thesis, the formal assessment will be a comprehensive examination that will focus on areas of knowledge that are most relevant to the student's thesis topic. The student and his/her committee will determine the content of this examination. In general, the format will depart from the traditional comprehensive examination format in that it will focus on in-depth reading and writing directly related to the student's thesis topic rather than on the student's mastery of previously learned core information.

4. Thesis Proposals and Defenses

If electing the thesis option, and after successfully completing Review I (i.e., satisfying the scholarly product requirement), students can submit a thesis proposal to their master's committee and submit the accompanying "Thesis Prospectus" form to the College's Graduate Office. The master's committee will meet and determine whether to accept or reject the prospectus. A prospectus can be accepted provisionally if the student follows the committee's suggestions in the thesis. Upon completion of the full thesis, a defense will be scheduled. This defense will be scheduled and conducted in accordance with the College's graduate policies for thesis and thesis completion.

C. Describe the curricular framework for the proposed program, including number of credit hours and composition of required core courses, restricted electives, unrestricted electives, thesis requirements, and dissertation requirements. Identify the total numbers of semester credit hours for the degree.

Detailed Curriculum Proposal
MA in Applied Learning and Instruction (33 credit hours)

The MA in Applied Learning and Instruction degree program is designed for students from diverse academic majors who have an interest in the application of psychological

theories and research to improving learning, instruction, and training, in a variety of instructional contexts. Graduates of the program will be prepared for a wide range of professional education, government, and industry positions, conducting activities such as instruction, training, evaluation, and consulting.

Students are able to tailor the program to meet their particular needs and interests by choosing among a large variety of courses for their concentration, including courses in teaching, instructional design, program evaluation, and psychological foundations.

Specialization and core courses are offered in the areas of the psychology of teaching and learning, motivation, human development, measurement, and research methodology. All students will be required to complete a comprehensive examination before completing the program.

Proposed coursework

AREA A: CORE—15 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDP 6XXX Applied Learning and Instruction Seminar I (3 credit hours)
- EDP 6XXX Applied Learning and Instruction Seminar II (3 credit hours)
- EDF 6216 Motivation in Learning and Performance (3 credit hours)
- EDF 6155 Lifespan Human Development and Learning (3 credit hours)

AREA B: SPECIALIZATION – 12 Credit Hours

Specialization courses may be taken within one specialization, or from multiple specializations. One feature of the program is to allow students the choice of taking specialization courses in multiple areas. The purpose of this choice is to provide course offerings which appeal to student interest, but concurrently facilitate depth of knowledge in a particular discipline. Thus, the student, program director and student advisors will together determine a course of study to meet the student's needs while simultaneously focused on developing core knowledge in a specific area with the advisor's approval. In addition, the adviser may approve courses taken as part of a UCF certificate program for this area of the M.A. (up to 12 credit hours). The advisor must approve all specialization courses.

1. **Psychological Foundations***
   - DEP 5057 Developmental Psychology (3 credit hours)
   - EDF 6259 Learning Theories Applied to Classroom Instruction and Management (3 credit hours)
   - EDF 6141 Human Intelligence (3 credit hours)
   - EDP 6056 Advanced Educational Psychology (3 credit hours)
   - SPS 6225 Behavioral and Observational Analysis of Classroom Interactions in Schools (3 credit hours)

- EGC 6431 Guiding Human Relations I (3 credit hours)
- EGC 6432 Guiding Human Relations II (3 credit hours)

2. Business/Training*

- INP 6317 Organizational Psychology & Motivation (3 credit hours)
- PSY 6216 Advanced Research Methodology I (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAN 6285 Change Management (3 credit hours)

3. Instructional Design*

- EME 6607 Planned Change in Instructional Technology (3 credit hours)
- EME 6602 Integrating Technology into Curriculum (3 credit hours)
- EME 6601 Instructional Simulation Design (3 credit hours)
- EME 6457 Distance Education (3 credit hours)

4. Teaching*

- EDF 6237 Principles of Learning and Introduction to Classroom Assessment
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)
- EDF 6233 Analysis of Classroom Teaching (3 credit hours)
- ESE 6235 Curriculum Design (3 credit hours)

5. Program Evaluation*

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDG 6285 Evaluation of School Programs (3 credit hours)
- ESE 6146 Curriculum Evaluation (3 credit hours)

***Other electives to be determined by advisor with program approval.**

AREA C: RESEARCH COMPONENT - 6 credit hours

- EDF 6971 Thesis (6 credit hours)
  OR
- EDF 6918 Directed Research (3 credit hours) AND
- EME 6613 Instructional Systems Design (3 credit hours)

Provide a sequenced course of study for all majors, concentrations, or areas of emphasis within the proposed program.

1st year – Fall Semester

- EDF 6481 Fundamentals of Graduate Research in Education
- EDP 6XXX Applied Learning and Instruction Seminar I

1st year – Spring Semester

- EDP 6XXX Applied Learning and Instruction Seminar II
- EDF 6216 Motivation in Learning and Performance

1st year—Summer Semester

- EDF 6155 Lifespan Human Development and Learning

2nd year – Fall Semester

- Specialization 1
- Specialization 2

2nd year – Spring Semester

- Specialization 3
- Specialization 4

3rd year – Fall Semester

- EME 6613 Instructional Systems Design OR
- EDF 6971 Thesis

3rd year – Spring Semester

- EDF 6918 Directed Research OR
- EDF 6971 Thesis

Anticipated courses, students (head count) and credits

NOTE: The sequence for the first program cohort has been modified to reduce the impact of program implementation. By adjusting the course sequence we have created a condition in which core classes overlap in year 1 and 2 which effectively increases the number of students enrolling in these courses.

Year 1	Year 2	Year 3	Year 4	Year 5
10 students - 12 Credits Fall Semester • EDF 6481 Fundamentals of Graduate Research in Education • Specialization Elective (3 hrs) **Spring Semester** • Specialization Elective (3 hrs) • Specialization Elective (3 hrs)	**10 students - 15 Credits** **Fall Semester** • EDF 6155** Lifespan Human Development and Learning • EDP 6XXX* Applied Learning and Instruction Seminar I **Spring Semester** • EDF 6216** Motivation in Learning and Performance • EDP 6XXX* Applied Learning and Instruction Seminar II **Summer Semester** • Specialization Elective (3 hrs)	**10 students - 6 Credits** **Fall Semester** • EDF 6918 Directed Research • EME 6613 Instructional Systems **OR** • EDF 6971 Thesis	**0**	**0**

Year 1	Year 2	Year 3	Year 4	Year 5
	15 students - 12 Credits **Fall Semester** • EDF 6155** Lifespan Human Development and Learning • EDP 6XXX* Applied Learning and Instruction Seminar I **Spring Semester** • EDF 6216** Motivation in Learning and Performance • EDP 6XXX* Applied Learning and Instruction Seminar II	**15 students - 15 Credits** **Fall Semester** • EDF 6481** Fundamentals of Graduate Research in Education • Specialization Elective (3 hrs) **Spring Semester** • Specialization Elective (3 hrs) • Specialization Elective (3 hrs) **Summer Semester** • Specialization Elective (3 hrs)	**15 students - 6 Credits** **Fall Semester** • EDF 6918 ** • EME 6613** **OR** • EDF 6971 Thesis**	**0**

Year 1	Year 2	Year 3	Year 4	Year 5
			20 students - 12 Credits **Fall Semester** • EDF 6155** Lifespan Human Development and Learning • EDP 6XXX* Applied Learning and Instruction Seminar I **Spring Semester** • EDF 6216** Motivation in Learning and Performance • EDP 6XXX* Applied Learning and Instruction Seminar II	**20 students - 15 Credits** **Fall Semester** • EDF 6481** Fundamentals of Graduate Research in Education • Specialization Elective (3 hrs) **Spring Semester** • Specialization Elective (3 hrs) • Specialization Elective (3 hrs) **Summer Semester** • Specialization Elective (3 hrs) **20 students - 12 Credits** **Fall Semester** • EDF 6155** Lifespan Human Development and Learning • EDP 6XXX* Applied Learning and Instruction Seminar I **Spring Semester** • EDF 6216** Motivation in Learning and Performance • EDP 6XXX* Applied Learning and Instruction Seminar II

D. Provide a one- or two-sentence description of each required or elective course.

It should be noted that the Department of Educational Studies is well prepared to launch this program as only two new courses are being developed for the program:

- EDP 6XXX Applied Learning and Instruction Seminar I
- EDP 6XXX Applied Learning and Instruction Seminar II

Thus it is anticipated that the program can be activated with little preparation time. Moreover, to extend its outreach capacity, many of the program's courses will be delivered as either an "M" (Media Enhanced) course or as a "W" (On-line) course. The following list of classes indicates the mode of instruction. (No "M" or "W" following the course description indicates a "face to face" course.)

Required or elective courses (Check these listings – you may want to remove courses that you took out of the specializations lists)

a. EDF 6481 Fundamentals of Graduate Research in Education. (3 credit hours) Review and critique of research literature, use of library resources for educational research, and introduction to the concepts of research design and data analysis. **(W)**

b. EDP 6XXX Applied Learning and Instruction Seminar I. (3 credit hours) An overview of contemporary theories and research related to issues in human learning and instruction with an emphasis on practical applications for educational and workplace settings. This course will focus on affective and motivational issues surrounding learning and instruction. **(M)**

c. EDP 6XXX Applied Learning and Instruction Seminar II. (3 credit hours) A continuation of the Applied Learning and Instruction Seminar I with an emphasis on cognition, critical thinking, problem solving, individual differences, and assessment of learning outcomes. **(M)**

d. EDF 6216 Motivation in Learning and Performance. (3 credit hours) An examination of theory and research in academic motivation with an emphasis on practical applications for educational and work place settings. **(M)**

e. EDF 6155 Lifespan Human Development and Learning. (3 credit hours) Research in childhood, adolescent, and adult development relevant to contemporary American education. Emphasis on application of theory to educational practice. **(M, W)**

Specializations

Psychological Foundations

- DEP 5057 Developmental Psychology. (3 credit hours) Psychological aspects of development including intellectual, social, and personality factors.

- EDF 6259 Learning Theories Applied to Classroom Instruction and Management. (3 credit hours) Study of strategies of classroom management that result in optimum learning and a minimum of behavior problems.

- EDF 6141 Human Intelligence. (3 credit hours) Graduate standing and a course in learning. An examination of theory and research on human intelligence and its relation to learning and cognitive performance with emphasis on implications for educational and workplace settings.

- EDP 6056 Advanced Educational Psychology. (3 credit hours) Principles of educational psychology for teaching, interventions, and educational services in schools.

- SPS 6225 Behavioral and Observational Analysis of Classroom Interactions in Schools. (3 credit hours) An intensive review of the principles and procedures of applied behavioral and observational analysis and assessment as they relate to changing behavior in schools.

- EGC 6431 Guiding Human Relations I (3 credit hours) Human relationship skills that will enhance intrapersonal and interpersonal relationship skills in classrooms.

- EGC 6432 Guiding Human Relations II (3 credit hours) Advanced human relationship skills that will enhance intrapersonal and interpersonal relationship skills in classrooms.

Business/Training

- INP 6317 Organizational Psychology & Motivation (3 credit hours) Review of theories, research and application of psychological principles to organizational settings and human motivation.

- PSY 6216 Advanced Research Methodology I (4 credit hours) Logic and procedures of psychological research and evaluation; application of experimental and non-experimental techniques in analyzing psychological variables; review of relevant psychological research.

- MAN 6245 Organizational Behavior and Development. (3 credit hours) The analysis of human behavior in organizations in terms of the individual, small group, inter-group relationships, and the total organization.

- MAN 6285 Change Management. (3 credit hours) Course designed to familiarize students with change management processes and interventions.

Instructional Design

- EME 6607 Planned Change in Instructional Technology. (3 credit hours) In-depth study of the processes of planned change and adoption/rejection of innovations in educational settings. **(M, W)**

- EME 6602 Integrating Technology into Curriculum (3 credit hours) Resources, materials, and strategies for systemic achievement of curriculum goals; investigation of innovative and effective technological advances and practices for use in teaching and learning. **(M)**

- EME 6601 Instructional Simulation Design. (3 credit hours) Integration of ISD methods with simulation systems design, including analysis, design, development and formative evaluation of leading-edge training and educational simulation technologies. **(M, W)**

- EME 6457 Distance Education: Technology Process Product. (3 credit hours) Instruction and how it is delivered at a distance. Examines technologies, processes, and products of distance education with emphasis on e-learning. **(M, W)**

Teaching

- EDF 6237 Principles of Learning and Introduction to Classroom Assessment. (3 credit hours) Students will examine prominent developmental and learning theories in-depth and their implications for instruction and assessment. Key issues in educational psychology will be explored. **(W)**

- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education. (3 credit hours) Analysis of critical issues in education including social, ethical, legal, and safety concerns which impact the quality of education. **(W)**

- EDG 6415 Principles of Instruction and Classroom Management. (3 credit hours) Students are exposed to various methods of delivering instruction, as well as organizational and management skills. Students microteach and view lessons to develop reflective practices. **(W)**

- EDF 6233 Analysis of Classroom Teaching (3 credit hours) Analyses of effective teaching practices and their effect on classroom instruction and learning.

- ESE 6235 Curriculum Design. (3 credit hours) Goal analysis, task analysis, needs assessment, and writing performance objectives for developing courses of study.

Program Evaluation

- EDF 6401 Statistics for Educational Data. (3 credit hours) Design of educational evaluation; analysis of data, descriptive and inferential statistics, interpretation of results. **(M, W)**

- EDF 6432 Measurement and Evaluation in Education. (3 credit hours) Concepts of measurement and evaluation, classroom test construction, creation and use of derived scores, selection and use of published measurement instruments, current issues. **(M, W)**

- EDG 6285 Evaluation of School Programs. (3 credit hours) History of program evaluation, systems approaches to program evaluation, concepts of stakeholder and qualitative approaches to program evaluation, the role of evaluator and administrator.

- ESE 6146 Curriculum Evaluation (3 credit hours). Examines multiple methods of evaluating curriculum in K-12 and other educational settings.

Research

- EDF 6971 Thesis (6 hours)

- EDF 6918 Directed Research. (3 credit hours) This option will allow students to propose a research design, collect supporting data, analyze data and prepare a narrative analysis. Students will strive towards producing a manuscript suitable for publication

- EME 6613 Instructional Systems Design. (3 credit hours) Systematic design of instruction including task analysis, learner analysis, needs assessment, content analysis, specification of objectives, media selection, evaluation and revision. Analysis of ID models. **(M, W)**

E. For degree programs in the science and technology disciplines, discuss how industry-driven competencies were identified and incorporated into the curriculum and identify if any industry advisory council exists to provide input

for curriculum development and student assessment.

Not applicable. This program is not a science or technology discipline.

F. For all programs, list the specialized accreditation agencies and learned societies that would be concerned with the proposed program. Will the university seek accreditation for the program if it is available? If not, why? Provide a brief timeline for seeking accreditation, if appropriate.

The program does not have any relevant accrediting agencies.

The proposed MA Degree in Applied Learning and Instruction is responding to the goals and missions of the two professional organizations that are the major influences in the fields of educational research and the investigations of effective learning and instructional practices.

American Psychological Association - Division 15 - Educational Psychology provides a collegial environment for psychologists with ***interest in research, teaching, or practice in educational settings*** at all levels to present and publish papers about their work. Division members' ***work is concerned with theory, methodology, and applications to a broad spectrum of teaching, training, and learning issues.***

American Educational Research Association Division C recently announced three long-term goals (a) devising ways to improve the ***quality of research***, (b) devising ways to improve the quality of ***published research and scholarship***, and (c) devising ways of improving the ***professional training of educational researchers***. It has always been our mission to highlight and create opportunities for ***encouraging equity and diversity as measures for creativity, growth, and exchange of scholarly dialogues***. Furthermore, Division C holds high its mission to ***mentor students into the profession***.

G. For doctoral programs, list the accreditation agencies and learned societies that would be concerned with corresponding bachelor's or master's programs associated with the proposed program. Are the programs accredited? If not, why?

Not Applicable.

H. Briefly describe the anticipated delivery system for the proposed program (e.g., traditional delivery on main campus; traditional delivery at branch campuses or centers; or nontraditional delivery such as distance or distributed learning, self-paced instruction, or external degree programs). If the proposed delivery system will require specialized services or greater than normal financial support, include projected costs in Table 2. Provide a narrative describing the feasibility of delivering the proposed program through collaboration with other universities, both public and private. Cite specific queries made of other institutions with respect to shared courses; distance/distributed learning technologies, and joint-use facilities for research or internships.

It is anticipated that this program will be delivered through a mixed-mode approach whereby some classes will be delivered by traditional face-to-face format, while others will be delivered in nontraditional media-enhanced ("M") and/or fully online ("W") formats. Existing courses within this program currently required in other graduate programs are delivered in both traditional and on-line formats. It is anticipated that this pattern will continue, though a plan to transform more courses to "M" or "W" formats will be considered when appropriate for the desired learning environment and when it best meets varied student needs. Beyond the mode of delivery, consideration will also be given to nontraditional scheduling of courses, when it meets the needs of both faculty and students. For example, concentrated short-term courses and/or weekend formats may be considered. These delivery considerations will not require additional funding. As this program is unique in the state, no queries have been made to date regarding the sharing of courses with other institutions. However, if UCF's Orlando and regional campuses find it advantageous, this program can be delivered at joint facilities already established at locations such as Daytona Beach, Clermont, and Cocoa.

IX. Faculty Participation

A. Use Table 4 to identify existing and anticipated ranked (not visiting or adjunct) faculty who will participate in the proposed program through Year 5. Include (a) faculty code associated with the source of funding for the position; (b) name; (c) highest degree held; (d) academic discipline or specialization; (e) contract status (tenure, tenure-earning, or multi-year annual [MYA]); (f) contract length in months; and (g) percent of annual effort that will be directed toward the proposed program (instruction, advising, supervising internships and practica, and supervising thesis or dissertation hours).

TABLE 4

ANTICIPATED FACULTY PARTICIPATION

Faculty Code	Faculty Name or "New Hire" Highest Degree Held, Academic Discipline or Specialty	Rank	Contract Status	Initial Date for Participation in the Program	Mos. Contract Year 1	FTE Year 1	% Effort for Prg. Year 1	PY Year 1	Mos. Contract Year 5	FTE Year 5	% Effort for Prg. Year 5	PY Year 5
A	Michele Gill, Ph.D. Educational Psychology	Assistant Prof	TE	2009	9	0.75	0%	0.00	9	0.75	22%	0.17
A	Kay Allen, Ph.D. Educational Psychology	Associate Prof	Tenured	2009	9	0.75	0%	0.00	9	0.75	11%	0.08
A	Bobby Hoffman, Ph.D., Educational Psychology	Assistant Prof	TE	2009	9	0.75	0%	0.00	9	0.75	11%	0.08
A	Atsusi Hirumi, Ph.D, Instructional Systems/Technology	Associate Prof	Tenured	2010	9	0.75	0%	0.00	9	0.75	11%	0.08
A	Louis Nadelson, Ph.D, Educational Psychology/ Curriculum and Instruction	Assistant Prof	TE	2010	9	0.75	22%	0.17	9	0.75	33%	0.25
A	Courtney Bentley, Ed.D, Curriculum and Teaching	Assistant Prof	TE	2010	9	0.75	0%	0.00	9	0.75	11%	0.08
A	Stephen Sivo, Ph.D., Educational Psychology/ Research, Measurement and Statistics	Associate Prof	Tenured	2008	9	0.75	0%	0.00	9	0.75	11%	0.08
		Assistant Prof	TE	2008	9	0.75	0%	0.00	9	0.75	0%	0.00
	Total Person-Years (PY)							0.17				0.83

Faculty CODE		**Source of Funding**	**PY Workload by Budget Classification**		
			Year 1		**Year 5**
A	**Existing faculty on a regular line**	**Current Education & General Revenue**	**0.17**		**0.83**
B	**New faculty to be hired on a vacant line**	**Current Education & General Revenue**			
C	**New faculty to be hired on a new line**	**New Education & General Revenue**	**0.00**		**0.00**
D	**Existing faculty hired on contracts/grants**	**Contracts/Grants**			
E	**New faculty to be hired on contracts/grants**	**Contracts/Grants**			
		Overall Totals for	**Year 1 0.17**		**Year 5 0.83**

Table 4 summarizes data on key faculty that will teach in the MA in Applied Learning and Instruction. As indicated, all faculty members are full time tenured or tenure-earning. Four faculty members are tenure-earning assistant professors in the Department of Educational Studies and three faculty members are tenured associate professors from the Department of Educational Studies and from the Department of Educational Research, Technology and Leadership. All hold Ph.D. or Ed.D degrees, as noted on Table 4, and are graduates of prestigious programs and institutions including Teachers College, Columbia University, Texas A&M University, the University of Nevada at Las Vegas, the University of Florida, Florida State University and the University of South Carolina.

B. Use Table 2 to display the costs and associated funding resources for existing and anticipated ranked faculty (as identified in Table 2). Costs for visiting and adjunct faculty should be included in the category of Other Personnel Services (OPS). Provide a narrative summarizing projected costs and funding sources.

TABLE 2

PROJECTED COSTS AND FUNDING SOURCES

Instruction & Research Costs (non-cumulative)	Year 1						Year 5				
	Funding Source						Funding Source				
	Reallocated Base * (E&G)	Enrollment Growth (E&G)	Other New Recurring (E&G)	New Non-Recurring (E&G)	Contracts & Grants (C&G)	Subtotal E&G and C&G	Continuing Base** (E&G)	New Enrollment Growth (E&G)	Other*** (E&G)	Contracts & Grants (C&G)	Subtotal E&G and C&G
Faculty Salaries and Benefits	$8,348	$22,261	$0	$0	$0	$30,608	$0	$83,477	$0	$0	$83,477
A&P Salaries and Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
USPS Salaries and Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Personnel Services	$0	$0	$12,000	$0	$0	$12,000	$0	$0	$12,000	$0	$12,000
Assistantships and Fellowships	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Library	$0	$2,000	$0	$0	$0	$2,000	$0	$0	$0	$0	$0
Expenses	$5,000	$0	$0	$0	$0	$5,000	$5,000	$0	$0	$0	$5,000
Operating Capital Outlay	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Special Categories	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Costs	$13,348	$24,261	$12,000	$0	$0	$49,608	$5,000	$83,477	$12,000	$0	$100,477

*Identify reallocation sources in Table 3.

**Includes recurring E&G funded costs ("reallocated base", "enrollment growth", and "other new recurring") from Years 1-4 that continue into Year 5.

***Identify if non-recurring.

Faculty and Staff Summary

Total Positions (person-years)	Year 1	Year 5
Faculty	0.17	0.83
A&P	0	0
USPS	0	0

Calculated Cost per Student FTE

		Year 1	Year 5
Total E&G Funding		$49,608	$100,477
Annual Student FTE		3.75	20.625
E&G Cost per FTE		$13,229	$4,872

Worksheet Table 2 Budget

New E&G $36,261

New E&G $95,477

A significant feature of this proposed MA program in Applied Learning and Instruction is its cost effective design. And while the highest projected costs are for faculty salaries directly related to teaching courses within the program and allocation of time for program direction, as indicated in Table 2, these costs will be covered by enrollment growth monies, with the program curriculum intentionally designed for optimum financial efficiency. (For example, during the first two years, while enrollments are building, initial course offerings have been scheduled to produce maximum enrollment. In particular, the sequence of courses was altered in these two initial years to maximize course enrollment in newly designed courses.) Additional projected costs, though minimal, include $2,000 each year for the three years for library materials and $12,000 per year for one doctoral level graduate assistant (20 hours/week during fall, spring and summer semesters) to assist the Program Director. Other expenses ($5,000) are projected for marketing, supplies, and communications.

C. Provide the number of master's theses and/or doctoral dissertations directed, and the number and type of professional publications for each existing faculty member (do not include information for visiting or adjunct faculty).

Faculty	Theses	Dissertations	Professional Publications
Allen, Kay	4	21	19
Bentley, Courtney	1	0	7
Gill, Michelle	0	10	8
Hirumi, Atsusi	5	7	37
Hoffman, Bobby	0	0	4
Nadelson, Louis	0	0	9
Sivo, Steven	4	38	41

The above table briefly summarizes some of the experiences the full-time tenured and tenure-earning faculty members contribute to this program. While several of the program faculty members are new hires, fresh from outstanding doctoral programs with cutting-edge doctoral dissertations, other program faculty are well established and tenured at the university with extensive research and funding records. Taking the seven faculty as a whole, they have produced 125 professional publications and have chaired 14 masters theses and 76 doctoral dissertations. Moreover, the program faculty have distinguished themselves by receiving $2,453,570 in external funding awards as well as multiple professional awards and recognition. They have also contributed significant service to professional organizations linked to the program's curriculum.

Selected Awards Obtained by Program Faculty

- American Association of College of Teacher Education Outstanding Dissertation Award (2004)
- American Psychological Association Division 15 Dissertation Award (2004)

- Apple Distinguished Educator (1995-2002).
- Commitment to Excellence and Innovation (2003). Awarded by the Texas Distance Learning Association for contributions to the field.
- Conference of Southern Graduate Schools 2006 Achievement Award for New Scholars in Social Sciences, Business, and Education
- Exemplary On-line Coursework (2002 and 2002). Awarded by WebCT for the design and delivery of Web-based course.
- First Place, Humanities Research, University of Nevada, Las Vegas, Annual Graduate Research Forum (2005 and 2006).
- Governor's Panel on Technology in Education (2000)
- Outstanding Graduate Student, College of Arts and Sciences, North Carolina A&T State University
- Outstanding University Practitioner Award (1995), Phi Delta Kappa, Houston Chapter.
- Research Incentive Award for Research Excellence, University of Central Florida, (2005)
- Teaching Incentive Program Awards (2000 and 2005)
- University of Central Florida Academy Fellow (2006)

Samples of Professional Publications Significant to the Program

Allen, K.S. (2001). Constructivist vs objectivists approaches to teaching online. *Proceedings WebNet 2001 World Conference,* October 23-27, 2001. Orlando, FL.

Allen, K.W. (2000). Rethinking the pedagogy of online courses. *Proceedings WebNet Conference,* October 30-November 4, 2000.

Allen, K.W., Hutchinson, C.J. & Wood, A.T. (1995). *Boundary Breaking.* Dubuque Iowa: Kendall Hunt.

Bentley, C.C., & Norton, N.E.L. (in press). Making the connection: Extending culturally responsive teaching through home (land) pedagogies. *Feminist Teacher*, *17*(1).

Fan, X., Felsovalyi, A., **Sivo, S.A.** & Keenan, S. (2002). *SAS for Monte Carlo studies: A guide for quantitative researchers.* Cary, North Carolina: SAS Institute.

Fan, X., & **Sivo, S**. (2005). Evaluating the sensitivity and generalizability of SEM fit indices while controlling for severity of model misspecification. *Structural Equation Modeling, 12* (3), 343-367.

Gill, M.G., Ashton, P.T., & Algina, J. (2004). Changing preservice teachers' epistemological beliefs about teaching and learning in mathematics. An intervention study. *Contemporary Educational Psychology, 29*, 164-185.

Gill, M.G., Ashton, P.T., & Algina, J. (2004). Authoritative schools: A test of a model to resolve the school effectiveness debate. *Contemporary Educational Psychology, 29,* 389-409.

Gill, M.G., & Hoffman, B. (in press). Shared planning time: A novel context for studying teachers' beliefs. *Teachers College Record.*

Gregoire **(Gill), M.** (2003). Is it a challenge or a threat? A dual-process model of teachers' cognition and appraisal processes during conceptual change. *Educational Psychology Review, 15,* 147-179.

Hirumi, A. (2005). In search for quality: A review of distance education guidelines and industry standards. *Quarterly Review of Distance Education, 6*(4), 309-330.

Hirumi, A. (2002). A framework for analyzing, designing and sequencing planned e-learning interactions. *Quarterly Review of Distance Education, 3*(2), 141-160.

Hirumi, A. (2002). Student-centered, technology-rich, learning environments (SCenTRLE): Operationalizing constructivist approaches to teaching and learning. *Journal for Technology and Teacher Education, 10*(4), 497-537.

Hoffman, B.,Hartley, K., & Boone, R. (2005). The realization of accessibility: Guidelines for creating and refining digital learning materials. *Intervention in School & Clinic, 40,* 171-176.

Hoffman, B., & Spatariu, A. (in press). The influence of self-efficacy and metacognition prompting on math problem solving. *Contemporary Educational Psychology,* July 2007.

Knight, M., Norton, N., **Bentley, C.C.** (2004). Extending learning communities: New technologies, multiple literacies, and culture blind pedagogies. *The Urban Review,* 36(2), 101-118.

Nadelson, L. (2000). Problem Solving and Project Based Learning in High School Mathematics. *Northwest Teacher, NWREL 1*(1), 20.

Nadelson, L. (1999). Students publishing mathematics and science research on the world wide web . In Chevron Corporation "*Best classroom practices mathematics, science and technology academic lesson plans."* Chevron, USA.

Pan, C., **Sivo, A.S.,** Gunter, G. & Cornell, R. (in press). Students' perceived ease of use of an e-learning management system: An exogenous or endogenous variable? *Journal of Educational Computing Research.*

Sivo, S.A., Fan, X., & Witta, E.L. (2005). The biasing effects of unmodeled ARMA time series processes on latent growth curve model estimates. *Structural Equation Modeling,*

12(2), 215-232.

Sivo, S.A., Pan, C.C., & Brophy, J. (2004). Temporal cross-lagged effects between subjective norms and students' attitudes regarding the use of technology. *Journal of Educational Media and Library Sciences, 42*(1), 63-74.

Selected Professional Service Significant to Program's Curriculum

- American Association of Colleges of Teacher Education: Reviewer for Outstanding Dissertation Award (2005)
- American Educational Research Association: Chair, Structural Equation Modeling-SIG (2003 and 2004)
- American Educational Research Association: Graduate Student Seminar Coordinator/Mentor (2007)
- American Educational Research Association: Proposal Reviewer. Quantitative Methods and Statistical Theory (2003 and 2004); Structural Equation Modeling-SIG (1998-2004)
- American Psychological Association: Division 15 Dissertation Award Committee, Chair (2006-2009)
- American Psychological Association: Doctoral Dissertation Awards Committee Member (2007-2008)
- American Psychological Association: Graduate Student mentoring Program (2006)
- *Contemporary Educational Psychology:* Manuscript Reviewer (2005-present); Editorial Board Member (2006-present)
- *Educational Technology Research and Development,* Consulting Editor (1997-present)
- *International Journal of Psychology:* Manuscript Reviewer (2002)
- *Journal of Research on Computing in Education:* Associate Editor (1996-present)
- *Quarterly Review of Distance Education, Vol. 3* (2): Guest Editor (2002)
- SACS Review Committee, Department of History, Troy University (2006)
- *Southeastern Regional Association for Teacher Education Journal:* Manuscript Reviewer (2004)
- *Structural Equation Modeling: A Multidisciplinary Journal:* Manuscript Reviewer (1998-2004)

D. Provide evidence that the academic unit(s) associated with this new degree have been productive in teaching, research, and service. Such evidence may include trends over time for average course load, FTE productivity, student HC in major or service courses, degrees granted, external funding attracted, as well as qualitative indicators of excellence.

Reflective of the impressive accomplishments of the seven initial program faculty described in section C above, the academic units associated with this new degree also

have significant records of teaching, research and service.

Department of Educational Studies Productivity (2006-2007)

With 19 full-time faculty members on the Orlando campus during the 2006-2007 academic year, the Department of Educational Studies produced 21,049 SCHs, a 5.3% increase in SCH production over 2005-2006. This SCH production equated to 658 FTE (When using the Pegasus Weighting Factors the department SCH on the Orlando campus for 2006-2007 was 22,590.) Educational studies faculty assigned to the Orlando campus earned $553,304 in external funding during this same time period while having an average three course load per semester (3 credit hours per course).

College of Education Productivity (2006-2007)

Using the same productivity analysis for College of Education faculty assigned to the Orlando campus during 2006-2007, 102.5 full-time faculty produced 88,884 SCHs, a 2.4% increase in SCH production over 2005-2006. This SCH production equated to 2,778 FTE. (When using the Pegasus Weighting Factors the College SCH on the Orlando Campus for 2006-2007 was 104,385). College faculty assigned to the Orlando campus earned $8,381,932 in external funding during this same time period while having an average teaching course load of three classes per semester (3 credit hours per course).

(Please see chart below that reflects 2006/2007 departmental and college productivity with regard to external funding, advisees, graduates, and SCH production).

College of Education and Department Productivity- 2006-2007													
Dept	Major Program	Number of F/T Faculty			External Funding	Advisees	Grads	SCH	Weighted SCH*	2005-6 SCH	2005-6 Weighted SCH*	Enrollment: Weighted SCH compared to 2005-2006	Per Capita External Funding
CFCS	Counselor Ed	7			$433,160	238	75	5935	8853	5179	7732	114.5%	$61,880
CFCS	Early Child Ed	5			$87,584	261	141	3165	3272	3167	3290	100.0%	$17,517
CFCS	Ex Ed	7			$4,729,878	209	85	5740	7619	5696	7603	100.2%	$675,697
CFCS	School Psych	3			$0	45	13	1058	1647	988	1538	107.1%	$0
CFCS	Sports Ldrshp – P	7			$0	88	71	5926	6135	5871	6078	100.9%	$0
CFCS	Sports Ldrshp – A							6618	5304	6571	5266	100.7%	
		29		**CFCS Subtotals**	**$5,250,622**	**841**	**385**	**28442**	**32830**	**27472**	**31507**	104.2%	**$181,056**
ERTL	Ed Ldrshp	9			$300,000	277	105	4058	8008	4423	8325	96.2%	$33,333
ERTL	Instr Tech	7			$923,241	93	31	3658	4661	3891	5174	90.1%	$131,892
ERTL	Rsch & Meas	5.5			$163,257	0	0	3228	5115	3345	5209	98.2%	$29,683
		21.5		**ERTL Subtotals**	**$1,386,498**	**370**	**136**	**10944**	**17784**	**11659**	**18708**	95.1%	**$64,488**
ES	Curr Studies	6			$0	209	29	5052	7105	4832	7274	97.7%	$0
ES	Multicult & Global	4			$285,804	92	0	2736	2511	2688	2451	102.4%	$71,451
ES	Soc & Psych Stu	9			$267,500	148	0	13261	12974	12476	12335	105.2%	$29,722
		19		**ES Subtotals**	**$553,304**	**449**	**29**	**21049**	**22590**	**19996**	**22060**	102.4%	**$29,121**
TLP	Elem/Middle	23			$1,136,508	779	517	19706	20819	19921	21100	98.7%	$49,413
TLP	K-12	3			$0	158	49	2160	2822	2389	3129	90.2%	$0
TLP	Sec/Postsec	7			$55,000	403	178	6583	7540	5366	6283	120.0%	$7,857
		33		**TLP Subtotals**	**$1,191,508**	**1340**	**744**	**28449**	**31181**	**27676**	**30512**	102.2%	**$36,106**
		102.5		**TOTALS**	**$8,381,932**	**3000**	**1294**	**88884**	**104385**	**86803**	**102787**		

***SCH Pegasus Weighting Factors**													
UG LL	**952**	**0.80147050**		**40**	**30**								
UG UL	**763**	**1.00000000**		**32**	**24**								
Grad	**490**	**1.55714280**		**27**	**20**								
Thes/Dis	**200**	**3.81500000**											

NOTES: 1) Graduates of Community College Teaching Tracks in M.A. programs are included in Educational Leadership degree totals. 2) PE and Sports & Fitness degrees are included under Sports Leadership.

Department of Educational Studies Accomplishments for 2006

The strength of the Educational Studies Department lies in the high quality of instruction provided by faculty members, their impressive research, publications and creative activities, their grant writing skills, and their leadership to professional organizations, the university, and local school and community organizations. Highlights from the Executive Summary of the 2006 Annual Educational Studies Department Report follow;

- 24 Tenure-Track, Instructor, and Visiting Faculty Members (plus Chair)
- $ 1.2 million in Grants Awarded (additional $2.2 million pending)
- 3 Books, 7 Book Chapters, and 30 Journal Articles, Book Reviews and Proceedings Published; 52 Professional Conference Paper Presentations
- Editors/Editorial Board Members for 16 Professional Journals; Manuscript Reviewers for 14 Academic Journals
- 25 Workshops, Presentations and Consultancies for Florida Schools, Community Organizations and UCF
- Leadership Roles in 24 Professional Organizations
- 10,077 Hours of Community Service Learning by 154 Undergraduates in over 81 Non-Profit Organizations and Schools
- 575 Junior Achievement Elementary and Secondary Classes taught by Undergraduate Education Majors
- John L Brinson Ethics Professorship
- 5 Faculty Awards:
  - Franklyn Conroy Williams Outstanding Holmes Scholar Award
  - Teaching Incentive Program (TIP) Award
  - Conference of Southern Graduate Schools 2006 Achievement Award for New Scholars in Social Sciences, Business, and Education
  - Distinguished Fellow Lifetime Award, International Society for Exploring Teaching
  - and Learning
  - * Social Context of Education Research Fellow, American Educational Research
  - Association

(See Appendix B – Faculty Tables)

X. Non-Faculty Resources

A. Describe library resources currently available to implement and/or sustain the proposed program through Year 5. Provide the total number of volumes and serials available in this discipline and related fields. List major journals that are available to the university's students. Include a signed statement from the Library Director that this subsection and subsection B have been reviewed and approved for all doctoral level proposals.

As library resources are essential to any new degree program, an analysis of library holdings (monographs and periodicals) was conducted to assist in preparing a program proposal for the new MA in Applied Learning and Instruction. A library program review was completed by Terry Sypolt and reviewed by Jeannette Ward of the UCF Library on October 12, 2007. The review compared the library holdings of the University of Central Florida (UCF), University of Florida (UF), Michigan State University (MSU), Penn State University (PSU), Virginia Tech (VT), and Stanford University (Stanford), and are intended to provide an assessment of current and anticipated future resources for the program. These benchmark universities were selected at the recommendation of Dr. Louis Nadelson, Assistant Professor in the College of Education. A detailed listing of the fields related to educational psychology, and the number of library volumes at UCF by subject heading compared to UF, MSU, PSU, VT, and Stanford is given in Appendix C.

UCF had 96,928 volumes and 41 serials.

B. Describe additional library resources that are needed to implement and/or sustain the program through Year 5. Include projected costs of additional library resources in Table 3.

A review of UCF Library Holdings indicates that no additional databases/indexes are needed to support the proposed MA in Applied Learning and Instruction. The UCF Library is requesting $6,000 over three years to strengthen the research collection in such areas as Cognition, Motivation, and Educational Psychology. See Appendix C for detailed listings.

_____ _____

Library Director Date

C. Describe classroom, teaching laboratory, research laboratory, office, and other types of space that are necessary and currently available to implement the proposed program through Year 5.

All space for this program will be located in the College of Education's newly renovated building. During 2002-2003, the College of Education building was totally renovated. The renovated space provides individual offices for faculty members in office suites. Learning communities have formed within suites and collaboration rooms are available to meet with students or other faculty members throughout the day. The College of Education has outstanding facilities on campus and with partner schools to support students in meeting their needs. The construction of the UCF Academy for Teaching,

Learning, and Leadership provides classroom space for education courses. This state-of-the-art facility supports the most recent developments in technology that allow faculty to model the use of technology and students to practice instructional delivery. Additionally, classroom space across the campus is shared among the colleges. The Academy of Teaching, Learning, and Leadership is a 45,396 square foot facility housing the Toni Jennings Exceptional Education Institute, Florida's Literacy and Reading Excellence Center (FLaRE), the Lockheed Martin Academy for Mathematics and Science, the Consortium for Social Responsibility and Character Education, and the UCF Academy Fellows. The $11 million dollar state-of-the-art building was completed in August, 2003. There are 27 classrooms of which 18 have full multi-media equipment. There are four technology labs and an assistive technology lab equipped with seven Universal Access Stations and numerous software programs.

The College of Education houses newly remodeled faculty offices and conference rooms and the Curriculum Materials Center (CMC) staffed by highly competent library personnel. The Center, which has 4,000 total square feet, contains 30,000 volumes, a collection of Florida-approved textbooks, and an extensive collection of standardized tests. The CMC provides a critical resource for the College. There is a library in the Center, as well as 23 computers that can be used as an open lab. The 23 computers consist of 13 desktop computers and ten laptops. Students can print their work and have access to a variety of other functions. The lab is open six days a week, including all day on Saturday. The CMC also has a digital camera and video camera for use in the CMC, 25-inch wide laminator, opaque projector, overhead projector, Ellison machine to cut out letters and shapes, and pay-for-print black and white printing.

In the Teaching Academy for Teaching, Learning and Leadership there are several computer labs and laptop carts. The labs/laptop carts are as follows:

- lab containing thirteen computers, all Windows based
- lab containing thirty-six computers, all Windows based
- lab containing eighteen computers, all Windows based
- lab containing fourteen computers, all Mac based.
- lab containing sixteen computers for ITGL graduate students, combination of Windows and Mac computers.
- laptop cart containing 12 Windows computers
- laptop cart containing 14 Mac computers

The 14 computers that are all Mac based are used for the Apple Training Center as well as other specialized training. All five labs are open for classes and special training needs for students in the College of Education. One of the labs is equipped with technology equipment to help students with disabilities as well as training teachers to help students with disabilities.

All classrooms in the Teaching Academy and the Education Complex have Crestron Console Systems. They consist of document cameras, computers, DVD/VCR, speakers, RJ 45 connection for laptops, and a high quality ceiling mounted projector. All rooms in the Academy for Teaching, Learning, and Leadership and the Education Complex are equipped with closed captioning through the projection system. The College spent over $4,000 to purchase a closed caption decoder to make every room fully accessible to the hearing impaired and other persons with disabilities who would like to view the closed captioning. Most rooms have motorized screens and whiteboards. The entry to the Academy for Teaching, Learning, and Leadership includes three plasma displays that project valuable information to students as they enter the building.

D. Describe additional classroom, teaching laboratory, research laboratory, office, and other space needed to implement and/or maintain the proposed program through Year 5. Include any projected Instruction and Research (I&R) costs of additional space in Table 2. Do not include costs for new construction because that information should be provided in response to X (J) below.

No additional space will be needed. All facilities described in Subsection C are maintained by the College of Education and are adequate to support this program. There is no additional cost for the proposed Master of Arts in Applied Learning and Instruction degree.

E. Describe specialized equipment that is currently available to implement the proposed program through Year 5. Focus primarily on instructional and research requirements.

Classrooms in the Teaching Academy are currently equipped with multimedia presentation systems. Computer labs are available for instructional access.

F. Describe additional specialized equipment that will be needed to implement and/or sustain the proposed program through Year 5. Include projected costs of additional equipment in Table 2.

No additional specialized equipment is needed.

G. Describe any additional special categories of resources needed to implement the program through Year 5 (access to proprietary research facilities, specialized services, extended travel, etc.). Include projected costs of special resources in Table 2.

Not applicable – this is not outside of the present budgetary needs.

H. Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5. Include the projected costs in Table 2.

Not applicable – it is a part time program.

I. Describe currently available sites for internship and practicum experiences, if appropriate to the program. Describe plans to seek additional sites in Years 1 through 5.

Not applicable.

J. If a new capital expenditure for instructional or research space is required, indicate where this item appears on the university's fixed capital outlay priority list. Table 2 includes only Instruction and Research (I&R) costs. If non-I&R costs, such as indirect costs affecting libraries and student services, are expected to increase as a result of the program, describe and estimate those expenses in narrative form below. It is expected that high enrollment programs in particular would necessitate increased costs in non-I&R activities.

Not Applicable

APPENDIX

APPENDICES

Appendix E

Appendix F

APPENDIX A

FINANCIAL WORKING TABLES

Summary Analysis

Name of Program: Master of Arts in Applied Learning
Level of program: Masters
CIP code: 15,0000
Author:

			Additional resources needed for new program					
Estimated Costs	Total	Current	Reallocation		New E&G	C&G	Cost/fte*	Cost/fte**
Year 1	$49,608	$13,348	$13,348	27%	$36,261	$0	$13,229	$ 13,229
		0						
Year 2	$69,086	$5,000	$5,000	7%	$64,086	$0	$6,699	$ 6,699
Year 3	$102,477	$30,043	$30,043	29%	$72,434	$0	$6,246	$ 6,246
Year 4	$100,477	$5,000	$5,000	5%	$95,477	$0	$5,104	$ 5,104
Year 5	$100,477	$5,000	$5,000	5%	$95,477	$0	$4,872	$ 4,872

* based upon total costs

** based upon current and new costs only, does not include C&G

FTE/Headcount

	Year 1	Year 2	Year 3	Year 4	Year 5
Headcount	10	25	45	55	60
FTE	3.75	10.31	16.40625	19.6875	20.63

Criteria for Program Approval (8 criteria)

Met with Strength	Met	Met with Weakness	Unmet
		0	0

Estimated revenue generated through student enrollment

	Revenue	Year 1	Year 2	Year 3	Year 4	Year 5
490		$0	$41,887	$115,189	$183,255	$219,906
71193						

((fte*32sch/fte)/490sch/fac lines)*1.2 *A36*1.238

TABLE 2

PROJECTED COSTS AND FUNDING SOURCES YEAR 2 & 3

Instruction & Research Costs (non-cumulative)	Year 2					Year 3				
	Funding Source					Funding Source				
	Continuing Base** (E&G)	New Enrollment Growth (E&G)	Other*** (E&G)	Contracts & Grants (C&G)	Subtotal E&G and C&G	Continuing Base** (E&G)	New Enrollment Growth (E&G)	Other*** (E&G)	Contracts & Grants (C&G)	Subtotal E&G and C&G
Faculty Salaries and Benefits	$0	$50,086	$0	$0	$50,086	$25,043	$58,434	$0	$0	$83,477
A&P Salaries and Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
USPS Salaries and Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Personnel Services	$0	$0	$12,000	$0	$12,000	$0	$0	$12,000	$0	$12,000
Assistantships and Fellowships	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Library	$0	$2,000	$0	$0	$2,000	$0	$2,000	$0	$0	$2,000
Expenses	$5,000	$0	$0	$0	$5,000	$5,000	$0	$0	$0	$5,000
Operating Capital Outlay	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Special Categories	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Costs	$5,000	$52,086	$12,000	$0	$69,086	$30,043	$60,434	$12,000	$0	$102,477

*Identify reallocation sources in Table 3.

**Includes recurring E&G funded costs ("reallocated base", "enrollment growth", and "other new recurring") from Years 1-4 that continue into Year 5.

Faculty and Staff Summary

Total Positions (person-years)	Year 2	Year 3	Year 4
Faculty	0.50	0.63	0.83
A&P	0	0	0
USPS	0	0	0

Calculated Cost per Student FTE

	Year 2	Year 3	Year 4
Total E&G Funding	$69,086	$102,477	$100,477
Annual Student FTE	10.3125	16.40625	19.6875
E&G Cost per FTE	$6,699	$6,246	$5,104

TABLE 2

PROJECTED COSTS AND FUNDING SOURCES YEAR 4

Instruction & Research Costs (non-cumulative)	Year 4				
	Funding Source				
	Continuing Base** (E&G)	New Enrollment Growth (E&G)	Other*** (E&G)	Contracts & Grants (C&G)	Subtotal E&G and C&G
Faculty Salaries and Benefits	$0	$83,477	$0	$0	$83,477
A&P Salaries and Benefits	$0	$0	$0	$0	$0
USPS Salaries and Benefits	$0	$0	$0	$0	$0
Other Personnel Services	$0	$0	$12,000	$0	$12,000
Assistantships and Fellowships	$0	$0	$0	$0	$0
Library	$0	$0	$0	$0	$0
Expenses	$5,000	$0	$0	$0	$5,000
Operating Capital Outlay	$0	$0	$0	$0	$0
Special Categories	$0	$0	$0	$0	$0
Total Costs	$5,000	$83,477	$12,000	$0	$100,477

*Identify reallocation sources in Table 3.

**Includes recurring E&G funded costs ("reallocated base", "enrollment growth", and "other new recurring") from Years 1-4 that continue into Year 5.

Faculty and Staff Summary

Total Positions (person-years)	Year 2	Year 3	Year 4
Faculty	0.50	0.63	0.83
A&P	0	0	0
USPS	0	0	0

Calculated Cost per Student FTE

	Year 2	Year 3	Year 4
Total E&G Funding	$69,086	$102,477	$100,477
Annual Student FTE	10.3125	16.40625	19.6875
E&G Cost per FTE	$6,699	$6,246	$5,104

TABLE 3
ANTICIPATED REALLOCATION OF EDUCATION AND GENERAL FUNDS

Program and/or E&G account from which current funds will be reallocated during Year 1	Base before reallocation	Amount to be reallocated	Base after reallocation
14 26 0001 Educational Studies	$1,809,176	$0.00	$1,809,176
Totals			

5th year

Worksheet Table 3 Reallocation		
	22% Gil	$5,000
	33% Nadelson	7500
Note: reallocation does not occur in Year 1.	11% Hoffman	2500
	11% Allen	2500
	11% Bentley	2500
	11% Hirumi	2500
	11% Sivo	2500
		$25,000

0.013818446

BUDGET

This table can be used for interdisciplinary programs where faculty salaries					
are different between departments. Used to compute total FTE and average cost					
				9 month	**12 month**
	# Faculty	**Faculty Salaries**		Average Salary	Average Salary
Dept 1				61,448	81,931
Dept 2					
Dept 3					
12 month salary total:				61,448	81,931
Existing faculty fte to the new program - reallocated base					
	1st yr	**2nd yr**	**3rd yr**	**4th yr**	**5th yr**
Dept 1-	**0.08**	**0.00**	**0.25**	**0.00**	**0.00**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
New faculty FTE to the new program - enrollment growth					
	1st yr	**2nd yr**	**3rd yr**	**4th yr**	**5th yr**
Dept 1	**0.22**	**0.50**	**0.58**	**0.83**	**0.83**
Total	**0.22**	**0.50**	**0.58**	**0.83**	**0.83**
Total-check					
New Faculty FTE to new program - other new recurring monies (give source)					
	1st yr	**2nd yr**	**3rd yr**	**4th yr**	**5th yr**
Dept 1	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
New faculty fte to new program - new non-recurring monies (give source)					
	1st yr	**2nd yr**	**3rd yr**	**4th yr**	**5th yr**
Dept 1	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
New faculty FTE to new program - C&G					
	1st yr	**2nd yr**	**3rd yr**	**4th yr**	**5th yr**
Dept 1	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Faculty costs without benefits					
Existing faculty cost	6,759	0	20,278	0	0
New faculty cost - enrollment growth	18,025	40,556	47,315	67,593	67,593
New faculty cost - other recurring monies	0	0	0	0	0
New faculty cost - new non-recurring monies	0	0	0	0	0
New E&G faculty cost	18,025	40,556	47,315	67,593	67,593
New C&G faculty cost	0	0	0	0	0
Total faculty costs without benefits	24,784	40,556	67,593	67,593	6,7593

BUDGET YEAR 1 & 2

IDENTIFICATION OF CURRENT BASE FUNDS TO SUPPORT THE NEW PROGRAM

NAME OF PROGRAM__ Applied Learning & Instruction

PROGRAM LEVEL__ MA

CIP IDENTIFICATION__ 15.0000

DATE SUBMITTED__ Fall 2007

	FIRST YEAR					SECOND YEAR				
		New from	New from	New from	New from		New from	New from	New from	New from
		Enrollment	New	Non-			Enrollment	New	Non-	
	Reallocated	Growth	Recurring	Recurring		Reallocated	Growth	Recurring	Recurring	
	BASE	NEW	E&G	E&G	C&G	BASE	NEW	E&G	E&G	C&G
	RESOURCES	PROGRAMS	REVENUE	REVENUE	REVENUE	RESOURCES	PROGRAMS	REVENUE	REVENUE	REVENUE
	---	---	---	---		---	---	---	---	
POSITIONS (in FTE):										
FACULTY	0.08	0.22	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00
A&P			0				0	0		
USPS		0					0			
TOTAL	0.08	0.22	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00
	=========	=========	=========	=========		=========	=========	=========	=========	
A&P	0	USPS	0			A&P	0	USPS	0	
SALARY RATE:										
FACULTY	6759	18025	0	0	0	0	40556	0	0	0
A&P			0					0		
USPS		0								
TOTAL	6759.28	18025	0	0	0	0	40556	0	0	0
	=========	=========	=========	=========		=========	=========	=========	=========	
Faculty Salaries and Benefits	8348	22261	0	0	0	0	50086	0	0	0
A&P Salary and Benefits	0	0	0	0	0	0	0	0	0	0
USPS Salary and Benefits	0	0	0	0	0	0	0	0	0	0
Other Personnel Services	0		12000			0		12000		
Assistantships and Fellowships					0					0
Library		2000					2000			
Expenses	5000	0			0	5000	0			0
Operating Capital Outlay										
Special Categories										
TOTAL	13348	24261	12000	0	0	5000	52086	12000	0	0
	=========	=========	=========	=========		=========	=========	=========	=========	

BUDGET YEAR 3 & 4

IDENTIFICATION OF CURRENT BASE FUNDS TO SUPPORT THE NEW PROGRAM

NAME OF PROGRAM__ Applied Learning & Instruction

PROGRAM LEVEL__ MA

CIP IDENTIFICATION__ 15.0000

DATE SUBMITTED__ Fall 2007

	THIRD YEAR					FOURTH YEAR				
		New from Enrollment Growth	New from New Recurring E&G	New from Non-Recurring E&G	New from C&G		New from Enrollment Growth	New from New Recurring E&G	New from Non-Recurring E&G	New from C&G
	Reallocated BASE RESOURCES	NEW PROGRAMS	REVENUE	REVENUE	REVENUE	Reallocated BASE RESOURCES	NEW PROGRAMS	REVENUE	REVENUE	REVENUE
POSITIONS (in FTE):										
FACULTY	0.25	0.58	0.00	0.00	0.00	0.00	0.83	0.00	0.00	0.00
A&P			0					0		
USPS										
TOTAL	0.25	0.58	0.00	0.00	0.00	0.00	0.83	0.00	0.00	0.00
A&P	A&P	0	USPS	0		A&P	0	USPS	0	
SALARY RATE:										
FACULTY	20278	47315	0	0	0	0	67593	0	0	0
A&P		0	0				0	0		
USPS		0					0			
TOTAL	20277.84	47315	0	0	0	0	67593	0	0	0
Faculty Salaries and Benefits	25043	58434	0	0	0	0	83477	0	0	0
A&P Salary and Benefits	0	0	0	0	0	0	0	0	0	0
USPS Salary and Benefits	0	0	0	0	0	0	0	0	0	0
Other Personnel Services	0	0	12000			0		12000		
Assistantships and Fellowships					0					0
Library		2000					0			
Expenses	5000	0			0	5000	0			0
Operating Capital Outlay										
Special Categories										
TOTAL	30043	60434	12000	0	0	5000	83477	12000	0	0

BUDGET YEAR 5

IDENTIFICATION OF CURRENT BASE FUNDS TO SUPPORT THE NEW PROGRAM

NAME OF PROGRAM__ Applied Learning & Instruction

PROGRAM LEVEL__ MA

CIP IDENTIFICATION__ 15.0000

DATE SUBMITTED__ Fall 2007

	FIFTH YEAR			
		New Enrollment		
	Continuing BASE RESOURCES	Growth E&G PROGRAMS	Other (E&G) REVENUE	C&G NEW REVENUE
	---	---	---	---
POSITIONS (in FTE):				
FACULTY	0.00	0.83	0.00	0.00
A&P			0	
USPS				
TOTAL	0.00	0.83	0.00	0.00
	=========	=========	=========	=========
A&P	A&P	0	USPS	0
SALARY RATE:				
FACULTY	0	67593	0	0
A&P		0	0	
USPS		0		
TOTAL	0	67593	0	0
	=========	=========	=========	=========
Faculty Salaries and Benefits	0	83477	0	0
A&P Salary and Benefits	0	0	0	0
USPS Salary and Benefits	0	0	0	0
Other Personnel Services	0		12000	
Assistantships and Fellowships				0
Library		0		
Expenses	5000	0		0
Operating Capital Outlay				
Special Categories				
TOTAL	5000	83477	12000	0
	=========	=========	=========	=========

APPENDIX B

FACULTY TABLES

B. FACULTY TABLES

Current faculty contributing to New program					
Proposed Graduate Program Faculty Assignments - Master of Arts in Applied Learning and Instruction					
% Effort for Program					
Faculty Name	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Bentley, Bentley	0.00	0.00	0.11	0.00	0.00
Hirumi, Atsusi	0.00	0.00	0.11	0.00	0.00
Nadelson, Louis	0.00	0.00	0.11	0.00	0.00
Sivo, Stephen	0.11	0.00	0.00	0.00	0.00
Page 2 ASSIGNMENTS	**0.11**	**0.00**	**0.33**	**0.00**	**0.00**

Current and New faculty contributing to New program

Proposed Graduate Program Faculty Assignments - Master of Arts in Applied Learning and Instruction

% Effort for Program

Faculty Name	Year 1	Year 2	Year 3	Year 4	Year 5
Allen, Kay	0.00	0.11	0.11	0.11	0.11
Bentley, Courtney	0.00	0.00	0.00	0.11	0.11
Gill, Michele	0.00	0.22	0.22	0.22	0.22
Hirumi, Atsusi	0.00	0.00	0.00	0.11	0.11
Hoffman, Bobby	0.00	0.11	0.11	0.11	0.11
Nadelson, Louis	0.22	0.22	0.22	0.33	0.33
Sivo, Stephen	0.00	0.00	0.11	0.11	0.11
Page 2 ASSIGNMENTS	**0.22**	**0.66**	**0.77**	**1.10**	**1.10**

Current and New faculty contributing to New program

Proposed Graduate Program Faculty Assignments - Master of Arts in Applied Learning and Instruction

% Effort for Program

Faculty Name	Year 1	Year 2	Year 3	Year 4	Year 5
Allen, Kay	0.00	0.11	0.11	0.11	0.11
Bentley, Bentley	0.00	0.00	0.00	0.11	0.11
Gill, Michele	0.00	0.22	0.22	0.22	0.22
Hirumi, Atsusi	0.00	0.00	0.00	0.11	0.11
Hoffman, Bobby	0.00	0.11	0.11	0.11	0.11
Nadelson, Louis	0.22	0.22	0.22	0.33	0.33
Sivo, Stephen	0.00	0.00	0.11	0.11	0.11
Page 2 ASSIGNMENTS	**0.22**	**0.66**	**0.77**	**1.10**	**1.10**

TABLE 4

ANTICIPATED FACULTY PARTICIPATION

Faculty Code	Faculty Name or "New Hire" Highest Degree Held Academic Discipline or Speciality	Rank	Contract Status	Initial Date for Participation in the Program	Mos. Contract Year 2	FTE Year 2	% Effort for Prg. Year 2	PY Year 2	Mos. Contract Year 3	FTE Year 3	% Effort for Prg. Year 3	PY Year 3	Mos. Contract Year 4	FTE Year 4	% Effort for Prg. Year 4	PY Year 4
A	Michele Gill	Assistant Prof	TE	2009	9	0.75	22%	0.17	12	1.00	22%	0.22	9	0.75	22%	0.17
A	Kay Allen	Associate Prof	Tenured	2009	9	0.75	11%	0.08	9	0.75	11%	0.08	9	0.75	11%	0.08
A	B. Hoffman	Assistant Prof	TE	2009	9	0.75	11%	0.08	9	0.75	11%	0.08	9	0.75	11%	0.08
A	A. Hirumi	Associate Prof	Tenured	2010	9	0.75	0%	0.00	9	0.75	0%	0.00	9	0.75	11%	0.08
A	L. Nadelson	Assistant Prof	TE	2010	9	0.75	22%	0.17	9	0.75	22%	0.17	9	0.75	33%	0.25
A	C. Bentley	Assistant Prof	TE	2010	9	0.75	0%	0.00	9	0.75	0%	0.00	9	0.75	11%	0.08
A	Stephen Sivo	Associate Prof	Tenured	2008	9	0.75	0%	0.00	9	0.75	11%	0.08	9	0.75	11%	0.08
	Total Person-Years (PY)							0.50				0.63				0.83

Faculty CODE		Source of Funding	PY Workload by Budget Classification				
			Year 2		Year 3		Year 4
A	**Existing faculty on a regular line**	**Current Education & General Revenue**	**0.50**		**0.63**		**0.83**
B	**New faculty to be hired on a vacant line**	**Current Education & General Revenue**					
C	**New faculty to be hired on a new line**	**New Education & General Revenue**	**0.00**		**0.00**		**0.00**
D	**Existing faculty hired on contracts/grants**	**Contracts/Grants**					
E	**New faculty to be hired on contracts/grants**	**Contracts/Grants**					
		Overall Totals for	**Year 2**	**0.50**	**Year 3**	**0.63**	**Year 4** **0.83**

FACULTY VITAES

KAY W. ALLEN
College of Education
Department of Educational Services
University of Central Florida
Orlando, FL 32816-1250
(407) 823-2037
E-mail: kallen@mail.ucf.edu

Education

Ph.D. University of South Carolina, May 1990
Major: Educational Psychology
Cognate: Psychology
Doctoral Comprehensive Score: Honors
Dissertation: "The Effects of Teaching a Matrix Strategy on the Solving of Deductive Matching Problems by Sixth Graders"

M.Ed. East Texas State University, 1970
Major: Counseling Psychology and Guidance
Minor: Psychology
Research Project: "Professionalism in Education"

B.S. East Texas State University, 1969
Major: Elementary Education
Graduated with Superior Academic Standing

Employment Background

1996-present Associate Professor
College of Education
University of Central Florida
Orlando, FL.

1996-1999 Coordinator of Global and Multicultural Education
College of Education
University of Central Florida
Orlando, FL.

1990-1996 Assistant Professor
University of Central Florida
College of Education, Educational Foundations
Orlando, FL

1987-90 Instructor (Adjunct)
Department of Educational Research and Foundations
University of South Carolina
Columbia, SC

1989-90 Instructor (Adjunct)
Department of Education

Coker College
Hartsville, SC

1987-89 Instructor (Adjunct)
Department of Behavioral Sciences
Midlands Technical College
Columbia, SC

1978-85 Therapist (Individual, Family, & Group) and Consultant
McMillan Associates
Columbia, SC

1977-78 Therapist, Staff Training Development and Training Specialist and Group Therapy Coordinator
South Carolina Department of Mental Health
Columbia, SC

1975-77 Training Specialist and Training Coordinator
South Carolina Department of Social Services
Staff Development and Training
Columbia, SC

1973-75 Therapist (Individual and Group)
Mid-Carolina Council on Alcoholism
Columbia, SC

1971-72 Teacher (Elementary) and Supervisor of Student Teachers
Western Carolina University Laboratory School
Cullowhee, NC

1969-71 Teacher (Elementary)
Commerce Public Schools
Commerce, TX

1969 Assistant Director of Multicultural
Training Institute
Dr. David Talbot, Director
East Texas State University
Commerce, TX

Teaching: Courses Taught

(1990-Present, University of Central Florida)

EDF 7232	Analysis of Learning Theories in Instruction
EDF 6259	Learning Theories Applied to Instruction
EDF6233	Analysis of Classroom Teaching
EDF 6155	Lifespan Human Development and Learning
EDF6886	Multicultural Education
EDS 5356	Clinical Education and Supervision
EDF 4214	Classroom Learning Principles
EDF4214	Teaching Strategies II

Book

Allen, K.W., Hutchinson, C.J. & Wood, A.T. (1995) *Boundary Breaking.* Dubuque Iowa: Kendall Hunt.

Articles

Allen, K.W. & Hutchinson, C.J. (1993). I know my rights; I don't want to write. *FASCD Journal*. *12*, 31-34.

.

Allen, K.W. & Hutchinson, C.J. (1995). The Reflection Integration Model: A Process for Facilitating Reflecting Learning. *The Teacher Educator*.

Allen, K.W. (1993-1995) Column in *Highlights*, a newsletter of the Florida Association of Childhood Education International published quarterly

Allen, K.W. (1995). Technology and diversity: The role of technology in pre-service education. *Florida Technology in Education Quarterly*. 7(2), 40-49.

Allen, K.W. & Hutchinson, C.J. (1993-1994). Issues of reform: The missing voice. *SRATE Journal*. 3(1), 8-11.

Allen, K.W., Hutchinson, C.J., & Johnson, J. (1995). A new vision for staff development: Hearing from the upstaged voices. *Journal of Teacher Education 46*,(4), 312-316.

Allen, K.W. (1996, Summer). Building a climate of learning. *New Teacher Advocate*.

Allen, K. W. (1996). Technology and Diversity: An Experiential/Action Model. *Technology and Teacher Education Annual, 1996.*

Allen, K. W. (1996). Issues of Diversity in Teacher Education. CD ROM published by *Society for Information Technology and Teacher Education.*

Allen, K.W. (2000) Rethinking the Pedagogy of Online Courses. *Proceedings WebNet Conference,* October 30-November 4, 2000.

Allen, K.W. (2001) Efficacy and perceived technology competence and confidence of pre-service teachers. *SRATE Journal, 10*(1), 12-15.

Allen, K.W. (2001) Interactive television,: A collaborative process. *Proceedings SITE Conference*, March 6-9, 2001.

Allen, K.W. (2001) Constructivist vs. Objectivists Approaches to Teaching Online *Proceedings WebNet 2001 World Conference*, October 23-27, 2001, Orlando, FL

Allen, K.W., (2003). Collaborative learning and shared leadership. *Proceedings of E-Learn 2003* , Association for the Advancement of Computing in Education, November 7-11, 2003, Phoenix, Arizona.

Allen, K.W. (2003). Pedagogy and On-line Course Design and Delivery In Popov (Ed.),

Comparative Education in Teacher Training Sofia, Bulgaria: Bureau for Educational Services.

Allen, K. & Lee, J. (2004) Management Strategies for Ensuring Better Online Teaching: Reflections from Two Web-based Veterans. *The Journal of Distance Learning Administration Annual*, Spring 2004, Carollton, GA: State University of West Georgia

Allen, K.W. (2004) Pedagogy and Distance Education. *Proceedings 12th World Congress on Comparative Education*, Havana, Cuba

Allen, K.W. (2005) Collaborative Learning and Shared Leadership in Online Learning. *Proceedings Society for Information Technology and Teacher Education 2005*.

Presentations since 2000

Allen, K.W. Rethinking the Pedagogy of Online courses. Proceedings WebNet Conference, October 30-November 4, 2000.

Allen, K.W. Interactive Television, a collaborative process. Proceedings SITE Conference, March 6-9, 2001.

Constructivist vs. Objectivists Approaches to Teaching Online
Kay W. Allen
WebNet 2001 World Conference
October 23-27, 2001
Orlando, FL

Supporting Adult Learners in Web Courses: The Synergy of Interaction and Constructivism
Workshop – presentation and demonstration of online learning. Kay Allen was the presenter on site at the conference. Larry Hudson and others were in Virginia and students were at other locations. The workshop allowed participants to observe first hand a distance learning process.
Kay W. Allen and Larry Hudson
CAEL (Council on Adult and Experiential Learning) International Conference
November 8-10, 2001
Orlando, FL

Allen, K.W., (2003).
Collaborative learning and shared leadership
Association for the Advancement of Computing in Education,
November 7-11, 2003, Phoenix, Arizona.

Allen, K.W. (2004)
Collaboration in Online Classes
Association of Teacher Educators
February 15-18, 2004, Dallas, Texas

Allen, K.W. May 23-26, 2004. Collaboration in the Online Environment.
Distance Learning Association, Jekyll Island, GA

Allen, K.W. (2004) Pedagogy and Distance Education
12th World Congress on Comparative Education
Havana, Cuba

Allen, K.W. (2005) Collaborative Learning and Shared Leadership in Online Learning.
Society for Information Technology and Teacher Education 2005.

Present Grant Activity:

Co P.I (since 1997)
Florida Inclusion Network: Region 3
Florida Department of Education Grant $550,000

COURTNEY CAMILLE BENTLEY
Department of Educational Studies
College of Education
University of Central Florida
P.O. Box 161250
Orlando, FL 32816-1250
(407) 823-1227
email: cbentley@mail.ucf.edu

Education

2005 **Doctor of Education, Curriculum and Teaching, Department of Curriculum and Teaching, Teachers College, Columbia University**

Dissertation Title: Actualizing (Im)possible Selves Amidst Policy (Non)events: A Feminist Critical Case Study of Puerto Rican and Dominican Youth Mothers.

1998 Master of Science, History, Secondary Education with a specialization in Comprehensive Social Studies, Department of History, North Carolina A& T State University

1995 Bachelor of Arts, History, Auburn University, Magna Cum Laude

Research Interests

- P-16 Educational Policy Analysis
- Qualitative Research Methodologies
- Curriculum Studies
- Urban Education

Professional Experience

Fall 2007 to Present	Assistant Professor, Curriculum Studies, Department of Educational Studies, University of Central Florida, Orlando, Florida
Fall 2004 to Spring 2007	Assistant Professor, History-Education, Department of History, Troy University, Troy, Alabama
Spring 2005 to Present	University Supervisor, Social Science Interns, Department of History/ College of Education, Troy University, Troy, Alabama
Summer 2004	Instructor, Curriculum Theory and History, Department of Curriculum and Teaching, Teachers College, Columbia University, New York, New York.
Spring 2004	Co-Instructor, Qualitative Research Methodologies in Education, Department of Curriculum and Teaching, Teachers College, Columbia University, New York, New York.

Fall 2001-Spring 2004	Research Assistant, Department of Curriculum and Teaching, Teachers College, Columbia University, Understanding urban youth's multiple worlds: A study exploring Black and Latino/a negotiations of the college-going processes, Professor Michelle G. Knight, National Academy of Educators
Fall 2000-Spring 2001	Graduate Teaching Assistant, Doctoral Core Curriculum, Department of Curriculum and Teaching, Teachers College, Columbia University, New York, New York
Fall 2000-Spring 2001	Research Assistant, Department of Curriculum and Teaching, Teachers College, Columbia University, Understanding urban youth's multiple worlds: A study exploring Black and Latino/a negotiations of the college-going processes, Professor Michelle G. Knight, The Spencer Foundation
Summer 1999-Fall 2000	Research Assistant, Department of Curriculum and Teaching, Teachers College, Columbia University, Professor Michelle G. Knight, New York, NY. (Grant Writing)
Fall 1997	Instructor, Undergraduate, Department of History, North Carolina A&T State University, Greensboro, North Carolina
Fall 1996-Summer 1997	Graduate Teaching Assistant, Graduate and Undergraduate, Department of History, North Carolina A&T State University, Greensboro, North Carolina

Relevant P-12 Experience

01/00-05/04	Teacher, Hollingworth Center, Department of Curriculum and Teaching, Teachers College, Columbia University, New York, NY
1/01-05/04	Cooperating Teacher. Hollingworth Center, Department of Curriculum and Teaching, Teachers College, Columbia University, New York, NY
2/03-05/04	Professional Developer, Hollingworth Center**,** Teachers College, Columbia University, New York, NY
Summers 00-03	Teacher, Hollingworth Summer Science Camp, Department of Curriculum and Teaching, Teachers College, Columbia University, New York, NY
8/98-6/99	Social Studies Teacher, Guilford County Public Schools, Greensboro, North Carolina, Grades: 9-12.
6/97-8/97	Assistant in Management, La Petite Preschool, Greensboro, North Carolina
9/96-6/97	Substitute Teacher, La Petite Preschool, Greensboro, North Carolina
9/95-9/96	Lead Teacher, La Petite Preschool, Greensboro, North Carolina

6/95-8/95	Counseling Assistant/Intern, Summit House, Greensboro, North Carolina
1/95-6/95	After School Program Coordinator, Auburn City Schools, Department of Parks and Recreation, Auburn, Alabama. Grades: 1-4
8/94-12/94	After School Recreation Leader, Auburn City Schools, Department of Parks and Recreation, Auburn University, Auburn, Alabama, Grades: K-6
6/93-8/93	Counselor, YMCA of Birmingham, Alabama, Grades: K-6

Scholarships/Awards

2006	Finalist, Selma Greenberg Outstanding Dissertation Award, Research on Women and Education, American Educational Research Association
1998	Outstanding Graduate Student, College of Arts and Sciences, North Carolina A&T State University, Greensboro, North Carolina
1994-1995	Ruth Fountain Heard Scholarship, Outstanding Undergraduate History Major, Department of History, Auburn University
1995	Phi Kappa Phi, Auburn University, Auburn, Alabama
1995	Phi Alpha Theta, Auburn University, Auburn, Alabama
1995	Golden Key National Honor Society, Auburn University, Auburn, Alabama
1993-1995	Deans List, Auburn University, Auburn, Alabama

Publications

Book Chapters:

Knight, M., Dixon, I., Norton, N., & Bentley, C. C. (2006). Critical literacies as feminist affirmations and interventions: Puerto Rican and Dominican college bound female youth. In D. Delgado Bernal, C. Alejandra Elenes, F. Gonzalez, & S. Villenas (Eds.), *Chicana/Latina feminist pedagogies and epistemologies of everyday life.* New York, NY: SUNY Press.

Book Reviews:

Bentley Ewald, C. C. (2002). [Review of the book *Hands off! The disappearance of touch in early childhood classrooms*]. *Contemporary Issues in Early Childhood Education, 3*(1), 149-152.

Peer-reviewed Journal Articles:

Bentley, C. C., & Norton, N. E. L. (in press). Making the connection: Extending culturally responsive teaching through home(land) pedagogies. *Feminist Teacher, 17*(1).

Knight, M., Bentley, C. C., Norton, N., & Dixon, I. (2004). (De)constructing (in)visible parent consent forms: Negotiating power, reflexivity, and the collective within qualitative research. *Qualitative Inquiry, 10*(3), 390-411.

Knight, M., Dixon, I., Norton, N. E. L., & Bentley, C. C. (2004). Extending learning communities: New technologies, multiple literacies, and culture blind pedagogies. The Urban Review, 36(2), 101-118.

Knight, M., Norton, N., Bentley, C. C., and Dixon, I. (2004). The power of Black and Latina/o counterstories: Urban families and college-going processes. *Anthropology and Education Quarterly, 35*(1), 99-120.

Knight, M., Bentley, C. C., Norton, N. E. L., Dixon, I., Chae, H. S. (under review). Who's at stake: Highlighting urban youth's negotiations of high school graduation exams and access to college. Manuscript submitted to the *American Educational Research Journal.*

Refereed Conference Proceedings:

Bentley, C. C. (2006). To belie yet comply with policy "realities": Puerto Rican and Dominican youth mothers (re)position identities/"realities" within policy (non)events. *Proceedings of the 31st Annual Conference for Research on Women and Education* [On-line]. Retrieved October 23, 2007, from http://www.rwesig.net/confproceedings.htm .

Knight, M., Norton, N., Dixon, I., & Bentley Ewald, C. C. (2001). Engaging representations of youth: A conceptualization of collective written reflexivity as power. In D. Leonard (Ed.), *Proceedings of the Third international conference on gender and education: The politics of gender and education* (pp. 302-309). London, England: Center for Research and Education on Gender.

Research and Technical Reports:

Knight, M., Dixon, I., Bentley, C. C., & Norton, N. E. L. (2001). *Denver High School Preliminary Report on creating a 9th grade college-going culture.* New York, NY: Teachers College, Columbia University, Department of Curriculum and Teaching.

Knight, M., Dixon, I., Bentley, C. C., & Norton, N. E. L. (2001). *Spencer Small Grants Program Report.* New York, NY: Teachers College, Columbia University, Department of Curriculum and Teaching.

Knight, M., Dixon, I., Norton, N. E. L., & Bentley, C. C. (2002). *Denver High School Annual Report on creating a 9-10th grade college-going culture.* New York, NY: Teachers College, Columbia University, Department of Curriculum and Teaching.

Publications in Progress

Bentley, C. C. (in progress). Centering Latina youth mothers within policy: Detailing

engagements in feminist critical case study. *Qualitative Inquiry*.

Bentley, C. C (in progress). *Pushing the Praxis: Aligning faculty structures, teacher education, students, and educational policy.* Proposal submitted for review for inclusion at the Annual meeting of the American Educational Research Association, New York, NY.

Bentley, C. C. (in progress). [Review of the book *Teaching and social justice: Integrating multicultural and feminist theories in the classroom*]. *Feminist Teacher*.

Knight, M., Bentley, C. C., Norton, N. E. L., & Dixon, I. (in progress). Engendering visionary pragmatism: Methodological dilemmas and dialectical activism in ethnographic research for, with, and by youth. Manuscript to be submitted to *International Journal of Qualitative Studies in Education.*

Conference Presentations

International Conference Presentations:

Bentley Ewald, C. C. (2001). *Creating classroom community with children, families, and teachers at the Hollingworth Center.* Paper presented at the bi-annual meeting of the World Council on Gifted and Talented Education, Barcelona, Spain.

Knight, M., Dixon, I., Bentley, C. C., & Norton, N. E. L. (2001, Cancelled WTC). *For Black and Latina adolescent females who've considered college when student agency isn't enough: Reconceptualizing intervention and reciprocity in feminist critical multicultural research.* Paper to have been presented at the New Girl Order Conference, London, England.

National Conference Presentations:

Bentley, C. C. (2007). *Balancing future needs with the "here and now": (Re)conceptualizing reciprocity and activism in feminist critical case study.* Paper presented at the conference on Interdisciplinary Qualitative Studies, Athens, Georgia.

Bentley, C. C. (2007). *(Re)conceptualizing secondary history curriculum: Juxtapositions of past/present.* Paper presented at the 8th Annual Curriculum and Pedagogy Conference, Marble Falls, Texas.

Bentley, C. C. (2006). *Centering Latina youth mothers within policy: Detailing engagements in feminist critical case study.* Paper presented at the conference on Interdisciplinary Qualitative Studies, Athens, Georgia.

Bentley, C. C. (2005). *Actualizing (im)possible selves amidst policy (non)events: A feminist critical case study of Latina urban youth mothers.* Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

Bentley, C. C. (2005). *To belie yet comply with policy "realities": Puerto Rican and Dominican youth mothers (re)position identities/"realities" within policy (non)events.* Paper presented at the annual meeting of Research on Women and Education, Dayton, Ohio.

Bentley, C. C., Knight, M., Norton, N. E. L., & Dixon, I. (2003). *Reconceptualizing youth as co-researcher in qualitative inquiry: Embracing the critical literacies of college bound urban women.* Poster presented at the annual meeting of the American Educational Research Association, Chicago, Illinois.

Bentley, C. C., & Norton, N. E. L. (2005). *Making the connection: Extending culturally responsive*

teaching through home(land) pedagogies. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

Bentley Ewald, C. C., Knight, M., Dixon, I., & Norton, N. E. L. (2002). *Who's at stake?: Highlighting youth's negotiations of Regents testing policies through feminist critical policy analysis.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans, Louisiana.

Dixon, I., Knight, M. Norton, N. E. L., & Bentley Ewald, C. C. (2002). *What difference does the technology make? Examining conceptualizations of identities and literacies within a distance education music program.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans, Louisiana.

Knight, M., Bentley Ewald, C. C., Dixon, I., & Norton, N. E. L. (2002). *It's (not) too early!: Linking postsecondary policies and outreach practices to high school reform*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, Louisiana.

Knight, M., Bentley Ewald, C. C., & Norton, N. E. L. (2002). *"I'd be cutting myself off at the knees if...": How do we engage uncertainty and ambiguity in a feminist research project?* Paper presented at the conference on Interdisciplinary Qualitative Studies, Athens, Georgia.

Knight, M., Dixon, I., Norton, N. E. L., & Bentley, C. C. (2001, Cancelled WTC). *Youth agency and negotiation across college-going processes: A Feminist activist research project with Black and Latino/a urban Youth.* Paper to have been presented at the conference Research on Women and Education, Baltimore, Maryland.

Norton, N. E. L., Knight, M., Bentley Ewald, C. C., & Dixon, I. (2002). *Speaking now: Black and Latino/a youth and their families expand entry points for family involvement.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans, Louisiana.

Norton, N. E. L., Knight, M., Bentley, C. C., & Dixon, I. (2003). Exp*anding conceptualizations of family involvement within school structures: A Look at JROTC and youth's college bound futures.* Paper presented at the annual meeting of the American Educational Research Association, Chicago, Illinois.

Regional Conference Presentations:

Bentley Ewald, C. C. (1998). *Foundations to compulsory schooling in Britain: The Factory Act of 1833.* Paper presented at the Graduate History Forum, Charlotte, North Carolina.

Bentley Ewald, C. C. (1998). *Gendered identities of soviet (fe)male soldiers during World War I.* Paper presented at the North Carolina Association of Historians, Raleigh, North Carolina.

Grants

Faculty Development Grant, $750, Troy University, 2006

Service

Institutional Effectiveness Committee, Troy University, 2006-2007

College of Education-Graduate Academic Committee, Troy University, 2005-Present

Field Experiences and Clinical Practices Committee for NCATE, Troy University, 2006

Faculty Advisor, National Association for the Advancement of Colored People, TROY Chapter, Troy University, 2006-Ongoing

SACS Review Committee, PIE, Department of History, Troy University, 2006.

Proposal Reviewer, Divisions G and F, SIG RWE, American Educational Research Association, September 2006.

Proposal Reviewer, Division G, American Educational Research Association, September, 2006.

Proposal Reviewer, Divisions G and F, SIG Research on Women and Education, American Educational Research Association, September 2005.

Undergraduate Mentor. START Program, Troy University, 2005-Present.

U.S. History Curriculum Committee, Department of History, Troy University, 2005-Present.

Chancellor's Fellowship Committee, College of Arts and Sciences, Troy University, 2005 to Present.

Secondary Education Methods Committee, College of Education, Troy University, 2004 to Present.

Speech and Interview Committee, College of Education, Troy University, 2005-2006.

Departmental Representative, Colonial Dames of America, Department of History, Troy University, 2005.

Conference Volunteer. High Stakes Testing: What are the Effects? National Center for Restructuring Schools, Teachers College, Columbia University. March 2000.

History Department Graduate Student Representative. North Carolina A&T State University, Greensboro, North Carolina. Spring 1998.

Professional Affiliations

American Educational Research Association
Phi Alpha Theta
Phi Kappa Phi
Research on Women and Education

MICHELE GREGOIRE GILL

Educational Studies Department
University of Central Florida
PO Box 161250
Orlando, Florida 32816-1250
email: **mgill@mail.ucf.edu**

DEGREES AND CERTIFICATES

Ph.D.	Educational Psychology, University of Florida, December, 2002
M.A.E.	Educational Psychology, University of Florida, December 1999.
Teaching Certificates	Colorado State Elementary Teaching Certificate; University of Colorado, Denver, 1994.
	New Mexico State Elementary Teaching Certificate; UNM/SFPS Intern Program in Teacher Certification, University of New Mexico, 1992.
B.A.	Humanities, New College of the University of South Florida, 1988.

PROFESSIONAL LICENSURE

Professional Teacher License in Elementary Education for the state of Colorado. Expires June 2009.

ACADEMIC AWARDS

- Conference of Southern Graduate Schools 2006 Achievement Award for New Scholars in Social Sciences, Business, and Education.
- University of Central Florida Fellow of the Academy (2006)
- American Psychological Association Division 15 Paul R. Pintrich Dissertation Award (2004)
- American Association of Colleges of Teacher Education Outstanding Dissertation Award (2004)
- University of Florida Graduate Student Teaching Award (2001-2002)
- AERA/Spencer Doctoral Research Travel Fellowship (1999-2000)
- University of Florida's Albert A. Murphree Presidential Fellow, the University of Florida's most prestigious graduate fellowship (1997 – 2001)
- National Merit Corporate Scholar (1985)
- Undergraduate scholarships: Florida Academic Scholarship; Rotary Essay Contest Scholarship; New College Foundation Scholarship (1985)

PROFESSIONAL EXPERIENCE

Assistant Professor University of Central Florida 2003 - present

- Co-Coordinator, MA program in Applied Cognition Learning. [in development]
- Academy Research Faculty for the UCF Teaching Academy 2006 - present
- Core Ed.D. Curriculum and Instruction Program Faculty 2005 - present
- UCF Teaching Academy Faculty Fellow 2005 - 06

Publications Manager University of Florida 2002 - 03

- Center on Personnel Studies in Special Education (COPSSE) under the direction of Dr. Paul Sindelar and Dr. Mary Brown.

Research Assistant University of Florida 2001- 02

- Center on Personnel Studies in Special Education. Supervisors: Dr. Paul Sindelar, Principal Investigator and Dr. Anne Bishop, Center Director.

Instructor and Teaching Assistant University of Florida 1998 – 2002

- Taught five semesters of Child Development for Inclusive Education to undergraduates.

Research Assistant University of Florida 2002

- Worked as a research assistant on the Bell South PROTEACH grant through the Department of Teaching and Learning.

Instructor Sylvan Learning Center

- Gainesville, Florida 2001
- Melbourne, Florida 1996-97

Research Assistant University of Florida 1998

- Assisted Steve Blessing, a UF cognitive psychologist, in designing and pilot-testing a pen-based computer software, the Subtraction Tutor.

Teacher Carbondale Middle School, Colorado 1992 - 96

- Basketball Coach 1995 – 96
- Eighth grade literature teacher 1995 – 96
- Fifth grade teacher and math coordinator 1992 – 95

Teacher Colorado Rocky Mountain School 1994 - 95

- Taught high school mathematics and outdoor sports at a private summer boarding school.

REFEREED JOURNAL ARTICLES

(NOTE: Before 2004, I mostly published under my maiden name of Gregoire.)

Sindelar, P. T., Bishop, A. G., Gill, M. G., Connelly, V., & Rosenberg, M. S. (in press). Getting teachers where they're needed most: The case for licensure reciprocity. *Teacher Education and Special Education, 30(2)***. (***12% acceptance rate*)

Gill, M. G., Ashton, P. T., & Algina, J. (2004). Authoritative schools: A test of a model to resolve the school effectiveness debate. *Contemporary Educational Psychology, 29,* 389-409.

Gill, M. G., Ashton, P. T., & Algina, J. (2004). Changing preservice teachers' epistemological beliefs about teaching and learning in mathematics: An intervention study. *Contemporary Educational Psychology, 29,* 164-185.

Gregoire, M. (2003). Is it a challenge or a threat? A dual-process model of teachers' cognition and appraisal processes during conceptual change. *Educational Psychology Review, 15,* 147-179.

ESSAY BOOK REVIEW

Gill, M. G. (2007, in press). Establishing legitimacy for Montessori's grand, dialectical vision: An essay review of *Montessori: The Science Behind the Genius*. *Teaching and Teacher Education, 23.*

SCHOLARLY ARTICLE ACCEPTED BY EDITOR

Gill, M. G. (2006, in press).Teacher discourse: A novel methodology for studying teachers' beliefs. *Alberta Journal of Educational Research, 52.* [Research note]

BOOK CHAPTERS

Ashton, P., & Gill, M. G**.** (2003). At the heart of teaching: The role of emotion in changing teachers' beliefs. In J. Raths & A. McAninch (Eds.), *Advances in teacher education* (Vol. 6, pp. 99-121). Norwood, NJ: Ablex.

REFEREED MONOGRAPH

Sindelar, P., Bishop, A., Gill, M. G., Connelly, V., & Rosenberg, M. (2003, May). *Getting teachers where they're needed most: The case for licensure reciprocity. (COPSSE Document Number RS-8).* Gainesville, FL: University of Florida, Center on Personnel Studies in Special Education.

THESES

Gregoire, M. (2002). *Effects of augmented activation, refutational text, efficacy beliefs, epistemological beliefs, and systematic processing on conceptual change.* Unpublished doctoral dissertation, University of Florida, Gainesville, FL.

Gregoire, M. (1999). *Reconceptualizing the debate on school climate and students' academic motivation and achievement: A multilevel analysis.* Unpublished Master's thesis, University of Florida, Gainesville, FL.

Gregoire, M**.** (1988). *Trace-ing the different voices within the space of the current debate on education.* Unpublished Bachelor's thesis, New College of Florida, Sarasota, FL.

PAPERS PRESENTED AT REFEREED CONFERENCES

Yao, Y., & Gill, M. G. (2007, August). *Learner control and cognitive load of hypertext annotation presentation formats.* Poster accepted for presentation at the meeting of the American Psychological Association, San Francisco, CA.

McKee, M., & Gill, M. G. (2007, August). *Assessing and changing implicit beliefs about inquiry instruction: A new measure.* Poster accepted for presentation at the meeting of the American Psychological Association, San Francisco, CA.

Boote, D. N., & Gill, M. G. (2007, April). *School culture, mathematics culture, and the failures of curriculum reform: The need for a social view of culture.* Paper accepted for presentation at the meeting of the American Educational Research Association, Chicago, IL.

Gill, M. G., Vitanova, G., Brice, A., & Chew, L. (2007, February). *Examining the Beliefs and Identity of Professionals Transitioning to Teaching Math and Science.* Poster accepted for presentation at the meeting of the American Association for Colleges of Teacher Education, New York.

Gill, M. G. (2006, August). *Teacher discourse: A novel methodology for studying teachers' beliefs*. Poster presented at the meeting of the American Psychological Association, New Orleans.

Gill, M.G., & Ashton, P. T. (2006, April). *Teachers' emotions and conceptual change*. Symposium paper presented at the meeting of the American Educational Research Association, San Francisco.

Gill, M.G., & Algina, J. (2006, April). *Promoting conceptual change in preservice teachers' mathematics beliefs via text-based instruction: Affective and cognitive factors*. Poster presented at the meeting of the American Educational Research Association, San Francisco.

Gill, M. G. (2004, October). *Challenging preservice teachers' beliefs: they may not like it, but it works!* Paper presented at the meeting of the Southeastern Regional Association of Teacher Educators, Orlando, Florida.

Gill, M. G. (2004, May). *Augmented activation and refutational text facilitates conceptual change in mathematics beliefs*. Poster presented at the meeting of the American Psychological Society, Chicago.

Ashton, P. T., & Gregoire, M. (2003, April). *At the heart of teaching: The role of emotion in changing teachers' beliefs.* Paper presented at the meeting of the American Educational Research Association, Chicago.

Gregoire, M., & Ashton, P. T. (2002, November). *Mathematics Teaching Efficacy Beliefs Scales (MTEBS): A construct validation*. Paper presented at the meeting of the Florida Educational Research Association, Gainesville, FL.

Gregoire, M., Ashton, P. T., & Algina, J. (2001, April). *The role of prior and perceived ability in influencing the relationship of goal orientation to cognitive engagement and academic achievement: An explanatory model*. Paper presented at the meeting of the American Educational Research Association, Seattle, WA. (Eric Document Reproduction Service No. ED453229)

Gregoire, M., & Algina, J. (2000, April). *Reconceptualizing the debate on school climate and students' academic motivation and achievement: a multilevel analysis*. Paper presented at the meeting of the American Educational Research Association, New Orleans. (Eric Document Reproduction Service No. ED441805)

Gregoire, M., & Wolfe, E. W. (1999, April). *Using the Rasch model to assess the implications of exemplary middle school practices: A pilot study of Florida's middle schools*. Paper presented at the meeting of the American Educational Research Association, Montreal. (Eric Document Reproduction Service No. ED431017)

Gregoire, M. (1999, April). *Paradoxes and paradigms in an eighth-grade pre-algebra class: Acase study of a "good" math teacher*. Paper presented at the meeting of the American Educational Research Association, Montreal. (Eric Document Reproduction Service No. ED431600)

INVITED ADDRESSES

Gill, M. G. (2007, January). *Changing teachers' beliefs about instruction: A model, a study, and a vision.* Invited presentation for the University of Central Florida College of Education Faculty Meeting, Orlando, FL.

Gill, M. G. (2005, November). *Models of belief and knowledge change: The Cognitive-Affective Model of Conceptual Change (CAMCC).* Invited presentation for the inaugural meeting of the Southwest Consortium for Innovations in Psychology in Education (SCIPIE) Inaugural Conference, Las Vegas, NV.

Gill, M. G. (2005, August). *Key affective and cognitive factors in motivating development of teachers' beliefs about mathematics learning and instruction*. APA Division 15 Dissertation Award Invited Address. Paper presented at the meeting of the American Psychological Association, Washington, DC.

Gill, M. G. (2005, August). Invited Address. *Lessons learned the hard way.* Talk given to attendees at the Division 15 Doctoral Seminar at the meeting of the American Psychological Association, Washington, DC.

Gill, M. G. (2005, February). *The role of ability, affect, and cognitive processing in promoting belief change: controversial implications for teacher education*. AACTE Outstanding Dissertation Award Invited Address. Paper presented at the meeting of the American Association of Colleges for Teacher Education, Washington, DC.

Ellis, S. & Gregoire, M. (1999, June). *Sociocultural and cognitive aspects of teaching and learning in mathematics and science classrooms.* Paper presented at the 30th Carnegie Symposium on Cognition. Cognition and Instruction: 25 Years of Progress, Pittsburgh, PA.

Gregoire, M. (1999, March). *Analyzing large data sets: Possibilities, pitfalls, and practical tips*. Invited presentation given to the University of Florida's Developmental Psychology faculty and graduate students.

Gregoire, M. (1999, March). *How to analyze field protocols*. Hands-on workshop presented to EDF 7486 graduate students at the request of the instructor, Dr. Edward W. Wolfe.

Gregoire, M. (1999, March). *Reliability and validity of the Middle School Practices Questionnaire: A pilot study of Florida middle schools*. Invited paper presented at the inaugural session of the Foundations of Education Student Research Colloquium.

Gregoire, M. (1999, February). *Looking back: Points to consider when conducting onsite ethnographic investigations of school classrooms.* Invited lecture given to EDF 7639 graduate students at the request of the instructor, Dr. Rodman Webb.

Gregoire, M. (1994). U*sing alternative assessment techniques for geometry lessons.* Invited presentation for the Board of Cooperative Services (BOCES) regional math workshop, Colorado.

OTHER CONFERENCE PARTICIPATION

Gregoire, M., & Wolfe, E. W. (1999, April). *Using the Rasch model to assess the implications of exemplary middle school practices: A pilot study of florida's middle schools*. Paper presented at the University of Florida's Graduate Student Forum.

COMMENTARIES/ESSAYS

Gill, M. G. (2005, October). How to cover a lot in a little time. *Faculty Focus, 4(4),* 9.

Gregoire, M. (2001, December). Readers Write: Mercy. *The Sun*, *312*, 35. (A short essay

about an incident I experienced as a 5th grade teacher.)

MANUSCRIPTS IN REVIEW, REVISION, AND PREPARATION

Under Review

In Revision

Gill, M. G**.,** & Hoffman, B. (revise and resubmit). Shared planning time: A novel context for studying teachers' beliefs. *Teachers College Record.*

In Preparation

Gill, M. G., & Boote, D. (in preparation). School culture, mathematics culture, and the failures of curriculum reform: The need for a social view of culture. [A manuscript being prepared for submission to the Teachers College Record.]

Gill, M. G. (in preparation). Are epistemological beliefs motivational beliefs? The role of epistemological beliefs in changing domain-specific framework theories. In M. S. Khine (Ed.), *Knowing, Knowledge and Beliefs: Epistemological studies across diverse cultures.* Netherlands: Springer. [Invited by editor]

Gill, M. G., Ashton, P. T., & Algina, J. (in preparation). T*he role of prior and perceived ability in influencing the relationship of goal orientation to cognitive engagement and academic achievement.*

Hardman, E. L., Gregoire, M., & Smith, S. W. (In preparation). *Moral theme comprehension in elementary students with emotional/behavioral disorders: A pilot study*.

GRANT APPLICATIONS

2006	Applied for $1958 through the Learning Institute for Elders (LIFE) @ UCF competitive grant funding program to purchase films for my classes. [under review]
2006	Applied for Initiative Funding from the UCF Department of Educational Studies to create an MA program in Applied Learning and Instruction. $10,000. [FUNDED]
2006	Applied for $500 of Research Initiative Funding from the UCF Office of Research to support the STaRS grant writing process. [FUNDED]
2006	Co-PI for a Spencer Foundation Grant of $39,768: The Science Teacher Researcher Scholar (STaRS) Initiative for Teacher Training in Inquiry Science Education. [declined]
2005	PI for the UCF In-House Grant of $7,500 to conduct a research study entitled, *Promoting conceptual change via text-based instruction: The role of ability, affect, and epistemological beliefs*. [FUNDED]
2004	Co-PI of the NSF grant application for $4.0 million in funding for the Transition to Mathematics and Science Teaching (T-MAST) program at the Lockheed Martin/UCF Academy. [declined]
2004	Subcontracted research services ($6,700) to Positive Focus Creative Solutions, Inc. for an SBIR grant to the USDOE to develop and test a mathematics game with middle school students. Status: [declined]
1995	$300 grant from a Carbondale community arts association to bring a Shakespeare troupe to Carbondale Middle School (CMS) to enhance our study

of A Midsummer Night's Dream. [FUNDED]

1994 $100 grant from the Aspen Center of Environmental Studies to investigate ways to improve Carbondale Middle School's recycling program. [FUNDED]

WORKS CITED

Sinatra, G. M. (2005). The "warming trend" in conceptual change research: The legacy of Paul R. Pintrich. *Educational Psychologist, 40*, 107-115.

Sinatra compares my model of belief change, the CAMCC, with her model, the CRKM and shows how both are the legacy of Pintrich's research on motivation and conceptual change.

Sinatra, G. M. (2004). Paul R. Pintrich's contributions to conceptual change research. *Electronic Journal of Research in Educational Psychology*, *2*(1), 171-174.

Sinatra discusses my conceptual change model and how it was one of the first to respond to Pintrich's call for a greater emphasis on the role of affect in conceptual change.

COURSES TAUGHT

University Of Central Florida 2003 - present

Doctoral Program
Analysis of Learning Theories for Instruction
Masters level
Lifespan Human Development and Learning
Undergraduate level
Classroom Learning Principles

University of Florida 1998 – 2002

Child Development for Inclusive Education

DISSERTATIONS SUPERVISED

Yao, Yuanming. (2006). *Effects of embedded and hypertext annotations on college students' cognitive load and comprehension of online course content.* (co-chair with G. Orwig).

Yuanming is now an instructional designer at the Learning Systems Institute at Florida State University.

Member of the following dissertation committees:

Andreason, Janet. (2005). *Facilitating pre-service elementary school teachers' acquisition of content knowledge and pedagogical content knowledge as it relates to place value and operations through the use of an emerging instructional sequence.*

Cummings, Nancy. H. (2004). *Instructional practices in athletic training education programs: What methods are of most worth?*

Gill, Carl. (in progress). *Investigation of the differences between novices and experts in a technical troubleshooting environment.*

Gromoll, Maryann. [in planning stages]

Poppe, Rebecca. L. (2004). *Reading motivation for elementary school students: exploring the attitudinal effects of reading incentive programs as motivation to read.*

Scielzo, Shannon. [in planning stages]

Wheeldon, Deborah. A. (in progress). *Prospective elementary school teachers' development*

of reasoning and understanding with respect to fraction concepts.

Member of the following Honors in the Major thesis committee:
Keri Moschella (COE; in progress)

ADVISEES
Doctoral
Beverly Horn and Travis Pilch
Undergraduate
Between 25-35 elementary education majors per semester

SERVICE TO PROFESSIONAL ORGANIZATIONS
Organizational Service

2006 – 09	Chair of the American Psychological Association's Paul R. Pintrich Division 15 Dissertation Award Committee.
2006 – present	Member of the Editorial Board for *Contemporary Educational Psychology.*
2006	Mentor for the APA Graduate Student Mentoring Program.

Manuscript And Proposal Reviewer

2005 – present	Reviewer for *Contemporary Educational Psychology*.
2005	Reviewer of proposals for the 2006 AERA annual meeting, Division C (Learning and Instruction) and Motivation SIG.
2004	Reviewer for the *Southeastern Regional Association for Teacher Education Journal*.
2004	Reviewer for the AACTE Outstanding Dissertation Award for 2005.
2004	Reviewer for *Essential Readings in Educational Psychology* (2005) for Sage Publications.
2004	Reviewer for Allyn & Bacon.
2002	Reviewer for Meece, J. L. (2001). *Child and Adolescent Development for Educators,* 2nd edition. Boston: McGraw-Hill.
2002	Reviewer for Santrock, J. (2003). *Life-Span Development*, 9th ed. Boston: McGraw Hill.
2001	Reviewed proposals for 2002 AERA annual meeting (Div. C & Motivation SIG).
2000	Reviewer for the chapter on motivation and psychosocial development in the first edition of Meece, J. L. (2001). *Child and Adolescent Development for Educators*. Boston: McGraw-Hill. Dr. Meece acknowledges my contribution in the Preface to the second edition.
2000	Reviewed proposals for 2001 AERA annual meeting.

SERVICE TO UNIVERSITY
University of Central Florida

2006	Participated in "Conversations in the Faculty Lounge," a televised broadcast on the UCF Channel to promote UCF to the central Florida community.

2005	Elected to Faculty Senate. Member of the Budget and Administration Subcommittee.
2004 – present	Participated in commencement ceremonies.

UCF College of Education

2004 – present	Department representative Graduate Curriculum and Standards committee.
2006	Member of the Elementary Education Program Revision Planning Committee.
2004 – 05	Member of the COE's Curriculum and Instruction Doctoral Program Executive Committee.
2005	Proctored doctoral exams.
2005	Created the Women's Research Support Group for COE faculty.

UCF Department of Educational Studies

2006	Created the generic syllabi for new courses, EDF 2XXX, EDF 4XXX, and EDF 6XXX.
2005 – present	Member of the Brinson and Mandell Scholarship Committee.
2005 – 06	Member of the UCF Department of Educational Studies search committee for an Assistant/Associate/Full Professor of Educational Psychology.
2005 – 06	Member of the UCF Department of Educational Studies search committee for an Assistant/Associate Professor of Curriculum and Instruction.
2005	Organized the spring retreat for the Department of Educational Studies.
2004 – 05	Course shepherd for Classroom Learning Principles (EDF 4214).
2004	Member of the UCF Department of Educational Studies search committee for an Assistant/Associate Professor of Curriculum and Instruction.

University of Florida

2001	Guest Lecturer for Cognitive Development (DEP 4613). Taught an interactive lesson contrasting theoretical views on the development of children's arithmetical competence.
2000	Graduate student coordinator of biweekly Educational Psychology research meetings for graduate students.
2000	Graduate student representative for the search committee for an Assistant Professor of Educational Psychology.
1998 – 2000	Graduate student representative on UF's Graduate Student Council.

SERVICE TO SCHOOLS

2006 – 07	Volunteer and Resource Coordinator at the UCF Creative School for Children.
2006	Volunteered to assist Gail Nye's third grade class once a week from March through May, 2006. Conducted literature reviews, provided professional advice, assisted students' with their research, and participated in class activities.
2005	Volunteered at the Creative School for Children. Worked one-on-one with preschoolers and facilitated increased communication with the College of

Education and CSC.

2005 Volunteered at Howard Middle School. Worked with Asley Stennet's ESE students to teach them a poetry writing unit.

2004 Worked with Mata Dennis to facilitate undergraduate students volunteering at Winter Park Day Nursery, an inner city facility catering to high poverty youth.

2004 Worked with Chris O'Brien to facilitate undergraduate students tutoring at Howard Middle School, an inner city, high poverty school in Orlando.

1995 Carbondale Middle School's representative to the Colorado Cadre, a Colorado Department of Education project whose purpose was to develop statewide assessments and assist in standards implementation.

1995 Chair of Carbondale Middle School's Coalition of Essential Schools' (CES) Restructuring Committee. Selected to this position by school principal. Participated in both CES' "Trek" and "Foxfire/Gates Faculty" programs.

1994 Carbondale Middle School representative at the Coalition of Essential Schools' Fall Forum in Chicago. Presented the "9 Principles of Reform" to fellow teachers via a faculty inservice.

1993 Member of the Outcome-Based Education committee at Carbondale Middle School, attended "Advancing the Frontiers of Outcome-Based Education" in Denver, and contributed to a faculty inservice on this workshop.

SERVICE TO COMMUNITY

2006 Interviewed by FOX 35 News reporter, Lauren Laponzina, about the effects of homework on children's development.

2006 Supporter of UCF's Catholic Campus Ministry group.

2004 – present Lector trainer and coordinator for Sts. Peter and Paul Catholic Church, Winter Park.

2002 Lay counselor for the Women's Resource Center

1999 – 2002 Volunteer worker for Hospice of North Central Florida. Completed 12 hours of training on issues of death and dying.

MEMBERSHIPS/AFFILIATIONS

- American Psychological Association (including Division 15: Educational Psychology)
- American Educational Research Association (Member Division C-Learning and Instruction and Motivation in Education Special Interest Group)
- European Association for Research on Learning and Instruction
- Southwest Consortium for Innovations in Psychology in Education—Inaugural member

OTHER AWARDS & HONORS

2006 – 07 Manchester Who's Who Registry

2005 – 06 Empire Who's Who of Executives and Professionals

2005 Proposal selected for the Faculty Center for Teaching and Learning *Course Improvement Project*. $500

2002 Selected to be on the Teaching Assistant Panel for the University of Florida's annual Teaching Assistant Orientation program.

1999 Travel fellowship to attend the 30th Carnegie Symposium on Cognition, "Cognition and Instruction: 25 years of Progress," June 11-13, Pittsburgh, PA.

1999 Selected to participate in a graduate student seminar and mentoring program sponsored by Division C of the American Educational Research Association.

1993 Scholarship for summer workshop at Rural Math Connections in Leadville, CO.

ATSUSI "2C' HIRUMI, Ph.D.

P.O. Box 161250
University of Central Florida
Orlando, FL 32816-1250
email: hirumi@mail.ucf.edu

ACADEMIC PREPARATION

Ph.D. Instructional Systems, Florida State University, Tallahassee, FL. 1993
M.A. Educational Technology, San Diego State University, San Diego, CA. 1988
B.S. Biology, Secondary Teaching Certification, Purdue University, West Lafayette, IN. 1985

TEACHING EXPERIENCE

Associate Professor & Co-Chair
Instructional Technology
University of Central Florida
Aug. 2003-Present

As an Associate Professor, I am responsible for teaching seven graduate level courses, including (a) Instructional Systems Design, (b) Advanced Instructional Design, (c) Distance Education, (d) Instructional Game Design, (e) Planned Change, (f) Trends and Issues in Instructional Technology, and (g) Research in Instructional Systems. I also advise master's and doctoral students, serve as chair and member of doctoral dissertation committees, advise all graduate interns, prepare and evaluate comprehensive exams. As Co-Chair for the program, I lead program development efforts, prepare and implement marketing and recruitment plans, coordinate the Instructional Technology Advisory Council, serve as the coordinator for the Instructional Technology track within the Ph.D. in Education program, serve as faculty advisor for the UCF chapter of AECT, and act as liaison between the program and local/state-wide organizations. Major accomplishments include: (a) establishing two professional certificates; one on e-Learning and the other on the Instructional Design for Simulations, (b) creating a new e-Learning master's degree track, (c) establishing a common core for the Instructional Systems, e-Learning and Educational Technology tracks within the program, (d) preparing and implementing plans to offer master's degree and professional certificates online, (e) equipping a research and development lab, (f) developing an online portfolio assessment system, and (g) formalizing internship program.

Assistant/Associate Professor & Program Coordinator
Instructional Technology
University of Houston-Clear Lake
Aug. 1993-May 2003

Responsible for the design and delivery of seven graduate level and two undergraduate level courses, including (a) Performance Technology, (b) Systematic Design of Technology-Based Instruction, (c) Advanced Design and Development, (d) Motivational Design of Instruction, (e) Interactive Distance Learning, (f) Applications of Computer Technology, (g) Internet

Fundamentals. As Program Coordinator *(Summer 1996-Summer 2002),* I was responsible for: setting master course schedule, scheduling and staffing courses, ensuring faculty have required hardware and software, coordinating and training adjunct faculty, establishing off-campus programs, establishing and supervising the internship program, recruitment, and acting as the liaison between administration and program faculty. Major achievements included: (a) establishing online distance education degree and certification programs (b) launching several cohort programs with local area school districts, (c) developing an online portfolio assessment system, and (d) formalizing internship program. Earned tenure and rank of Associate Professor, Jan. 2000.

Adjunct Faculty
Nova Southeastern University
Jan. 1998 – May 2003

Adjunct faculty for prominent distance education university. Responsible for teaching four Web-based courses on the systematic design and development of instruction and the design and analysis of educational systems. Also assisted in the design of course curriculum, evaluation instruments, class assignments and activities.

Teaching Assistant
Florida State University
January 1990 - Dec. 1991

Assisted two professors in designing and implementing of two graduate level courses, one on curriculum design and the other on macro instructional systems design. Responsible for teaching classes, facilitating class activities, and grading assignments. Also assisted in the design of course curriculum, evaluation instruments, class assignments and activities.

Teaching Assistant
San Diego State University
Aug. 1987 - May 1988

Instructor for seven sections of an upper division pre-service education course on media use in elementary and secondary classrooms. Responsible for delivering instruction, helping students on class assignment, and grading. Also assisted in the design and development of course materials.

Student Teacher
McCutcheon High School
Aug. 1985 - Dec. 1985

Instructor for four sections of a 10th grade biology course. Delivered instruction and developed lesson plans, course materials, activities, assignments, and examinations. Also participated in school functions, meetings and events.

Teaching Assistant
Purdue University

Jan. 1984 - May 1985

Co-instructor for the laboratory section of a biology course for elementary education majors which emphasized the use of laboratory equipment and activities. Responsibilities included delivering instruction, facilitating laboratory experiments, and grading assignments. Co-instructor for the recitation section of an introductory class focusing on current biological trends and issues. Delivered instruction and graded assignments.

Related Professional Experiences

Program Specialist
Center for Educational Technology
Florida State University
Aug. 1990 - May 1993

Member of a $30 million statewide initiative designing a technology-based system of schooling for Florida. Primary responsibilities include analyzing and documenting the current context and research related to school restructuring, K-12 education and student and family services; taking a lead role in the design of the student and family services subsystem; representing the initiative at national, state, and local conferences and meetings; and establishing networks with local and state service agencies.

Graduate Research Assistant,
Center for Educational Technology
Florida State University
Aug. 1989 - May 1990

Member of development team producing a computer-mediated learning strategies course for academically at-risk students at Florida State University. Responsibilities included reviewing literature, conducting instructional and task analyses; assisting in overall course planning and design; assisting in the production of CAI; and preparing a formative evaluation plan.

Graduate Research Assistant
Learning System Institute
Florida State University
August 1988 - July 1989

Charged with analyzing training activities produced by international assistance agencies for developing nations. Performed front-end analysis and developed proposal for conducting formative and summative evaluations of LSI training activities.

Instructional Designer
San Diego Natural History Museum
April 1987 - May 1988

Participated in the design, production, and implementation of an interactive videodisc exhibit of desert explorations. Responsible for conducting a front-end analysis of media use in the museum,

contributing to the design and development of the interactive exhibit and field testing the program.

RESEARCH AND SCHOLARLY ACTIVITIES

Refereed Journal Articles

Hirumi, A. (2005). In search for quality: A review of distance education guidelines and industry standards. *Quarterly Review of Distance Education, 6*(4), 309-330.

Hirumi, A. (2003). Get a life: Six tactics for reducing time spent online. *Computers in Schools, 20*(3), 73-101.

Hirumi, A. (2002). A framework for analyzing, designing and sequencing planned e-learning interactions. *Quarterly Review of Distance Education, 3*(2), 141-160.

Hirumi, A. (2002). Interactivity in distance education: Current perspectives on facilitating e-learning. *Quarterly Review of Distance Education, 3*(2), v-viii.

Hirumi, A. (2002). The design and sequencing of e-learning interactions: A grounded approach. *International Journal on E-Learning, 1*(1), 19-27.

Hirumi, A. (2002). Student-centered, technology-rich, learning environments (SCenTRLE): Operationalizing constructivist approaches to teaching and learning. *Journal for Technology and Teacher Education, 10*(4), 497-537.

Hirumi, A. (2000). Chronicling the challenges of Web-basing a degree program: A systems perspective. *The Quarterly Review of Distance Education, 1*(2), 89-108.

Bermudez, A.B. & Hirumi, A. (2000). Examining the effectiveness of systematically designed web-based instruction. *Interactive Learning Environments, 8*(2), 1-12.

Hirumi, A., & Bermudez, A. (1996). Interactivity, distance education, & instructional systems design converge on the super information highway. *Journal of Research on Computing in Education, 24*(1), 1-16.

Hirumi, A., & Grau, I. (1996). A review of state standards, textbooks, and journal articles: Implications for pre-service teacher education and professional development. *Journal for Computers and Teacher Education, 12*(4), 6-17.

Harmon, S. W., & Hirumi, A. (1996). A systemic approach to the integration of interactive distance learning into education and training. *Journal of Education for Business. 71*(5) 267-71.

Hirumi, A. (1995). What performance technologists need to know about public schools to affect change in education. *Performance Improvement Quarterly, 8*(4), 89-114.

Hirumi, A., & Harmon, S.W. (1995). The design and implementation of a system for infusing computer technology into teacher education. *Journal of Technology and Teacher Education, 2*(4), 265-284.

Hirumi, A. (1994). Assessing the needs of public education: A tale of two models. *Performance & Instruction, 33*(5), 23-30.

Hirumi, A., Savenye, W., & Allen, B. (1994). Designing interactive videodisc-based museum exhibits: A case study. *Educational Technology Research and Development, 42*(1), 47-56.

Kaufman, R., & Hirumi, A. (1992). Ten steps to implementing total quality management "plus." *Educational Leadership, 50*(3), 33-34.

Hirumi, A., & Bowers, D. (1991). Enhancing motivation and the acquisition of coordinate concepts through the use of concept trees. *Journal of Educational Research, 84*(5), 273-279.

Diamond, J., Bond, A., & Hirumi, A. (1989). Desert Explorations--A videodisc exhibit designed for flexibility. *Curator, 32*(3), 161-173.

Book Chapters

Hirumi, A. & Stapleton, C. (in press). Integrating Fundamental ID Tasks with Game Development Processes to Optimize Game-Based Learning. In C. Miller (ed). *Games in Education*.

Hirumi, A. & Stapleton, C. (in press). Climbing Jacob's Ladder to Optimize Game-Based Learning. In M. Shaughnessy (ed). *Pedagogical Implications for Online Instruction*.

Stapleton, C. & Hirumi, A. (in press). Interplay instructional strategy: Learning by engaging interactive entertainment conventions. In M. Shaughnessy (ed). *Pedagogical Implications for Online Instruction*.

Hirumi, A., & Kidney, G. (in press). Contemporary Issues Facing Distance Educators: An eLearning Perspective. In G. Anglin (ed.). *Instructional Technology: Past, Present and Future.*

Hirumi, A. (2006). A framework for analyzing and designing e-learning interactions. In C. Juwah (ed.). *Interactivity and Interactions in Distance and Online Education*. London, UK. Kogan Page.

Hirumi, A. (2005). Systematic Instructional Design. With K. Dooley, J.R. Lindner, & L. M. Dooley in *Advanced Methods in Distance Education: Applications and Practices for Educators, Trainers, and Learners*. Hershey, PA: Idea Group.

Hirumi, A. (2005). Analyzing instruction and facilitating interactions. With K. Dooley, J.R.

Lindner, & L. M. Dooley in *Advanced Methods in Distance Education: Applications and Practices for Educators, Trainers, and Learners*. Hershey, PA: Idea Group.

Hirumi, A. (2003). Get a life: Six tactics for reducing time spent online. In M. Corry & C. H. Tu (eds.). *Distance Education: What Works Well. New York, NY: The Haworth Press, Inc.*

Branson, R. K. & Hirumi, A. (1994). Designing the Future: The Florida Schoolyear 2000 Initiative. In G. Kearsley & W. Lynch (eds.). *Educational Technology: Leadership Perspectives*. Englewood Cliffs, NJ: Educational Technology Publications.

Invited Conference Presentations and Workshops

Hirumi, A. (2007). *Engaging Digital Natives with Story and Inquiry-Based e-Learning Strategies*. Invited keynote presentation and 4 Day Workshop at the 2nd International Learning Congress, Guadalajara, MX. Sept. 10-14.

Hirumi, A. (2007). *The Design and Sequencing of e-Learning Interactions: Are Grounded Approaches SCORM Conformant*. Invited guest speaker at the annual Joint Advanced Distributed Learning Co-Laboratory (JADL) Implementation Fest, Orlando, FL. Aug. 27-30.

Hirumi, A. (2007). *Using Stories and Alternative ID Tactics to Increase Student Motivation*. Invited one day workshop at the 18th International Conference on College Teaching and Learning, April 2-5, Ponte Vedra Beach, FL.

Hirumi, A., & Hall, R. (2007). *Video Games and Education: Where Alien Worlds Collide*. Invited panel session at the Visual Culture Conference on Video Games, Orlando, FL. February 8-11.

Hirumi, A., Bates, A.W., Rubio, P., & Goyal, Y. (2006). *Challenges Facing Education in an Information-based Society*. Invited panel session at the 1st International Learning Congress, Guadalajara, MX. Sept. 25-29.

Hirumi, A. (2006). *Engaging Digital Natives with 21st Century Instructional Design Tactics and Strategies*. Invited 3 Day Workshop at the 1st International Learning Congress, Guadalajara, MX. Sept. 25-29.

Hirumi, A. & Stapleton, C. (2006). *Interplay Instructional Strategy: Engaging Learners by Harnessing the Power of Interactive Entertainment*. Invited guest presentation at the 1st International Learning Congress, Guadalajara, MX. Sept. 25-29.

Hirumi, A. (2006). *Serious Games: In Search of Quality*. Invited guest speaker at the annual Joint Advanced Distributed Learning Co-Laboratory (JADL) Implementation Fest, Orlando, FL. Aug. 22-24.

Hirumi, A. (2006). *Digital Natives: Engaging Learner with ID Tactics and Strategies*. Invited one-day workshop for faculty and staff at Florida Community College at Jacksonville,

Jacksonville, FL. July, 27.

Hirumi, A. (2006). *Engaging digital natives with 21st century training*. Invited keynote presentation at the 3rd Annual e-Learning Expo sponsored by the Pittsburgh Chapter of ASTD and Regional Learning Alliance at Cranberry Woods, Cranberry Township, PA. March, 29.

Hirumi, A. (2005). *Digital natives and immigrants: Tactics for engaging online learners*. Invited guest speaker at the 2nd Annual Learning Sciences Conference, Puerto Vallarta, Mexico.

Hirumi, A. (2005). *Designing student centered e-learning environments: A grounded approach*. Invited guest speaker. Encuentro de Facilitadores en Tecnicas Didacticas. Technologico de Monterrey, Monterrey, MX.

Hirumi, A. (2005). *The ARCS model of motivational design*. Three day workshop at annual meeting of Learning Sciences program faculty at the Universidad de Guadalajara, July 27-30, Guadalajara, MX.

Hirumi, A. (2004). *The design and sequencing of e-learning interactions: A grounded approach*. Invited guest speaker for the Orlando Chapter of the Society for Technical Communications (STC), Orlando, FL.

Hirumi, A. (2004). *21st Century Schools: Systemic Change in Education*. Invited guest speaker, Learning Sciences Program, Universidad de Guadalajara, Mexico.

Hirumi, A. (2003). *Adult Learning Principles and Instructional Design: A Grounded Approach to Teaching and Learning*. Invited briefing presented at the Annual Armed Services Training and Education Meeting , Ft. Leonard, MO.

Hirumi, A. (2003). *K12 Education for the 21st Century: A Modern E-Learning System*. Invited keynote speaker at the Annual Utah State University Instructional Technology Institute. Logan, UT.

Hirumi, A. (2002). *The design and sequencing of elearning interactions: A grounded approach*. Invited keynote speaker at the annual University of Texas Health Science Center San Antonio Dental Faculty Advance, San Antonio, TX.

Hirumi, A. (2002). *Designing eLearning Interactions and eLearning Quality Standards*. Invited three-day workshop presented at the 11th Annual International Distance Education Conference (XI Encuentro Internacional de Educacion a Distancia), Guadalajara, Mexico.

Hirumi, A. (2000, September). *Interactivity and eLearning: What all the fuss*? Invited guest speaker at the annual Texas Computer Education Association Area IV & V fall conference, Houston, TX.

Hirumi, A. (2000, May). *Demystifying Web-Based Training: WBT, EPSS and KMS–Converging Technologies for the 21st Century*. Invited guest speaker at the E-Commerce Success

Super Conference sponsored by Atiwa Computer, Inc. Houston, TX.

Hirumi, A. (1999, August). *Web-Based Training, Electronic Performance Support and Knowledge Management Systems: Converging Technologies for the 21st Century*. Invited guest speaker International Society for Performance Improvement–Houston Chapter, Houston, TX.

Hirumi, A. (1998, March). *The Systematic Design of Student-Centered, Technology-Rich Learning Environments*. Invited guest presentation given at the first Education Graduate Students and Academic Staff Regional Meeting, Guadalajara, Mexico.

Hirumi, A. (1997). *Dietitians & Emerging Technology: Essential Skills and Knowledge for the 21st Century*. Invited keynote presentation given at the annual Houston Area Dietitians Association conference, Houston, TX.

Hirumi, A. (1997, November). *DISTED: An Electronic Performance Support System for Distance Educators.* Invited speaker presentation conducted at the annual International Society for Technology in Education conference, Austin, Texas.

Hirumi, A. (1997). *Networked-Based Electronic Performance Support Systems: Converging Technologies for the 21st Century*. Invited guest speaker, Educational Seminar Series sponsored by DA Consulting, Houston, TX.

Hirumi, A. (1996). *The Implications of Emerging Technologies for Health Care Professional*, Invited plenary session presented at the National Association of Women, Infant & Children Directors meeting, Amarillo, TX.

Hirumi, A. (1996). *GMC Pacer or Rolls Royce: How will Dietitians Merge onto the Super Information Highway*, Invited Keynote Address presented at the Texas Dietetic Association Annual Meeting and Trade Show, Corpus Christi, TX.

Hirumi, A. (1996, December). *Applying Internet resources for student-centered distance education*. Two-day invited workshop held at the 5th Annual International Distance Education Conference (V Encuentro internacional de Educacion a Distancia), Guadalajara, Mexico.

Hirumi, A. (1995, August). *The application of emerging technologies for research and training in veterinary sciences*. Invited guest speaker for seminar given to faculty, staff, and students at Obhiro University, Obhiro, Japan.

Hirumi, A. (1995, March). *Opportunities in educational technology: The virtually endless journey*. Invited Keynote Address presented at the annual San Diego State University Careers Forum Conference, San Diego, CA.

Hirumi, A. (1995, October). *A system for integrating computer technology with teacher education: A cognitive-constructivist approach*. Invited guest speaker for a presentation sponsored by the Instructional Systems Department at Penn State University and the

Pennsylvania Chapter of the Association for Educational Communication and Technology, Penn State University, State College, Pennsylvania.

Hirumi, A., & Palumbo, D. (1994, December). *Graduate programs in instructional technology: Addressing the needs of developing countries*. Invited guest speakers at the Autonomous University of Guadalajara, Instructional Technology Conference, Guadalajara, Mexico.

Presentations at International & National Conferences

Hirumi, A. & Hall, R. (2007). *Tactics for Presenting Content Information and Facilitating Instruction without Disrupting the Flow of Game-Based Learning*. Roundtable session conducted at the annual Association for Educational Communications and Technology conference, Oct. 22-27, Anaheim, CA.

Hirumi, A., Van Eck, R., Appleman, R., Rieber, L. (2007). *Four Perspectives on Preparing Instructional Designers to Optimize Game-Based Learning*. Panel session conducted at the annual Association for Educational Communications and Technology conference, Oct. 22-27, Anaheim, CA.

Hirumi, A., Clark, K., Etuk, N., Azoulay-Lewin, C. (2007). *Got Game: Teaching the M-Generation using Immersive Technology*. S. Fivecoat (Moderator). Panel session conducted at the annual National Educational Computing Conference, Chicago, Illinois.

Kebritchi, M., & Hirumi, A. (2007). *Pedagogical Foundations of Instructional Games*. Concurrent session conducted at the annual Association for Educational Communications and Technology conference, Oct. 22-27, Anaheim, CA.

Chen, Y., & Hirumi, A. (2007). *Chinese Students' Perceptions of Cooperative Online Distance Education Interaction*. Concurrent session conducted at the annual Association for Educational Communications and Technology conference, Oct. 22-27, Anaheim, CA.

Chen, Y., Zygouris-Coe, V., & Hirumi, A. (2007). *Evaluating the Quality of Asynchronous Online Discussions In A Statewide Reading Professional Development Project*. Concurrent session conducted at the annual Association for Educational Communications and Technology conference, Oct. 22-27, Anaheim, CA.

Henry-Nease, R. & Hirumi, A. (2007). *Teaching challenges using educational video games: Bridging the gap between k12 teachers and instructional designers*. Roundtable session conducted at the annual Association for Educational Communications and Technology conference, Oct. 22-27, Anaheim, CA.

He, J., Li, Z., Hogg, J. & Hirumi, A. (2007). *Collaboration: How to Make a Virtual Team Effective*. Roundtable session conducted at the annual Association for Educational Communications and Technology conference, Oct. 22-27, Anaheim, CA.

Hirumi, A. (2006). *Integrating Fundamental Instructional Design Tasks with Game Development Processes to Optimize Game-Based Learning.* Concurrent session

presented at the annual Association for Educational Communications and Technology international conference, Oct. 10-14, Dallas, TX.

Chen, B. & Hirumi, A. (2006). *Investigating the use of advanced organizers as a instructional strategy for web-based distance education*. Proceedings of the annual Association for Educational Communications and Technology conference, Oct. 10-14, Dallas, TX.

Leblanc, S., Hogg, J. & Hirumi, A. (2006). *Storytelling: A Practical Method for Facilitating Knowledge Management.* Roundtable session conducted at the annual Association for Educational Communications and Technology international conference, Oct. 10-14, Dallas, TX.

Stevens, M. & Hirumi, A. (2006). *Bridging The Gap: Strengthening the Connection Between Digital Game Technology and Student Literacy Goals*. Roundtable session conducted at the annual Association for Educational Communications and Technology international conference, Oct. 10-14, Dallas, TX.

Hogg, J., Schultz, N., Huei-Hsuan, & Hirumi, A. (2006). *Connecting New Technologies and Educational Goals: Analyzing Game Engines for "Serious Game" Development.* Roundtable session conducted at the annual Association for Educational Communications and Technology international conference, Oct. 10-14, Dallas, TX.

Huh., J. & Hirumi, A. (2006). *Effects of Two Selected Instructional Techniques of Information Presentation (Graphics-first vs. Text-first) in Web-based Learning among Gen-Y Learners.* Roundtable session conducted at the annual Association for Educational Communications and Technology international conference, Oct. 10-14, Dallas, TX.

Hirumi, A. (2005). *Designing Alternative E-Learning Environments: A Grounded Approach*. Concurrent session presented at the 11th Annual Sloan-C International Conference on Asynchronous Learning Networks, Nov. 17-19, Rosen Centre, Orlando, FL.

Lorins, P., Hoggs, J. & Hirumi, A. (2005). *An Analysis of Game Engines for the Development of Serious Games*. Concurrent session presented at the 11th Annual Sloan-C International Conference on Asynchronous Learning Networks, Nov. 17-19, Rosen Centre, Orlando, FL.

Hirumi, A., Sivo, S., & Pounds, K. (2005). *Measuring the Effects of Storytelling on Learners' Motivation and Performance Over-Time*. Roundtable session presented at the annual Association for Educational Communication and Technology conference, Oct. 18-22, Orlando, FL.

Hirumi, A. (2005). *Designing Alternative E-Learning Environments: A Grounded Approach*. Workshop presented at the annual Association for Educational Communication and Technology conference, Oct. 18-22, Orlando, FL.

Bhati, D., Marrett, C. & Hirumi, A. (2005). *A Review of Alternative Storytelling Strategies for Enhancing Learning*. Roundtable session presented at the annual Association for

Educational Communication and Technology conference, Oct. 18-22, Orlando, FL.

Chen, B., Voorhees, D., & Hirumi, A. (2005). *Improving Professional Development for Teaching Online*. Poster session presented at the annual Association for Educational Communication and Technology conference, Oct. 18-22, Orlando, FL.

Yang, J., Huh, J., & Hirumi, A. (2005). *Academic Gaming Study: Learning to Play and Playing to Learn – a Strategy for Engaging Learner's Motivation*. Roundtable session presented at the annual Association for Educational Communication and Technology conference, Oct. 18-22, Orlando, FL.

Hirumi, A. (2004). *ECOT: A study of systemic change in action*. Concurrent session presented at the annual Association for Educational Communications and Technology conference, Chicago, IL.

Hirumi, A., Knowland, K., & Pounds, K (2004). *The professional development of online distance educators: A study of K12, university and corporate collaboration*. Concurrent session presented at the annual Association for Educational Communications and Technology conference, Chicago, IL.

Mckenna, C., Pounds, K., & Hirumi, A. (2004). *Storytelling: A strategy for promoting online learner engagement.* Concurrent session presented at the annual Association for Educational Communications and Technology conference, Chicago, IL.

Chen, B., & Hirumi, A. (2004). *Adapting reading interventions for e-learners.* Concurrent session presented at the annual Association for Educational Communications and Technology conference, Chicago, IL.

Rawls, C. & Hirumi, A. (2004). *Performance support for online distance educators*. Concurrent session presented at the annual Association for Educational Communications and Technology conference, Chicago, IL.

Lee, J., & Hirumi, A. (2004). *Essential skills and characteristics analysis for teaching online*. Concurrent session presented at the annual Association for Educational Communications and Technology conference, Chicago, IL.

Tsai, M., Hirumi, A., & Cornell, R. (2004). *The effects of different strategies of information presentation in software training.* Concurrent session presented at the annual Association for Educational Communications and Technology conference, Chicago, IL.

Zeng., R. & Hirumi, A. (2004). *The derivation, organization and assessment of performance outcomes associated with an e-learning professional certificate program*. Roundtable session presented at the annual Association for Educational Communications and Technology conference, Chicago, IL.

Huh, J. & Hirumi, A. (2004). *All that light: Reading assessment strategies for online learners*. Roundtable session presented at the annual Association for Educational Communications

and Technology conference, Chicago, IL.

Tao, Y., Hirumi, A., & Yao, Y. (2004). *Demystifying open source initiatives for the development of online learning platforms.* Roundtable session presented at the annual Association for Educational Communications and Technology conference, Chicago, IL.

Hirumi, A. (2003). *In Search of Quality: An Analysis of Education Guidelines and Industry Standards*. Concurrent session presented at the Sloan-C International Conference Presentation, November 15, Orlando, FL.

Hirumi, A. (2002). *Designing and Sequencing eLearning Interactions*. Concurrent session presented at the annual Association for Educational Communications and Technology conference, Dallas, Texas.

Hirumi, A. & Harbich, J. (2001, October). *The Design and Sequencing of eLearning Interactions: A Grounded Approach*. Three hour workshop presented at the annual American Association of Blood Bankers conference, San Antonio, Texas.

Hirumi, A. & Ley, K. (2000, May). *Interactivity as a Framework for the Design of Web-Based Training*. Concurrent session held at the annual American Society for Training and Development conference, Dallas, Texas.

Hirumi, A. & Ley, K. (2000, February). *Interactivity as a Framework for Web-Based Course Design*. Concurrent session held at the annual Association for Educational Communication and Technology conference, Long Beach, California.

Hirumi, A., Ley, K., Willis, J., Crawford, C., Curry, J. (2000, February). *Performance Assessment System for IT Graduate Students: Part II*. Symposium conducted at the annual Association for Educational Communication and Technology conference, Long Beach, California.

Hirumi, A., Youngman, T., Gannon-Cook, R., & Haggerty, B. (2000, February). *The Systematic Design, Development, and Implmentation of an On-Line Degree and Certification Programs*. Symposium conducted at the annual Association for Educational Communication and Technology conference, Long Beach, California.

Hirumi, A. & Ley, K. (2000, January). *Seven levels of planned interactions: A framework for facilitating the development of web-based training and instruction*. Concurrent session held at the 7th Annual National Distance Education Conference sponsored by The Center for Distance Learning Research at Texas A&M University and GTE, Austin, Texas.

Haggerty, B. & Hirumi, A. (2000, January). *Being realistic about web-based instruction: A web developers perspective*. Proceedings of the 7th Annual National Distance Education Conference sponsored by The Center for Distance Learning Research at Texas A&M University and GTE, College Station, TX. p. 79-84.

Youngman, T., Gotcher, L., Dinsmore, S., Goucher, O.B., Vafa, S. & Hirumi, A. (2000, January). *Applying business models to the design of on-line distance education: The experiences of a university design team*. Proceedings of the 7th Annual National Distance Education Conference sponsored by The Center for Distance Learning Research at Texas A&M University and GTE, College Station, TX. p. 213-219.

Hirumi, A., Gannon-Cook, R., & Crawford, C. (1999, Oct.). *Putting IT (Instructional Technology) Down on Paper: One Team's Blueprint for Analyzing, Designing and Developing An On-line Master's Degree and Certificate Program*. Proceedings of the Association for the Advancement of Computing in Education WebNet 1999 World Conference, Charlottesville, VA.

Cook, R. G., Hirumi, A., & Crawford, C. M. (1999, Oct.). *Course interface for distance education.* Poster session presented at the annual Association for the Advancement of Computing in Education conference, Honolulu, Hawaii.

Hirumi, A., & Crawford, C. M. (1999, Oct.). *Epistemological underpinnings of distance education.* Poster session presented at the annual Association for the Advancement of Computing in Education conference, Honolulu, Hawaii.

Hirumi, A. & Willis, J. (1999, February). *Performance Assessment for IT Graduate Students: Standards for Education and Business & Industry*. Concurrent session held at the annual Association for Educational Communication and Technology conference, Houston, Texas.

Hirumi, A. (1999, February). *Return on Investment (ROI) of a Web-Based EPSS for Distance Educators*. Concurrent session held at the annual Association for Educational Communication and Technology conference, Houston, Texas.

Hirumi, A. (1998, February). *The Systematic Design of Network-Based EPSS for Distance Educators*. Concurrent session held at the annual Association for Educational Communication and Technology conference, St Louis, Missouri.

Hirumi, A. (1998, January). *Distributed Information, Support and Training for Education at a Distance (DISTED): A Networked Based Performance Support System*. Invited Presentation at the Fifth Annual Distance Education Conference, Austin, TX.

Kantor, R. & Hirumi, A. (1997, March). Designing effective student-centered ITV-based learning environments: Combining new theory with traditional ISD approaches. In B. Kozma (Chair), *Design and Development of Learning Environments In Support of Life-Long Learning: An Invitation to a Dialog*. Symposium conducted at the annual American Educational Research Association conference, Chicago, Illinois.

Bermudez, A. & Hirumi, A. (1997, March). *Examining the Instructional Effectiveness of a Multicultural Website*. Roundtable discussion held at the annual American Educational Research Association conference, Chicago, Illinois.

Hirumi, A. (1997, February). *Training faculty on the systematic design of interactive distance education: A case study*. Concurrent session held at the annual Association for Educational Communication and Technology conference, Albuquerque, New Mexico.

Ely, D., Peck., K, & Carr, A. (1997, February). *The state of the art in systemic change*. In A. Hirumi (Discussant) Panel session held at the annual Association for Educational Communication and Technology conference, Albuquerque, New Mexico.

Gotcher, L., Hirumi, A. & Kearney-Caldwell, D. (1997, February). *A collaborative approach to teacher technology training: Perceived levels of attention, relevance, confidence and satisfaction*. Concurrent session held at the annual Association for Educational Communication and Technology conference, Albuquerque, New Mexico.

Monk, M., & Hirumi, A. (1997, February). *A motivational interactive multimedia mathematics program*. Roundtable discussion held at the annual Association for Educational Communication and Technology conference, Albuquerque, New Mexico.

Buckley, B., & Hirumi, A. (1997, February). *Preservice teachers and technology*. Roundtable discussion held at the annual Association for Educational Communication and Technology conference, Albuquerque, New Mexico.

Jackson, F., & Hirumi, A. (1997, February). *Making the technology connection: A system to transparently integrate technology into curricular areas*. Roundtable discussion held at the annual Association for Educational Communication and Technology conference, Albuquerque, New Mexico.

Coppenhaver, A., Kearney-Caldwell, D., Hirumi, A. & Mayo, N. (1996, December). *Toward heeding the call of business and industry: Empowering educators through technology training*. Paper presented at the 3rd Annual EDINEB International conference, Orlando, FL.

Hirumi, A. (1996, June). *A system for training and empower educators on the systematic design of interactive distance education programs*. Concurrent session held at the Association for Educational Communication and Technology Distance Education Conference and Professional Development Seminar, Tallahassee, Florida.

Hirumi, A. (1996, February). *Student-Centered, Technology-Rich Learning Environments: A cognitive-constructivist approach*. Concurrent session held at the Association for Educational Communication and Technology Conference, Indianapolis, Indiana.

Hirumi, A., & Bermudez, A. (1996, February). *The systematic design of Internet-based distance education programs: A case study*. Concurrent session held at the Annual Association for Educational Communication and Technology Conference, Indianapolis, Indiana.

Jackson, F., Kearney-Caldwell, D., & Hirumi, A. (1996, February). *What should educational administrators know about computer technology?* Concurrent session held at the Annual Association for Educational Communication and Technology Conference, Indianapolis, Indiana.

Grau, I. & Hirumi, A. (1996, February). *Utilizing the World Wide Web to advance teacher development into the 21st century*. Concurrent session held at the Annual Association for Educational Communication and Technology Conference, Indianapolis, Indiana.

Hirumi, A. (1995, July). *Teacher-centered vs. student-centered learning: Implications for the design of distance education programs*. Roundtable discussion held at the Association for

Educational Communication and Technology Distance Education Conference and Professional Development Seminar, Ames, Iowa.

Hirumi, A. & Bermudez, A. (1995, July). *The systematic design of an Internet-based distance education program: A case study*. Paper presented at the Association for Educational Communication and Technology Distance Education Conference and Professional Development Seminar, Ames, Iowa.

Hirumi, A. (1995, February). *Computer related proficiencies for K12 educators: Implications for restructuring preservice and inservice teacher education*. Paper presented at the annual American Association for Colleges of Teacher Education Conference, Washington DC.

Mayo, N., Hirumi, A., Spuck, D. (1995, February). *TEA^{3}M Collaborative: The systematic restructuring of preservice and inservice teacher education*. Paper presented at the annual American Association for Colleges of Teacher Education Conference, Washington DC.

Hirumi, A., Jones, A., Ajuria, A, & Kemp, D. (1995, February). *Developing public school, university, government and business partnerships: A key to restructuring teacher education*. Roundtable discussion held at the annual American Association for Colleges of Teacher Education Conference, Washington DC.

Ajuria, A., DeAnda, V., Durrington, C. Fish, B., Hallman, P, & Wubbena, C. (1995, February). *Results from the formative evaluation of the Centers for Professional Development and Technology: A holistic approach to educational reform in Texas*. In A. Hirumi (Discussant) Paper presented at the annual American Association for Colleges of Teacher Education Conference, Washington DC.

Hirumi, A., & Durham, M. (1995, February). *The final frontier: An EPSS helping teachers utilize NASA resources.* Paper presented at the annual Association for Educational Communication and Technology, Anaheim, CA.

Grau, I, & Hirumi, A. (1995, February). *Teachers and computer technology: Review of literature and practitioners perspectives*. Roundtable held at the annual Association for Educational Communication and Technology, Anaheim, CA.

Harmon, S., & Hirumi, A. (1995, February). *Integrating computer technology: A strategy for instituting systemic change in education*. Paper presented at the annual Association for Educational Communication and Technology, Anaheim, CA.

Banathy, B., Peck, K., Reigeluth, C., & Jenlink, P. (1995, February). *System change process I: Beginning the journey*. In A. Hirumi (Chair). Panel discussion held at the Association for Educational Communication and Technology, Anaheim, CA.

Hirumi, A., Palumbo, D., & Desrosiers, S. (1994, March). *A framework for organizing and applying educational evaluation models*. Paper presented at the Annual Convention of the American Educational Research Association, New Orleans, LA.

Hirumi, A., Harmon, S., & Palumbo, D. (1994, February). *TEA^{3}M: System for infusing computer-technology.* Paper presented at the Annual Convention of the Association for Educational Communications and Technology, Nashville, TN.

Hirumi, A. (1993, January). Schoolyear 2000: System planning and design. In D. Salisbury (Chair), *The Florida Schoolyear 2000 Initiative: An Overview and Status Report*, Symposium conducted at the Association for Educational Communications and Technology conference, New Orleans, LA.

Hirumi, A. (1992, March). *Restructuring and research of 21st century schools: Four working strategies in action.* (Organizer and Chair), Symposium conducted at the Annual Meeting of American Educational Research Association, San Francisco, CA.

Hirumi, A. (1991, February). *The effects of CBI on students' motivation and cognition*. In R.M. Gagne (Chair), Panel presentation conducted at the Association for Educational Communications and Technology conference, Orlando, FL.

Salisbury, D. & Hirumi, A. (1991, February). *The design of 21st century schools*. Roundtable presentation conducted at the Association for Educational Communications and Technology conference, Orlando, FL.

Hirumi, A. (1990, October). *The development of a learning strategies program: An example of instructional and motivational design models in action*. Paper presented at the Association for the Development of Computer-Based Instructional Systems conference, San Diego, CA.

Hirumi, A., & Bowers, D. (1990, January). *Enhancing motivation and the acquisition of coordinate concepts in a technology-based global society*. In M. Simonson & C. Hargrave (Eds.), Proceedings of the Association for Educational Communication and Technology conference, Anaheim, CA.

Hirumi, A., Savenye, W., & Allen, B. (1989, February). Convergent technologies and public information: Using videodiscs to interactivate museum exhibits. In S. Siedman (Chair), *Designing for videodisc production*. Concurrent session conducted at the Association for Educational Communication and Technology conference, Dallas, TX.

Presentations at Regional, State and Local Conferences

Hirumi, A. (2006). *Integrating fundamental instructional design tasks with game development processes to optimize game-based learning*. Concurrent session at the 3rd Annual e-Learning Expo sponsored by the Pittsburgh Chapter of ASTD and Regional Learning Alliance at Cranberry Woods, Cranberry Township, PA.

Hirumi, A. (2003). *In search of quality: An analysis of educational guidelines and industry specifications*. Concurrent session presented at the annual Texas Distance Learning Association conference, Austin, TX.

Hirumi, A. & Pettit, A. (2003). *Get a life: Tactics for reducing time online*. Concurrent session presented at the annual Texas Distance Learning Association conference, Austin, TX.

Hirumi, A. (2002). *Emerging technologies for the 21st century: Meeting the needs of students and student support staff*. Concurrent session presented at the annual Texas Association of College and University Student Personnel Administrators summer conference, Houston, TX.

Hirumi, A. (2002). *Analyzing, designing and sequencing elearning interactions*. Concurrent session presented at the annual Texas Distance Learning Association conference, Dallas, TX.

Hirumi, A., Nawrot, A., and Ferris, C. (2002). *Innovations in design*. Concurrent session presented at the annual Texas Distance Learning Association conference, Dallas, TX.

Hirumi, A., Holland, C., and Nawrot, A. (2002). *eLearning Central: A repository of elearning resources*. Concurrent session presented at the annual Texas Distance Learning Association conference, Dallas, TX.

Hirumi, A. (2001). *How to design and sequence eLearning interactions: A grounded approach*. Concurrent session presented at the annual Texas Distance Learning Association conference, Houston, TX.

Hirumi, A., Hill, N., Williams, R., Joyce, B. & Martinez, C. (2001). *Facilitating the development of eLearning through a support site*. Concurrent session presented at the annual Texas Distance Learning Association conference, Houston, TX.

Hirumi, A., Willis, J., Mahoney, S., Gause, C., & Frey, J. (2001). *Online TEKS Training: Educating Texas Teachers on the TA of TEKS*. Concurrent session presented at the annual Texas Distance Learning Association conference, Houston, TX.

Hirumi, A., Arneson, W. & Chandler, K. (2001). *Training faculty on the systematic design of eLearning*. Concurrent session presented at the annual Texas Distance Learning Association conference, Houston, TX.

Holland, C. & Hirumi, A. (2001*). eLearning Central: A repository for information, training and support on eLearning*. Concurrent session presented at the annual Texas Distance Learning Association conference, Houston, TX.

Freeman, V., Zundel, B., Singleton, C., Joyce, B., Hirumi, A. (2001). *Leadership & collaboration in the development of an on-line degree program*. Concurrent session presented at the annual Texas Distance Learning Association conference, Houston, TX.

Hirumi, A. (2001). *The Systematic Design of Instruction Online*. Online distance education shootout presented at the annual Texas Distance Learning Association conference, Houston, TX.

Hirumi, A. (2001). *Interactive Distance Learning Online*. Online distance education shootout presented at the annual Texas Distance Learning Association conference, Houston, TX.

Hirumi, A. (2000, May). *Interactivity as a Framework for Web-Course Design*. Workshop presented for the University of Houston–System CampusNet Online Workshop, Houston, TX.

Hirumi, A. & Driskell, T. (2000, February). *The Systematic Design of an On-Line TEKS Certificate Program.* Concurrent session held at the annual Texas Computer Education Association conference, Austin, TX.

Hirumi, A. (1996). *The Application of Telecommunication Technologies for Accountants*, Invited guest speaker, 22nd Annual Accounting Educators Seminar, Houston, TX.

Hirumi, A. (1996, February). *Student-Centered, Technology-Rich Learning Environments (SCenTRLE): Operationalizing constructivist approaches to teaching and learning*. Awarded People's Choice for the Most Outstanding Presentation given at the Annual ENRON Teaching Excellence Symposium, Houston, TX.

Hirumi, A. (1995, November). *A cognitive-constructivist approach to integrating computer technology with teacher education*. Concurrent session presentation given at the First Florida State University Instructional Systems Academic Forum and Reunion.

Hirumi, A. (1995, July). *The design of student-centered, technology-based learning environments*. Presentation given at the 9th annual Phi Delta Kappa Research into Practice conference, Houston, TX.

Gotcher, L., Hirumi, A. & Bermudez, A. (1995, July). *Strategies for using Internet resources for distance education*. Awarded Outstanding Practitioner for presentation given at the 9th annual Phi Delta Kappa Research into Practice conference, Houston, TX.

Benson, A., Buckley, B. & Hirumi, A. (1995, July). *Connecting the Internet to student-centered learning*. Presentation given at the 9th annual Phi Delta Kappa Research into Practice conference, Houston, TX.

Jackson, F. & Hirumi, A. (1995, July). *What administrators need to know about computer technology using TENET*. Awarded Outstanding Graduate Student Research Paper presented at the 9th annual Phi Delta Kappa Research into Practice conference, Houston, TX.

Hirumi, A. (1994, October). *Factors influencing the integration of computer technology with teacher education*. Concurrent session at the Joint Conference on Teacher Education, Austin, TX.

Grau, I. & Hirumi, A. (1994, July). *What every teacher should know and be able to do with computer technology: Implications for pre-service and in-service teacher education*.

Awarded Outstanding Graduate Student Research Paper presented at the 8th Annual Phi Delta Kappa Research Into Practice Conference, Houston, TX.

Harmon, S. & Hirumi, A. (1994, July). *A systemic model for infusing technology into teacher education: Research on the TEA³M Collaborative*. Paper presented at the Eighth Annual Phi Delta Kappa Research Into Practice Conference, Houston, TX.

Desrosiers, S., Hirumi, A., & Palumbo, D. (1994, July). *IDF: A framework for developing interactive databases with Hypercard*. Paper presented at the Eighth Annual Phi Delta Kappa Research Into Practice Conference, Houston, TX.

Hirumi, A. (1994, June). *Systemic integration of computer technology with pre-service teacher education*. Paper presented at the Collaboration: The Key to Student Learning Conference, Houston, TX.

Hirumi, A., & Grau, I. (1994, June). *What teachers should know and be able to do with computer technology: A review of current literature*. Paper presented at the Collaboration: The Key to Student Learning Conference, Houston, TX.

Hirumi, A., Stailey, J., Wilson, S., & Schaper, L. (1994, April). *A system for integrating computer technology with teacher education.* Paper presented at the Annual Convention of the Texas Center for Educational Technology, Dallas, TX.

Harmon, S., & Hirumi, A. (1994, April). *Instructional Technology as a Systemwide Process for Innovation*. Paper presented at the Annual ENRON Teaching Excellence Symposium, Houston, TX.

Hirumi, A. (1992, September). *Student and family service subsystem description and design approach*. Paper presented at the Florida Association for Student Service Administrators conference, St. Petersburg, FL.

Hirumi, A., & Gaede, O. (1992, September). *Automating student and family services*. Roundtable session held at the Florida Association for Student Service Administrators conference, St. Petersburg, FL.

Hirumi, A. (1991, September). *The design and implementation of student and family services for the year 2000*. Concurrent session conducted at the Florida Association for Student Service Administrators conference, ST. Petersburg, FL.

Hirumi, A. (1991, July). *Schoolyear 2000: A technology-based model of schooling*. Presentation made at the meeting of Florida's Council for Student Services, Orlando, FL.

Hirumi, A. (1988, May). Using hypercard as a research tool. In B. Dodge (Chair). *HyperCard Programs at SDSU.* Symposium conducted at the Computer-Using Educators conference, San Diego, CA.

Non-Refereed Journals, Technical Reports, ERIC Documents & Other Media

Hirumi, A. (2003). A New System for e-Learning (white paper). Columbus, OH: Electronic Classroom of Tomorrow.

Hirumi, A., & Ley, K. (2000, April). Design and sequence your way to interactive WBT: An instructional design methodology for building interactivity into WBT. *Learning Circuits*. Retrieved April 3, 2000 from the World Wide Web: http://www.learningcircuits.org/

Hirumi, A. (1997). Telecommunication technologies: Educational applications and benefits. On *Internet in the Classroom* [Video]. Huntsville, TX: Educational Video Network.

Hirumi, A. (1997). LAN's, WAN's and the Net: Should educators get connected? In J. L. Morrison (Ed.), *Technology Tools for Today's Campuses* [CD ROM]. Redmond, WA: Microsoft Corporation.

Hirumi, A. (1997, Jan.-Feb.). LAN's, WAN's and the Internet: Why should educators get connected? *The International Education Webzine* (http://www.iteachnet.com/Newsb.html).

Hirumi, A. (1997). *Virtual Information, Training and Support Center for Distance Educators: A concept paper*. (Unpublished manuscript available from the Instructional Technology program at the University of Houston--Clear Lake, 2700 Bay Area Blvd. Houston, TX 77058).

Harmon, S. W., Hirumi, A. (1996). *A Systemic Approach to the Integration of Interactive Distance Learning into Education and Training*. Houston, TX: University of Houston--Clear Lake, Instructional Technology Program. (ERIC Document Reproduction Service No. EJ 527035).

Hirumi, A. (1996). The Application of Emerging Telecommunication Technologies for Distance Education: A Primer. *Micro Missive, 12*(2), 2-8.

Hirumi, A., & Harmon, S. (1996). A systemic approach for infusing computer technology with teacher education. *EPII Resource Manual* (Available from the Texas Education Agency, Austin, TX).

Hirumi, A. & Grau, I. (1996). What teachers should know and be able to do with computer technology: Implications for teacher education and professional development. EPII Resource Manual (Available from the Texas Education Agency, Austin, TX).

Hirumi, A. (1996). Strengthening community through communication. *UHCL TEA^{3}M Collaborative SITE Newsletter, 1*(1), 1.

Stailey, J. & Hirumi, A. (1995). Jack seeks his fortune on the information highway. *Storytelling Magazine, 7*(4), 10-13.

Hirumi, A. (1995, February). Systemic Approach to Infusing Computer Technology. *CHANGEConnections Newsletter, 1*(3). 4-5.

Hirumi, A. (1995). CHANGE advances down the super information highway. *CHANGE Connections Newsletter, 2*(2), 7.

Hirumi, A. (1994, December). Personal technology growth plan. *TEA3M News,* 2, 4.

Bartasis, J., Butterfras, B., Haerle, J., Johnson, R., Lambert, T., & Hirumi, A. (1994). *Needs Assessment Report--Mainland Regional Healthcare System: Determining Solutions for Emergency Department Patient Delays*. (Available from the Mainland Regional Healthcare Office, Galveston, TX).

Hirumi, A., Harmon, S., & Palumbo, D. (1994). *TEA^{3}M: A system for infusing technology into teacher education*. Houston, TX: University of Houston--Clear Lake, Instructional Technology Program. (ERIC Document Reproduction Service No. ED 373 718)

Hirumi, A., Shields, C. (1994). *Internet Educational Resource Guide*. Houston: School of Education, University of Houston--Clear Lake.

Hirumi, A., Shields, C., & Lambert, T. (1994). *Internet Basics Using the UHCL-VAX*. Houston: School of Education, University of Houston--Clear Lake.

Mayo, N., Hirumi, A., Samuels, B. (1994). *TEA^{3}M Collaborative: Annual Report*. Houston: School of Education, University of Houston--Clear Lake.

Hirumi, A. (1993). *3-year Strategic Plan for Integrating Technology*. Houston: Center for Professional Development and Technology, University of Houston--Clear Lake.

Interagency Workgroup on Full Service Schools (1993). *Full service schools: Alternative solutions to overcoming implementation barriers*. Tallahassee: Department of Health and Rehabilitative Services.

Hirumi, A., Salisbury, D., & Cullar, W. (1992). *Student and family services: Subsystem description and design approach*. Tallahassee: Florida State University, Center for Educational Technology.

Hirumi, A. (1991). *Analysis of district student service plans*. Tallahassee: Florida State University, Center for Educational Technology.

Keller, J. M., & Hirumi, A. (1990). *IBM middle management development project: Final Report*. (Available from IBM Management Development Center, Armonk, NY).

Hirumi, A., & Messec, J. (1989). *Educational training materials: An analysis of materials available for educational systems in developing nations*. (Contract No. DPE-5823-C-00-4013-00). Washington, DC: United States Agency for International Development.

Hirumi, A. (1988). *Evaluation Report: Interactive Videodisc Programs in Museum Exhibits*. (Available from the San Diego Natural History Museum, Balboa Park, San Diego, CA).

Johnson, K., Hettinger, G., Brownfield, S., Dodge, B., & Hirumi, A. (1987). *CALL evaluation project: Final Report.* (Available from CALL Educational Project, 3636 5th Avenue, Suite 101, San Diego, CA 92103).

Applied Technologies

Hirumi, A. (2007). *EME6614 Instructional Game Design for Training and Education*. Web-based Distance Education Course (http://webct.ucf.edu). Orlando, FL: University of Central Florida, Department of Instructional Technology.

Hirumi, A. (2006). *EME6607 Planned Change in Instructional Technology*. Web-based Distance Education Course (http://webct.ucf.edu). Orlando, FL: University of Central Florida, Department of Instructional Technology.

Hirumi, A. (2005) *Harnessing the Power of Stories and Games*. Web-based research support site (http://webct.ucf.edu). Orlando, FL: University of Central Florida, Department of Instructional Technology.

Hirumi, A. (2004). *EME6207 Multimedia Instructional Systems Design I*. Web-based Distance Education Course (http://webct.ucf.edu). Orlando, FL: University of Central Florida, Department of Instructional Technology.

Hirumi, A. (2003). *EME7465 Advanced Instructional Systems Design*. Web-based Distance Education Course (http://webct.ucf.edu). Orlando, FL: University of Central Florida, Department of Instructional Technology.

Hirumi, A. (2003). *EME6613 Instructional Systems Design*. Web-based Distance Education Course (http://webct.ucf.edu). Orlando, FL: University of Central Florida, Department of Instructional Technology.

Hirumi, A. (2003). *EME5057 Communications in Instructional Systems Design*. Web-based Distance Education Course (http://webct.ucf.edu). Orlando, FL: University of Central Florida, Department of Instructional Technology.

Hirumi, A. (2002). *INST6237: Advanced Instructional Design and Development*. Web-based Distance Education Course (http://courses.cl.uh.edu:8900/). Houston, TX: University of Houston--Clear Lake, Department of Instructional Technology.

Hirumi, A. & Holland, C. (2001) *elearning Central* (Web-based repository for resources on elearning (http://elearning.inst.cl.uh.edu). Houston, TX: University of Houston--Clear Lake, Department of Instructional Technology.

Hirumi, A. (2000). *INST6437: Interactive Distance Education*. Web-based Distance Education

Course (http://courses.cl.uh.edu:8900/). Houston, TX: University of Houston--Clear Lake, Department of Instructional Technology.

Hirumi, A. (1999). *Instructional Technology Program Website*. World Wide Web site (http://inst.cl.uh.edu). Houston, TX: University of Houston--Clear Lake, Department of Instructional Technology.

Hirumi, A. (1999). *INST5333: Systematic Design of Technology-Based Instruction.* Web-based Distance Education Course (http://courses.cl.uh.edu:8900/). Houston, TX: University of Houston--Clear Lake, Department of Instructional Technology.

Hirumi, A. (1998). *Distributed Information, Support and Training for Education at a Distance (DISTED).* Networked-Based Electronic Performance Support System - http://Thor/Course_Docs/DISTED/DISTED.html). Houston, TX: University of Houston--Clear Lake, Department of Instructional Technology.

Hirumi, A. & Gotcher, L. (1997). *Internet Fundamentals* (instructional world wide web site - http://129.7.160.115/COURSE/INST_5931A/Index.html). Houston, TX: University of Houston--Clear Lake, Department of Instructional Technology.

Hirumi, A., Lopez, B. & Gotcher, L. (1996). *Educational Applications of Computer Technology* (instructional world wide web site - http://129.7.160.115/INST_3133/ INST_3133.html). Houston, TX: University of Houston--Clear Lake, Department of Instructional Technology.

Bermudez, A. & Hirumi, A. (1995). *Social and Cultural Diversity: Examining Prejudice* (interactive, instructional world wide web site). Houston, TX: University of Houston--Clear Lake, Department of Study in Language Culture.

Hirumi, A., Desrosiers, S., & Palumbo, D. (1994). *LASST framework and database* (interactive, hypertext database). Houston, TX: University of Houston--Clear Lake, Department of Instructional Technology.

Bond, A., & Hirumi, A. (1989). *Desert Explorations* (interactive videodisc program). San Diego, CA: The San Diego Natural History Museum, Balboa Park.

Department of Educational Technology (1988). *Discourse - Finding your way to a negotiated agreement* (interactive videodisc program). San Diego, CA: San Diego State University.

Hirumi, A., & Rose, M. (1988). *Values Connection* (electronic bulletin board). San Diego, CA: San Diego State University, Department of Educational Technology.

Hirumi, A., & Dodge, B. (1988). *Media Selection* (computer program). San Diego, CA: San Diego State University, Department of Educational Technology.

Research and Development Initiatives

Principal Investigator
Institute for Advanced Online Studies
University of Central Florida
Spring 2004-Present

Principal Investigator and Director for the Institute for Advanced Online Studies. To date, I have secured over $350,000 to establish the research and development (R&D) laboratory, facilitate R&D efforts, and support graduate research assistants at UCF. The Institute's mission is to optimize human performance through research and the development of alternative e-learning environments. I am directing teams of graduate students, faculty and staff from across disciplines to develop instructional games for K12, higher education, business and industry settings, and to conduct a year long research study on the effects of Pre-Algebra and Algebra video games on student learning and motivation. Related R&D efforts have resulted in 3 publications in refereed journals, 3 book chapters, and over 20 presentations at international and national conferences.

Co-Principal Investigator
Conventional Training Versus Game Based Training
University of Central Florida
STTR Proposal Submitted Spring 2006 (Unfunded)

Co-Principal Investigator and lead UCF faculty member working with representatives from two companies (Technical Systems Integration, Inc. and Jardon and Howard Technologies, Inc.) and colleagues in the College of Education to prepare and submit a $100,000 Phase I Small Business Technology Transfer (STTR) proposal to the Department of Defense (Topic Number N06-T006). Primary contributions include: (a) meeting with representatives from two companies to plan and prepare response to RFP; (b) meeting with local representatives from DoD to gather information about the initiative, and (c) writing the research section of the proposal.

Co-Principal Investigator
Army Training for TRADOC Centers and Schools
University of Central Florida
SBIR Proposal Submitted Spring 2004 (Unfunded)

Member of primary writing team and UCF lead representative for a five year, $10 million proposal to the $500,000,000.00 TRADOC Omnibus Grant Program to, "design and deliver education-training products for TRADOC Centers and Schools and other Army Agencies." Led efforts at UCF to formulate UCF team (including faculty and staff in the College of Arts and Science, the College of Engineering and Computer Science, Course Development and Web Services, the Institute for Simulation and Training, the Team Performance Laboratory, the Center for Research on Electronic Arts, Technology and Entertainment, and the College of Education), gather and organize information, meet with representatives from collaborating partners, and prepare two areas of final proposal.

e-Learning Advisor
Electronic Classrooms of Tomorrow (ECOT)
Columbus, Ohio
2002-2004

e-Learning Advisor for statewide initiative to develop and continuously improve a charter K12 virtual school in Ohio. Primary responsibilities include the continuous improvement of the current system, as well as working with management to design and develop a new e-school system for K12 children. Primary areas of contribution include coordinating the Teacher Advisory Council, managing $100,000 RFP and subsequent training development project, needs assessment and strategic planning, curriculum development, teacher training and professional development.

Principal Investigator & Coordinator
Web-Based Instructional Technology Certificate and Degree Program
University of Houston–Clear Lake
January 1999-2002

Principal Investigator and Coordinator for the systematic design of web-based certificate and degree programs in Instructional Technology. Initiative includes $120,000 of preliminary funding, plus access to university resources. Primary responsibilities include: writing proposals and status reports; obtaining and allocating required resources; preparing, articulating and implementing systematic design process; coordinating the development of the web-based courses; designing and developing courses; working with faculty and program staff to establish program wide design standards and educational philosophy statement; marketing program and preparing marketing materials; working with university administration on articulation agreements, related policies, and addressing distance education support and logistical issues.

Project Leadership Team Member & Lead Instructional Designer
Web Based Clinical Laboratory Science (WebCLS)
Collaborative Grant Project
January 1999-2002

Project leadership team member and lead instructional designer for the development of a web-based undergraduate degree program for medical technologists. Project includes $1.16 million funding over three years from FIPSIE. Primary responsibilities include: assisting in the writing of the grant proposal; preparing, articulating and managing systematic design process; leading project leadership team and instructors from seven institutions through the analysis and design process; developing and maintaining web-based project support site; working with faculty and program staff to establish program wide design standards and working with participants on articulation agreements, related policies, and addressing logistical issues.

Principal Investigator
The Effects of e-Learning Interactions on Student and Instructor Attitudes and Performance
University of Houston–Clear Lake
October, 2002-May 2003

Principal Investigator for research study examining the effects of planned e-learning interactions on student and instructor attitudes and performance. For this study, I: wrote an internal grant proposal and was awarded $5,170 to hire graduate assistants and to generate materials; coordinated four graduate research assistants; created a Web site to facilitate collaboration; and

designed the study.

Principal Investigator

Advancing Student Learning through the Systematic Design and Continuous Improvement of a Program-Wide Electronic Portfolio Assessment System

University of Houston-Clear Lake
November, 1999 – 2002

Principal Investigator for the development of a program-wide electronic portfolio assessment system for the instructional technology graduate degree program. Project includes $6,000 of internal funding, and over $10,000 of funds provided by the School of Education and the UHCL. Responsible for: writing the grant proposal; budgeting, obtaining and allocating resources; coordinating faculty and project staff; supervising related data collection; revising program standards; developing guidelines and training materials; working with administration and staff to implement system; coordinating pilot testing of portfolio assessment system.

Principal Investigator & Director
Center for Distributed Information, Support and Training for Education at a Distance (DISTED)
University of Houston-Clear Lake
September, 1997 – January 1999

Principal Investigator and Director for the development of a networked-based, electronic performance support system designed to train and empower educators on the systematic design and delivery of interactive distance education. Project includes $25,000 of external funding, and over $50,000 of resources provided by the School of Education and the University of Houston--Clear Lake. Responsible for: budgeting, obtaining and allocating resources; managing a team of ten program developers; coordinating project activities; designing program architecture; developing user interface; designing instructional materials; and conducting formative evaluations.

Coordinator for Interactive Distance Education Training
University of Houston-Clear Lake
January, 1996 – January, 1998

Developed and coordinated university-wide effort to train and empower faculty on the design and delivery of interactive distance learning programs. Responsible for: the design, development and delivery of all training materials; working with 15 university faculty to transform coursework from traditional classroom instruction to interactive distance learning programs; directing and managing seven staff members; identifying, acquiring, and allocating course development resources. Currently developing the Center for Distributed Information, Support and Training of Education at a Distance (DISTED); a world-wide-web site designed to provide just-in-time training, information and support for potential and practicing distance educators.

Co-Principal Investigator & Director of Technology
Center for Professional Development and Technology
University of Houston-Clear Lake
Aug. 1993 – January 1998

Co-Principal Investigator and Director of Technology for a $1,570,000 grant to develop a new Center for Professional Development and Technology at the University of Houston–Clear Lake. Responsible for: strategic planning, administration, budgeting, and the allocation of technology related resources; designing and implementing a system for training pre- and in-service educators and university faculty on the use and integration of technology; conducting technology needs assessment; establishing local area and wide area electronic networks; designing and implementing workshops on the use and integration of technology; creating a Teacher Technology Exploration Center (TTEC); directing four graduate assistants; and developing a distance learning program.

Principal Investigator
Direct High Speed Public School/University Connections
University of Houston--Clear Lake
December 1994-January 1997

Principal Investigator for a $60,000 grant funded by IBM's Total Quality Management Award and the Texas Higher Education Network (THEnet). The grant provided the hardware and software necessary to establish the University of Houston--Clear Lake as the primary THEnet/Internet provider for the South Houston Community. As PI, I was responsible for writing the grant and establishing the necessary partnerships.

Co-Principal Investigator
High Technology Classroom of the Future
University of Houston-Clear Lake
Dec. 1993 – January 1995

Co-Principal Investigator of a $45,000 grant to create a high technology classroom at the University of Houston– Clear Lake, designed to: (a) teach and facilitate the use of new, technology-based instructional techniques; (2) improve quality processes by facilitating collaborative work and group decision making; and (3) support the university's goal of becoming a national and international leader in higher education. Primary responsibilities include purchasing and budget allocations; conducting technology needs assessment; and designing and delivering workshops and instructional modules.

Principal Investigator
The Assessment of Learning at UHCL II
University of Houston-Clear Lake
Dec. 1995-January 1997

Principal Investigator for a $10,000 grant to support travel, materials and consultants for a university-wide task force on learning assessment. The task force is charged with developing a strategic plan for integrating assessment across the university. It will also compile an inventory of current assessment practices at UHCL; best practices at similar institutions; and recommend data sets that are needed to support institutional assessment.

Co-Principal Investigator
The Assessment of Learning at UHCL
University of Houston-Clear Lake
Dec. 1993 - 1994

Co-principal investigator of a $11,500 grant to examine the use and integration of Performance Assessments at the University of Houston-Clear Lake. Member of a four-person team responsible for collecting and reviewing existing methods for assessing learning in higher education; directing graduate student in the creation of a resource library; evaluating and offering the suitable methods to UHCL faculty and shared governance committees in workshops and consultations.

Professional Consultation

Learning Advisor
Tabula Digita
New York, NY
November 2006-current

Learning Advisor for the design and development of five 3D immersive educational games, including a single player pre-algebra and algebra game, two multi-player pre-algebra games, and one multi-player algebra game. Working with subject matter experts, game developers, and math teachers to integrate pedagogy with games, as well as to generate teaching modules and related teacher resources. Also responsible for planning and conducting formative evaluations and extensive research studies with teachers and students from target population.

e-Learning Consultant
Orange County Library System
Orlando, FL
January 2007-present

e-Learning Consultant for the analysis, design, development and evaluation of web-based training created for library patrons. Primary responsibilities include (a) analyzing and providing recommendations for the improvement of existing web-based training, (b) working with library staff and administration to establish instructional design infrastructure, (c) designing and delivering a series of workshops for library staff on instructional design (e.g., cognitive task analysis; generating, cluster and sequencing objectives; developing and aligning learner assessments; formatting e-learning and instructional strategies; conducting formative evaluations), and (d) planning and conducting formative and summative evaluations of web-based training.

Instructional Design Consultant
Digitec
Orlando, FL
July 2006-December 2006

Instructional Design Consultant for the development of an instructional (video) game on

financial planning. Working with subject matter experts to complete task analysis and delineate learner assessment methods. Working with game designers and Digitec design and development team to integrate learning goals and objectives, learner assessments, and grounded instructional strategy with instructional game design. Planning and implementing formative evaluations with experts and learners from target population.

Instructional Design Consultant
Lockheed Martin-Florida Interactive Entertainment Academy
Orlando, FL
May 2006-December 2006

Instructional Design Consultant for development of a prototype for an instructional (video) game (Danger Zone) on putting out fires on Navy ships. Working with subject matter experts and game developers to complete task analysis, delineate learner assessment methods, define and integrate learning goals and objectives, and apply grounded instructional strategies and events to optimize game-based learning.

Instructional Design Consultant
Nova Law Center, Nova Southeastern University
Ft. Lauderdale, FL
April 2006-August 2006

Instructional Design Consultant for Nova Law Center at Nova Southeastern University. Currently working on two initiatives: (a) conducting a needs assessment to improve the predictability of their online alternative admissions program, and (b) designing a system to develop, maintain, and continuously improve online graduate programs and coursework.

Instructional Design Consultant
Digitec
Orlando, FL
November 2005-April 2005

Instructional Design Consultant and Lead Instructional Designer for instructional game development project. Worked with textbook author and editor to complete task analysis and delineate learner assessment methods. Worked with Digitec design and development team to integrate learning goals and objectives, learners assessments, and grounded instructional strategy with instructional game. Planned and implemented formative evaluations with experts and learners from target population.

Instructional Design Consultant
Centro Universitario de Ciencias Economico Administrativas (CUCEA)
Universidad de Guadalajara, Mexico
May 2003-Aug. 2005

Instructional Design Consultant for new master's degree program in Learning Technology (Maestría en Tecnologías del Aprendizaje) at the largest public university in Guadalajara, Mexico. Primary responsibilities include: designing an online course on the systematic design of

e-learning materials and delivering the course to students and faculty in the program so that they are able to guide the translation of and teach a Spanish versions of the course.

Instructional Design Consultant
Educational Technology Center
Lamar University
2002-2003

Instructional Design Consultant for center created to help faculty develop and deliver technology-based instructional materials. Primary responsibilities include: designing and delivering workshops on the systematic design of Web courses; analyzing and providing recommendations on the design and delivery of Web courses; and assisting in the development of the professional development Web site.

Instructional Design Consultant
Developing e-High School for Cobb County Public Schools
Cobb County Public School District
2001-2002

Instructional Design Consultant for district-wide effort to Web-base high school courses and programs. Primary responsibilities include: presenting workshops on the systematic design of Web-based courses; analyzing and providing recommendations on the design and delivery of Web courses; and assisting in the development of the distance learning website.

Instructional Design Consultant
UT TeleCampus
University of Texas System
2001-2002

Instructional Design Consultant for University System wide effort to support the training, development and delivery of Web courses. Primary responsibilities include: presenting workshops on the systematic design of Web-based courses; analyzing and providing recommendations on the design and delivery of Web courses; providing recommendations for system operations, and assisting in the development of a Web course development support site.

Instructional Design Consultant
College of the Mainland
2001-2002

Instructional Design Consultant for community college efforts to support the training, development and delivery of Web courses. Primary responsibilities include: presenting workshops on the systematic design of e-learning courses and programs; analyzing and providing recommendations on the design and delivery of Web courses; establishing e-learning development support site, and providing recommendations for system policies, procedures and operations.

Instructional Design Consultant

SJCC Distance Education Program
San Jacinto Community College
2001-2002

Instructional Design Consultant for community college efforts to support the training, development and delivery of Web courses. Primary responsibilities include: presenting workshops on the systematic design of Web-based courses; analyzing and providing recommendations on the design and delivery of Web courses; and providing recommendations for system operations.

Instructional Design Consultant
Delivery System for Distance Learning through Career and Technology Education Programs
University of Houston
September, 1999 – 2001

Instructional Design Consultant for $50,000 statewide grant to (a) research distance education delivery systems, (b) create a website for distance educators, and (c) design a model program for delivering distance education. Primary responsibilities include: working with the PI to examine current distance education delivery systems; assisting in the development of the distance learning website; creating a model for the design and delivery of model distance education programs for the State of Texas; and, designing a distance education course based on the model.

Instructional Design Consultant
IBM
Armonk, N.Y.
June 1989 - December 1989

Consulted on two projects. Project 1: Assisted in the formative evaluation and subject matter expert review of design documents prepared by IBM for their course in instructional systems design. Specific areas of analyses included the instructional and motivational design of course materials. Project 2: Assisted in the front-end analysis of mid-level management course for IBM. Conducted literature review, interviews, and extant data analysis. Co-authored final report describing results of the analysis, issues for further analysis, and recommendations for course design and delivery.

Honors and Awards

- Commitment to Excellent and Innovation (2003), award by the Texas Distance Learning Association (TxDLA) for contributions to the field.
- Exemplary On-line Coursework (2002), awarded by WebCT for the design and delivery of Web-based course (INST6437 Interactive Distance Learning). One of eight awardees from over 80 nominations received by WebCT from the U.S. and Canada.
- Exemplary On-line Coursework (2000), awarded by WebCT for the design and delivery of Web-based course (INST5333 Systematic Design of Technology Based Instruction). One of ten awardees from over 70 nominations received by WebCT from the U.S. and Canada.
- Nominated for the Piper Award (1999, 2001), by one or more students for excellence in teaching, University of Houston–Clear Lake, Houston, TX.

- 2nd Place Award of Excellence (1997), given for electronic performance support system that best represents and illustrates the principles of performance centered software design, 1997 EPSS Design Contest sponsored by epss.com, The Performance Support Group and The Performance Support 97 Conference.
- People's Choice Award (1996), given for the most outstanding presentation at the Third Annual ENRON Symposium on Teaching Excellence, Houston, TX.
- Award for Innovation (1996), finalist at the Third Annual ENRON Symposium on Teaching Excellence, Houston, TX.
- Outstanding University Practitioner Award (1995), Phi Delta Kappa (Houston Chapter).
- University of Houston--Clear Lake Star Faculty Award (1995), for outstanding research, teaching and service, School of Education, University of Houston--Clear Lake.
- Gagne & Briggs Award for Outstanding Doctoral Student (1991), Department of Educational Research, Florida State University.
- Ruby Diamond Scholarship Award for Developing Scholars (1990), Department of Educational Research, Florida State University.
- Outstanding Young American (1990), Outstanding Young Men of America, Montgomery, Alabama.

PROFESSIONAL SERVICE

National & State

- D&D Division Showcase Coordinator (2007). Association for Educational Communication and Technology.
- Grant Proposal Reviewer (2007). Institute for Creative Technology grant program. U.S. Army RDECOM STTC.
- Elected Board Member (2006-Present). Design and Development Division. Association for Educational Communication and Technology.
- Proposal Reviewer (2004-Present). Design and Development Division. Association for Educational Communication and Technology.
- Invited Member (2001-2004). Texas IQ Project: Defining quality standards for online K12 coursework across the state of Texas.
- President (1997/98). CHANGE: Systemic Change in Education Division, Association for Educational Communication and Technology,
- President-Elect 1996/97). CHANGE: Systemic Change in Education Division, Association for Educational Communication and Technology,
- Secretary-Treasurer (1994/1995, 1995/96). CHANGE: Systemic Change in Education Division, Association for Educational Communication and Technology,
- Guest Editor (2002). Quaterly Review of Distance Education Volume 3, Number 2.
- Consulting Editor (1997-Present). Educational Technology Research and Development,
- Associate Editor (1996-Present). Journal of Research on Computing in Education,
- Manuscript Reviewer (1994-1995). Research Section of *Educational Technology*,
- Program Planner (2001). Annual Conference for the Texas Distance Learning Association.
- Host Coordinator (1999). Annual Conference for the Association for Educational Communication and Technology.
- Member (1991). Planning Committee for the Professors of Instructional Design and Technology.

- Proposal Reviewer (2003). Annual Conference for the Texas Distance Learning Association (TxDLA).
- Proposal Reviewer (1994-2001). CHANGE: Systemic Change in Education Division, Association for Educational Communication and Technology.
- Proposal Reviewer (1994-2000). Instructional Technology SIG, American Educational Research Association.
- Proposal Reviewer (1994). Division of Teaching and Teacher Education, American Educational Research Association.
- Proposal Reviewer (1993). Instructional Technology SIG, American Educational Research Association.
- Proposal Reviewer (1993). Division of Instructional Development, Association for Educational Communication and Technology.

Regional & Local

- Member - District Technology Advisory Council, Clear Creek Consolidated Independent School District, Houston, Texas, 1997-2003.
- Member - District Technology Advisory Council, Deer Park Independent School District, Houston, Texas, 1997-Present.
- Member - District Technology Steering Committee, La Marque Independent School District, Houston, Texas, 1996-Present.
- Member - Advisory Council, Region IV Education Service Center, Houston, Texas, 1995-Present.
- Chair - State-Wide Technology Subcommittee, Centers for Professional Development and Technology, Texas, 1994-1996
- Member - Interagency Workgroup for Full Service Schools, 1991 - 1993

University Level Committees

- Appointed Member (2004-Present): College of Education representative to University International Committee. University of Central Florida.
- Committee Member (2003-2005): University - Member of UCF Graduate Studies Fellowship Selection Committee. University of Central Florida.
- Elected School of Education Representative (2000-2002). Learning Resource Committee, University of Houston–Clear Lake.
- Member (1997-2002). Computer Services Advisory Committee, University of Houston–Clear Lake.
- Member (1999-2002). Web-Course Development Workgroup, University of Houston–Clear Lake.
- Member (1999-2000). Academic Support Workgroup for Web-based Courses, University of Houston–Clear Lake.
- Member (1998-1999). Campus Instructional Technology Committee, University of Houston–Clear Lake.
- Chairperson (1997-1998). University-Wide Committee for Training and Instruction (Subcommittee of the Steering Committee for Campus Instructional Technology), University of Houston–Clear Lake.
- Member (1995-1999). University-Wide Task Force on Learning Assessment, University of

Houston–Clear Lake.
- Appointed Member (1995-2001). University-Wide Steering Committee for Campus Instructional Technology, University of Houston–Clear Lake.
- Member (1994-2000). Systems Engineering Committee, University of Houston–Systems.

College and Department Level Committees

- Elected Chair (2006-2007). Faculty Council. College of Education. University of Central Florida.
- Appointed Member (2006). Unit Operations Task Force. College of Education. University of Central Florida.
- Appointed Member (2005-Present). Annual Review Procedures & Standards Committee. College of Education. University of Central Florida.
- Appointed Member (2005-Present). Strategic Plan Implementation Committee. College of Education. University of Central Florida.
- Elected Member (2003-Present). Advanced Graduate Admissions and Retention Committee. College of Education. University of Central Florida.
- Elected Member (2004-2006). Success to Significance Appraisal Group. College of Education. University of Central Florida.
- Elected Member (2005-2006). Faculty Council. College of Education. University of Central Florida.
- Appointed Member (2004-2005). Promotion and Tenure Guidelines Committee. Department of Educational Research, Technology & Leadership. University of Central Florida.
- Search Committee Member (2004). Member of committee to search for ERTL Chair. Department of Educational Research, Technology & Leadership. University of Central Florida.
- Ad Hoc Committee Member (2003). Member of Ad Hoc Budget Committee. College of Education. University of Central Florida.
- Chairperson (1999-2001). Academic Review Committee, School of Education, UHCL.
- Elected Member (1996-2000). School of Education Academic Review Committee, School of Education, UHCL.
- Member (1997-1999). Task Force on Teaching, School of Education, UHCL.
- Member (1995-1996). Nominations Committee, School of Education, UHCL.
- Member (1995-1996). Teacher Certification Committee, School of Education, UHCL.
- Program Coordinator (1996-2002). Instructional Technology, School of Education, UHCL.
- Search Committee Chair (1997/98, 1999/2000). Instructional Technology, School of Education, UHCL.
- Search Committee (1994/95, 1995/96, 2001/2002). Instructional Technology, School of Education, UHCL.
- Member (1994-1995). Instructional Technology Center Policy Committee, UHCL
- Chairperson (1990, 1991). Student Advisory Council, College of Education, FSU,
- President (1989-91). Student Advisory Council, Department of Educational Research, FSU,
- Student Representative (1991, 1992). Search Committee, Department of Educational Research, Florida State University.

Professional Organizations and Affiliations

Association for Educational Communication and Technology, 1988-present
American Society for Training and Development, 1999-Present
International Society for Performance Improvement, 1999-2001
Texas Distance Learning Association, 2000-2004
American Association for Colleges of Teacher Education, 1995-2001
American Educational Research Association, 1990-2000
Association for the Development of Computer-Based Instructional Systems, 1990-1994
Florida Association for Student Service Administrators, 1991-1993

BOBBY H. HOFFMAN

Department of Educational Studies
College of Education
University of Central Florida
P.O. Box 161250
Orlando, FL 32816-1250
E-mail: bhoffman@mail.ucf.edu

I. EDUCATIONAL HISTORY

2006 *Ph.D. Educational Psychology, (Learning & Technology)*, University of Nevada, Las Vegas. Dissertation Title: *The influence of self-efficacy and working memory ability on problem solving efficiency.* Chair: Dr. Gregory Schraw.

1981 *M.A. Human Resources Psychology*, Fairleigh Dickinson University, Teaneck, NJ

1977 *Psychology*, Fairleigh Dickinson University, Teaneck, NJ.

II. PROFESSIONAL ORGANIZATIONS

American Educational Research Association, Division C
American Psychological Association, Division 15

III. HONORS AND AWARDS

Award recipient, lead author, First Place, Humanities Research, The effects of same-sex instruction upon achievement, teacher efficacy and classroom culture at a large at-risk high school, University of Nevada, Las Vegas, Annual Graduate Research Forum, 2006.

Award recipient, sole author, First Place, Humanities Research, The compensatory effects of self-efficacy upon working memory ability, University of Nevada, Las Vegas, Annual Graduate Research Forum, 2005.

Award recipient, *American Psychological Association, Doctoral Dissertation Seminar* July 2004. One of 15 participants selected worldwide to participate in doctoral seminar. Mentor designee, Dr. Patricia Alexander, University of Maryland.

IV. PROFESSIONAL HISTORY

8/2006-present Assistant Professor, Educational Psychology, Department of Educational Studies, University of Central Florida. Instructor of undergraduate/graduate courses in Education, Educational Psychology and Motivation. Focused research in the areas of motivation, problem solving, beliefs and working memory.

2004-2006 Senior Scientist, University of Nevada, Las Vegas, Center for Evaluation and Assessment. Primary investigator for the evaluation and assessment of technology and learning initiatives. Duties include survey design, development of assessment instruments, interview and observation protocols, and qualitative and quantitative data analysis.

2004-2006 *Instructor (six times)*, University of Nevada, Las Vegas, Research Methods and Statistics. Graduate level courses, content included overview of research process, scientific method, validity threats, inferential and descriptive statistics, journal article critique and construction.

2004- present Clark County School District, Las Vegas, NV, Program Evaluator – Lead researcher providing quantitative and qualitative analysis of same-sex specific instruction and AVID programs.

2005 University of Nevada, Las Vegas, Instructor, Learning & Development. Graduate level course, content included overview of cognitive development, motivation, theories of learning and classroom interventions.2004 Instructor, Psychology, Nevada State College, Las Vegas, NV. Instructor of record for introductory required course.

2004 Research Intern, Clark County Nevada, School District in conjunction with the UNLV Center for Research and Evaluation, Accountable for the review and analysis of research proposals affecting 5th largest school district in USA. Additionally responsible for multiple evaluation, statistical and assessment projects**.**

2003 Graduate Assistant, University of Nevada, Las Vegas, Dr. Keith Zvoch Provide tutoring in applied behavioral science statistics to undergraduate students focusing upon hypothesis testing, correlation, regression, analysis of variance, planned comparisons and post- hoc tests.

2003 Course Developer, Digital Think, San Francisco, CA., Subject matter expert/content developer and e-learning advisor for the creation of Human Resources learning modules. Specific courses include Organizational Assessment and Job Analysis Skills.

2003-2002 Graduate Assistant, University of Nevada, Las Vegas, Dr. Randall Boone, Provided research and technology based assessment services for leading authority on Special Education and Educational Technology. Strong focus on the accessibility of learning applications.

2003-2002 Project Leader/Web Developer, University of Nevada Las Vegas, through a partnership developed with Bechtel-Nevada, secured $ 50,000 web

development project. Converted 16 hours technical classroom training into interactive web-based interface.

2002 Graduate Assistant, University of Nevada, Las Vegas, Dr. Gregg Schraw
Assist nationally renowned expert in empirically based cognitive studies. Projects include textual coherence, working memory and metacognition. Data analysis and literature review responsibilities to support lesson planning and strategy.

V. SCHOLARLY PUBLICATIONS AND ACTIVITIES

Journal Articles (refereed)

Hoffman, B., & Badgett, B., & Parker, R.P. (2008). The effect of single-sex instruction in a large, urban at-risk high school. Manuscript accepted for publication, *Journal of Educational Research*, September 2007.

Hoffman, B., & Spatariu, A. (2007). The influence of self-efficacy and metacognitive prompting on math problem-solving. Manuscript in press, Contemporary *Educational Psychology*, July 2007.

Hoffman, B., & Schraw, G. (2006). The effect of self-efficacy on learning efficiency. Manuscript submitted for publication, *Learning and Individual Differences*, April 2007.

Hoffman, B., McCrudden, M., Schraw, G., & Hartley, K. (2005). The effects of informational complexity and working memory capacity on problem-solving accuracy and efficiency. Manuscript submitted for publication, *Asian Pacific Educational Review*, July 2007.

Gregoire Gill, M., & Hoffman, B. (2006). Shared planning time: A novel context for studying teachers' beliefs. Manuscript submitted for publication, *Teacher's College Record*, May 2007.

Hoffman, B., Hartley, K., & Boone, R. (2005). The realization of accessibility: Guidelines for creating and refining digital learning materials. Intervention in School & Clinic, 40, 171-176.

Other publications

Hoffman, B. (Ed.). (2007). Learning Theory and Assessment. Upper Saddle River, NJ: Pearson Custom Publishing. ISBN: 0536-477337

Over 25 other authorships in a variety of business publications and magazines including, Forbes, Inc., Human Resources Management News, HR Magazine and Career Magazine.

Work in Progress

Hoffman, B., & Davis, J. (2007). The effects of working memory, anxiety, cognition, and self-efficacy upon math problem-solving. Anticipated completion December 2007.

Hoffman, B., & Nadelson, L. (2008). Motivational engagement: Calibrating commitment. Anticipated completion. April, 2008.

Hoffman, B., & Schraw, G. (2008). The effective of self-efficacy on differential efficiency outcomes. Anticipated completion, August 2008.

Hoffman, B., & Heller, K. (2008). Enhancing Teacher Efficacy: Derivatives, Dimensions and Suggestions. Review paper discussing cognitive antecedents related to teacher efficacy. Anticipated completion, August 2008.

SCHOLARLY PAPER PRESENTATIONS

Hoffman, B., & Spatariu, A. (2007). *The effect of self-efficacy and metacognitive prompting on math problem-solving efficiency*. Paper presented at the annual meeting of the American Psychological Association, San Francisco, August 19, 2007.

Hoffman, B. & Schraw, G. (2006). *The influence of self-efficacy on problem-solving efficiency*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL, April 7-11, 2007.

Hoffman, B. & Badgett, B. (2006). *The Effect Of Single-Sex Instruction On Student Achievement, Classroom Culture, And Teacher Efficacy In A Large Urban At-Risk High School*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA, April 7-11, 2006.

Hoffman, B., Schraw, G., & Hartley, K., (2005) *The compensatory effects of self-efficacy beliefs upon working memory ability*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada, April 11-15, 2005.

Hoffman, B., McCrudden, M., Schraw, G., & Hartley, K., (2004) *The effect of working memory and cognitive load on situational learning efficiency.* Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA, April 12-16, 2004.

Hoffman, B., Hartley, K. & Boone, R. (2003). *The realization of accessibility: guidelines for the creation and refinement of universal online learning applications.* Paper presented at ED-MEDIA 2003--World Conference on Educational Multimedia, Hypermedia & Telecommunications, Honolulu, Hawaii, June 23-28, 2003.

VI. TEACHING

Courses taught:

Statistics, in-person and online. Statistics overview course including central tendency, correlation, regression, sampling distributions, hypothesis testing, analysis of variance and post-hoc testing.

Research Methods, (6 different sections over two years). Course responsible for six sections of required core in Teacher Education, Sports Education and Educational Psychology. Prepared all materials and assessments.

Learning & Development, Graduate level course in human learning and development

Learning Theory & Assessment, Undergraduate course in Educational Psychology in development, learning and assessment.

Educational, Career, and Personal Development – entry-level undergraduate course in study skills, learning strategies and preparatory information for transitioning students.

Introduction to Psychology – introductory overview course for first year Psychology majors

Courses prepared to teach:

Educational Psychology/Motivation	Research Methods	Memory/Beliefs
Learning Strategies	General Psychology	Statistics

Courses designed:

Complete redesign and conversion of Learning Theory & Assessment entailing the drafting and development of over 100 pages of original content including assessments, group activities, surveys and assignments. Includes eight videos, and over 20 interactive exercises.

SERVICE

University of Central Florida, Undergraduate Admissions and Retention Committee (07-09)

University of Central Florida, Masters Admissions and Retention Committee (07-09)

American Educational Research Association 2008 Graduate Student Seminar, co-chair

American Educational Research Association 2007 Graduate Student Seminar coordinator/mentor

American Psychological Association 2007-2008 Doctoral Dissertation Awards Committee member

University of Central Florida, Assistant/Associate Professor search committee

Co-leader, MA degree program development, Educational Psychology, Spring 2007

GRANTS

Principal Investigator, University of Central Florida, In-House Grant Award, $ 7,500.00 Application approved for research related to motivational engagement and identification of factors related to individual task commitment.

REVIEWS/EDITORIAL BOARDS

Editorial Board Member, *Contemporary Educational Psychology*, June 2007 - present

Conference proposal reviewer, 2008 *American Educational Research Association* annual conference

Manuscript reviewer, *Contemporary Educational Psychology*, May 2007 - present

Chapter reviewer, *Fundamentals of Cognitive Psychology,* Sage Publications, April 2007

Invited Reviewer, *Asia Pacific Education Review*, March 2007 - present

Conference proposal reviewer, 2007 *American Educational Research Association* annual conference

Chapter reviewer, *Contemporary Educational Psychology*, Sage Publications

LOUIS S. NADELSON

4000 Central Florida Blvd
College of Education, Educational Studies
University of Central Florida, Orlando, FL 32816
E-Mail: nadelson@mail.ucf.edu

RESEARCH INTERESTS:

Science and Mathematics Education
Motivation and Engagement with Interactive Technologies
Inquiry
Conceptual Change
Teacher Change and Instructional Practices
Cultural Influences on Learning

EDUCATION

2007 *Ph.D. Educational Psychology*, University Nevada, Las Vegas.

2001 *Ed.D. Curriculum and Instruction* - (course work completed) Portland State University. Focus on Mathematics and Teacher Education

1991 *M.Ed. Educational Administration*, Western Washington University, Concentration instructional technology and curriculum development.

1986 *Secondary Teaching Certificate* - University of Puget Sound.

1987 *B.A. Concentrations: Computing, Mathematics and Physics*. The Evergreen State College.

1983 *B.S. Biological Science, Physical Science, Minors: Chemistry, Biochemistry*
Colorado State
University.

PROFESSIONAL AFFILIATIONS

PROFESSIONAL HISTORY

2007-PRESENT *ASSISTANT PROFESSOR – COLLEGE OF EDUCATION* – UNIVERSITY OF CENTRAL FLORIDA, ORLANDO, FL

Conducting a wide range of science education research focusing on perspectives that are foundation to educational psychology. Conceptual change, inquiry, misconceptions, motivation, biases, and open minded thinking are essential components of projects being conducted that

examine believe and understanding of concepts from evolution to probability. Teaching focused on learning theory, research and assessment.

1993-1994 *COORDINATOR – MAGNET PROGRAMS* – CLARK COUNTY SCHOOL DISTRICT, LAS VEGAS, NV
Management of aviation and medicine magnet programs for 800 students in a 3200 student high school. Duties include, hiring and staffing, curriculum development, teacher support including mentoring and coaching, program coordination and evaluation, budget management, equipment ordering and inventory, recruiting, monitoring student enrollment and assessment, and community outreach. Additional duties: data acquisition and analysis for Annual Yearly Progress, committee leader for School Improvement Plan, administrative team member.

1993-1994 *Part Time Instructor* – The University of Nevada Las Vegas
Instructor of Descriptive and Inferential Statistics: An Introduction in Department of Educational Psychology for graduate students Foundation of Educational Assessment for Preservice teachers. Statistics and Research Methods in School of Social Work for 4th year undergraduates and first year graduate students. Algebra and Precalculus mathematics for undergraduate students.

1993-1995 *Secondary Teacher – Clark County School District, Las Vegas, NV*
Instructor of Physics, AP Physics, and Earth Science, with an emphasis on applied instruction, and integration of progressive pedagogy.

1993-1996 *2001- 2003 Director – Quantitative Reasoning Center. The Evergreen State College, Olympia, WA*
In this administrative position I organize and facilitate of the integration of quantitative reasoning (QR) skills across the curriculum. Duties include: curriculum development, faculty development, course development, acquisition of resources, grant writing, workshop presentations, maintenance of QR center, and coordination of QR tutors. Developing creative and innovative approaches for the instruction of QR skills and processes for both faculty and students. Utilizing leadership to assure QR integration throughout the curriculum.

1994-2003 *Adjunct Faculty,* The Evergreen State College, Olympia, WA
Instructor of Precalculus, Calculus I and II and Introductory Statistics and Intermediate Statistics in the part time studies program. Development of curriculum implementing mathematical reform and integrating instructional technology according to leading edge pedagogy. Other courses: Applied Physics Conceptual and Quantitative, Calculus

Based Physics, College Algebra, Exploring Mathematics for the Liberal Arts Student.

1998-2003 *Adjunct Faculty, Curriculum Developer* University of Washington
Development of on-line curriculum for the Teachers Learning Technology Outreach program. Development of EDCI 495TJ – *The Assessment Process and Technology* and EDCI 495TR – *Infusing Technology into the Math Curriculum*, subsequent teaching of both courses on-line. Summer courses for mathematics and science teachers on infusing technology. *Smart Tools Academy* instructor – teaching k-12 principals and superintendents, *Teach The Teachers* – institute instructor.

1993-1994 *Secondary Teacher,* Olympia School District
Instructor of science and mathematics, including instruction for special needs students. Projects include making science and mathematics more relevant by integrating technology and developing a thematic curriculum, providing hands-on learning experiences, an awareness of learning styles and methods of alternative assessment. District and regional staff development instructor.

1993-1994 *Secondary Teacher Upward Bound*, The Evergreen State College
Instructor of science and computers for college bound at risk minority students. Participating as a faculty team member to; educate, counsel, coordinate and lead field trips for 75 students.

HONORS AND AWARDS

Action Research Grant, $1000, 2006
Equity and Diversity Grant, $3000, 2006
Teacher Appreciation Award Winner 2006
UNLV Graduate Professional Student Association travel award, $1000, 2006.
Bright Ideas Award CCSD, $500, 2005.
Perfect Attendance, 2004, 2005.
Apple Distinguished Educator, 1995- 2002.
Governor's Panel on Technology in Education, 2000.
Washington Software Foundation Innovations in teaching award, 1999.
Selected as an Intel Innovations in Teaching winner, 1997.
Best Classroom Practices Award from Chevron, 1997.
Geometry Forum, Constructing Geometry on the Internet, 1995.
Awarded Tandy Technology Scholar, 1994.
Selected to be a Partner in Science, 1992-1993.
Awarded a TAPESTRY Grant, $10,000, 1992.
Excellence in Teaching, 1992.
Boeing Applied Academic Grant, 1991.

SCHOLARLY PUBLICATIONS AND ACTIVITIES

Nadelson, L (Under Review). Preservice Teacher Understanding and Vision of how to Teach Biological Evolution.

Nadelson, L (2004). Rube Goldberg Physics. A webquest for high school students. Retrieved from http://coe.nevada.edu/lnadelson, on January 29, 2006.

Nadelson, L. (2000). Problem Solving and Project Based Learning in High School Mathematics. *Northwest Teacher, NWREL 1*(1), 20.

Nadelson, L. 2000. Project based learning in mathematics. Association for School Improvement Resource, WASA.

Nadelson, L (1999). Students publishing mathematics and science research on the world wide web. In Chevron Corporation "Best classroom practices mathematics, science and technology academic lesson plans." Chevron, U.S.A.

Nadelson, L. (1997). Online assignments, *The Science Teacher, 64*, (3), 22-5.

Nadelson, L. (1995). Heating it up with thermocouples. *The Science Teacher, 62* (3), 30-33.

Nadelson, L (1993). Calibration for teaching lines in mathematics. *The Computing Teacher*, *21* (6), 46-47

Nadelson, L. (1989). Using probeware for the teaching of science. *WSTA Journal*.

WORK IN PROGRESS

Nadelson, L. (In Progress). Where did you learn that? Student misconceptions and pedagogy in science education.

Nadelson, L. & Sinatra, G. (In Progress). Pre-service teachers' understanding of evolution, the nature of science, and situations of chance.

Nadelson, L. & Sinatra, G. (In Progress). Educational psychologist understanding and acceptance of evolution.

Nadelson, L & Southerland, S . (In Progress). A measure of understanding of macroevolution.

Nadelson, L & Lemke, Cheryl (In Progress). Can True Inquiry Really Happen in K-

16 Science Education?

Hoffman, B., & Nadelson, L. (In Progress). Motivation and video gaming.

Gray, J., Nadelson, L, & Busser, J. (In Progress). Undergraduate student perceptions of completion practices of end of course evaluations.

PRESENTATIONS

National

Nadelson, L. (June 2006). *Letting go staying connected*. Concurrent session presentation at NASPA. Phoenix, AZ.

Nadelson, L. (January 2006). *Teacher Response to the Reform Effort of Block Scheduling*. A paper presented at the Hawaii International Conference on Education, Honolulu, HI.

Nadelson, L. (January 2006). *Letting Go Staying Connected, A parent Orientation Program*. A poster presented at the Hawaii International Conference on Education, Honolulu, HI.

Nadelson, L. & Broughton, S. (November, 2005). *High School Science student Misconceptions and Epistemic Beliefs*, Paper presented at the Southwest Consortium for Innovations in Psychology In Education, UNLV, Las Vegas, NV.

Muis, K. & Nadelson, L. (August 2005) *Epistemic Beliefs and Mathematics problem Solving*. Paper presented at the American Psychological Association, Washington, DC.

Nadelson, L. (June 1997). Featured Speaker: *Multimedia based student project* Paper presented at the National Education Computing Conference, Seattle, WA.

Nadelson, l. (October 1995). Using probeware to teach science. National Science Teacher Association, Vancouver, BC

State

Nadelson, L. (February 2002). Math and the Brain. Paper presented at The Evergreen State College, Olympia, WA.

Nadelson, L. (March 2001). A Snapshot of Spokane. Presented at the Northwest Council for Computer in Education, Spokane, WA.

Nadelson, L. (April 2000) Presenting People and Places In Portland. Presented at the Northwest Council for Computer in Education, Portland, OR.

Nadelson, L. (Summer 1999). The technology integrated curriculum, and National technology standards. Smart Tools Academy, Washington State.

Nadelson, L. (August 1999). *Claiming a lane of the information super highway*. Paper presented at the USWest Technology Conference, Seattle WA.

Local

Nadelson, L., & Nadelson, S. (2007). Hand-on Mathematics and Science – Improving Student Learning. A hands on workshop/presentation at the CCSD New Teacher Conference. Las Vegas, NV

Nadelson, L. (October 2006). *An Inquiry into Teaching Science Inquiry*. A hands on workshop/presentation at the CCSD New Teacher Conference. Las Vegas, NV

Nadelson, L. (April 2006). *Where did you learn that? Working with student misconceptions*. A hands on workshop/presentation at the CCSD New Teacher Conference. Las Vegas, NV.

Nadelson, L. (March 2006). *Teacher Response to the Reform Effort of Block Scheduling*. A poster presented at the UNLV Graduate and Professional Student Association annual research forum. Las Vegas, NV.

Nadelson, L. (March 2006). *Teacher Response to the Reform Effort of Block Scheduling*. A poster presented at the UNLV College of Education Graduate Student Forum, Las Vegas, NV.

Nadelson, L. (February 1998). Assessment of technology-based learning. University of Washington Computer Fair, Seattle, WA.

TEACHING

Secondary Teaching Certificate

Endorsements:

- Mathematics
- Physical Science
- Biological Science
- Computer Science

- Chemistry
- Physics

Higher Education Courses Taught

- Calculus & Differential Equations
- Conceptual Physics
- University Physics
- Technology & Instruction
- Assessment of the Technology Integrated Curriculum
- Developing a Technology Integrated Science Curriculum
- Descriptive and Inferential Statistics: An Introduction
- Foundations of Educational Assessment
- Research and Program Evaluation
- Introduction to Statistics
- Intermediate Statistics
- Statistics For Social Workers
- Precalculus
- College Algebra
- Exploring Mathematics for the Liberal Arts Student
- Learning Theory and Assessment

Courses Prepared to Teach

- Science Methods
- Nature and Philosophy of Science
- Classroom Assessment and Science Standards
- Integrating Mathematics and Science
- Inquiry and Science Teaching
- Conceptual Change, Misconceptions and Science Education

SERVICE

- Participation and preparation in the MA in Applied Learning and Instruction
- Participation and preparation in the MA in Teacher Leadership

Stephen A. Sivo, Ph. D.

Associate Professor
Educational Research, Technology and Leadership
Appointed 2000

Academic Degrees

Ph.D., Texas A&M University, College Station, TX -(05/97)
Major: Ed. Psychology/ Research, Measurement, and Statistics
Minor: Ed. Administration
Honors: Kappa Delta Pi

M.A., Northwestern State University, Natchitoches, LA -(05/91)
Major: Student Personnel Services
Honors: Psi Chi (Vice-president of local chapter). Graduate student government representative

B.A., Franciscan University, Steubenville, OH -(05/87)
Major: Psychology (w/ honors)
Minor: Philosophy (27 credit hours)
Honors: Alpha Chi National Honor Society, National Dean's List, National Student Government Award

Professional Experiences

08/05 - Present,
Associate Professor of Educational Research
Department of Educational Research, Technology, & Leadership, University of Central Florida

08/01 - 08/05,
Assistant Professor of Educational Research
Department of Educational Research, Technology, & Leadership, University of Central Florida

08/00 - 08/01,
Assistant Professor of Educational Research
Department of Educational Foundations, University of Central Florida

Teaching graduate statistics, measurement theory, assessment, and research design.

08/96 - 07/00,
Assistant Professor of Psychology
Department of Psychology, James Madison University

Taught Structural Equation Modeling (SEM), Multivariate Statistics, Advanced Measurement Theory and other Graduate statistics.

Served on the Psy.D. Assessment and Measurement, Psy.D. Clinical Psychology, Ed.S. and M.A. School Psychology, and General Psychology committees.

Served on Masters and Doctoral thesis committees.

Assessment Specialist
Center for Assessment and Research Studies

Assisted Student Affairs (all programs) and five academic departments with program evaluation and assessment, research design, measure construction, qualitative studies, analysis, and program

objectives.

08/94 - 08/96,
The Coordinator of Research Design and Statistical Support
Research Assistance Laboratory
The College of Education, Texas A&M University

Provided statistical and research consultations for the faculty, doctoral candidates, and graduate students.

05/93 - 08/94,
Psychometrician/ Industrial Psych. Intern.
Training Center at Pennsylvania Power and Light (PP&L) Nuclear Power facility.

Participated in job task analyses, evaluated achievement scores, and joined in the overall test design process.

Strong emphasis on generalizability theory.

05/92 - 05/93,
The Coordinator of Research Design and Statistical Support
Research Assistance Laboratory
The College of Education, Texas A&M University

Provided statistical and research consultations for the faculty, doctoral candidates, and graduate students.

08/91 - 05/92,
Research Assistant
Research Assistance Laboratory
The College of Education, Texas A&M University

Provided research support and computing assistance for graduate students. Computing assistance particularly included help with SPSS and SAS software, MVS and VM operating systems.

1987 - 1991,
Mental Health Emergency Evaluator and **Unit Counselor**

Diagnosed and counseled psychiatric patients in crisis at the largest community mental facility in Jacksonville during summers and Christmas holiday seasons

Mental Health Resource Center, Jacksonville, Florida.

06/91 - 07/91,
Primary Counselor for the creatively gifted
The Creative Scholar's Program
Northwestern State University, Natchitoches, Louisiana.
Supervised by Dr. Gail Lewis.

08/89 - 05/91,
Research Assistant
Northwestern State University, Natchitoches, Louisiana.

Provided data entry and statistical analyses for both graduate students and faculty, using SPSSx software.

Assisted graduate students in Masters thesis development (excluding summers).

08/87 - 05/89,
Teaching Assistant
Northwestern State University, Natchitoches, Louisiana.

Taught five Experimental Psychology laboratory classes, approximately 20 students per class. (excluding summers).

01/87 - 05/87,
Counseling Intern
Jefferson County Community Mental Health Center
Steubenville, Ohio.

Assisted in providing group therapy with persons with schizophrenia and bi-polar disorder.

Faculty and Administrative Load

Fall Semester 2005
EDF 7463 **Survey Research** 3 Semester Units
EDF 6481 **Graduate Research in Education** 3 Semester Units

Summer Semester 2005
EDF 7463 **Survey Research** 3 Semester Units
EDF 6481 **Graduate Research in Education** 6 Semester Units

Spring Semester 2005
EDF 7463 **Survey Research** 3 Semester Units
EDF 6481 **Graduate Research in Education** 6 Semester Units

Other Collegiate Assignments

******** UCF Committee Work ********

2004, Faculty Representative at Summer Graduation, July 31st
2003 -2004, Member of Undergraduate Research Council – Initiative of Provost
2003 -2004, Member of Undergraduate Research Council – Course Review Subcommittee
2004 Faculty presenter for the Summer Research Academy
2001 Member of Transportation Access Fee Committee
COLLEGE OF EDUCATION SERVICE
2004 - Search Committee for the Assistant Dean of Graduate Research
2004 - Research Committee
2003 -2004, Strategic Planning Committee
2002 -2004, Advanced Graduate Admissions and Retention Committee (Chair 2002-2003)
2001 -2003 Research Committee
2003 Proctored Doctoral Comprehensive Exams
2001 Proctored Doctoral Comprehensive Exams
DEPARTMENT OF EDUCATIONAL RESEARCH, TECHNOLOGY, & LEADERSHIP SERVICE
2003 Educational Research Search Committee concluded in the Spring of 2003, Member
2002 Educational Research Search Committee concluded in the Fall of 2002, Member
DEPARTMENT OF EDUCATIONAL STUDIES (FORMERLY EDUCATIONAL FOUNDATIONS)
2001 Three Search Committees
• General Methods
• Social Foundations #1
• Social Foundations #2

Current Professional and Academic Association Memberships

Structural Equation Modeling SIG (AERA)
Educational Statisticians SIG (AERA)
Research and Measurement Methodology: Division D (AERA)
American Educational Research Association (AERA)

Current Non-teaching Professional Assignments and Activities

******* Professional Activities *******

2004 WebMaster – Educational Statisticians-SIG / February, 2004
Newletter Editor– Educational Statisticians-SIG / February, 2004

Publications

PEER REVIEWED BOOKS
Fan, X., Felsovalyi, A., **Sivo, S.A.** & Keenan, S. (2002). SAS for Monte Carlo studies: A guide for quantitative researchers. Cary, North Carolina: SAS Institute.
• More than 1000 books have been sold internationally since January, 2003. Some of the countries include Australia, Canada, Mexico, Saudi Arabia, Taiwan, and the United Kingdom.
• Book review by Nathan Vandergrift (2004) published in the journal, Structural Equation Modeling, "Overall, I found this book to be concise, well-written, and full of useful tools for my own research."
• Editorial book review by Ziegel (2003) published in the American Statistical Association journal, Technometrics, "This is certainly one book from the excellent Books by Users series at SAS that I am delighted to have in my collection… If you are a SAS user who does any simulation studies, you will want a copy of this book".
PEER REVIEWED BOOK CHAPTERS
Erwin, T.D., & **Sivo, S.A.** (2001). Assessing student learning and development in student affairs: A nuts and bolts introduction. In R. B. Winston and T.K. Miller's, The Professional Student Affairs Administrator: Educator, Leader, and Manager. Muncie, IN: Accelerated Development.
JOURNAL ARTICLES (Refereed) National/International
Sivo, S., & Pan, C. (in press). Undergraduate engineering and psychology students' use of a course management system: A factorial invariance study of user characteristics and attitudes. The Journal of Technology Studies.
Pan, C., Gunter, G., **Sivo, S.**, & Cornell, R. (in press). End-user acceptance of a learning management system in two hybrid large-sized introductory undergraduate courses. Journal of Educational Technology Systems, 33(4).
Fan, X., & **Sivo, S.** (2005). Evaluating the sensitivity and generalizability of SEM fit indices while controlling for severity of model misspecification. Structural Equation Modeling, 12 (3), 343-367.[Since 2000, acceptance rates range from 7-12%]
Sivo, S.A., Fan, X., & Witta, E.L. (2005). The biasing effects of unmodeled ARMA time series processes on latent growth curve model estimates. Structural Equation Modeling, 12 (2), 215-232.[Since 2000, acceptance rates range from 7-12%]
Sivo, S. A., Pan, C. C., & Brophy, J. (2004). Temporal cross-lagged effects between subjective norms and students' attitudes regarding the use of technology. Journal of Educational Media and Library Sciences, 42(1), 63-74.
Pan, C. C., **Sivo, S.A.** & Brophy, J. (2003). Students' attitude in a web-enhanced hybrid course: A structural equation modeling inquiry. Journal of Educational Media and Library Sciences, 41(2), 181-194.
Hayes, B. G., Taub, G.E., Robinson, E. H., & **Sivo, S.A.** (2003). An empirical investigation of the efficacy of multimedia instruction in counseling skill development. Counselor Education & Supervision, 42, 177-188. [18% acceptance rate]
Sivo, S.A. (2001). Multiple indicator stationary time series models. Structural Equation Modeling: A Multidisciplinary Journal, 8(4), 599-612. [7% accepted in 2001]
Taub, G.E., Hayes, B. G., Cunningham, W.R., & **Sivo, S.A.** (2001). Relative roles of cognitive ability and practical intelligence in the prediction of success. Psychological Reports, 88, 931-942. [33% acceptance

rate]
Sivo, S.A., & Willson, V.L. (2000). Modelling causal error structures in longitudinal panel data: A Monte Carlo study. Structural Equation Modeling: A multidisciplinary journal, 7(2), 174-205. [7% accepted in 2000]
Lawson, D.M., & **Sivo S.A.** (1998). Trainee conjugal family experience, current intergenerational family relationships and the therapeutic alliance. Journal of Marriage and Family Therapy, 24(2), 225-231. [15 - 20% acceptance rate]
Sivo, S.A., & Willson, V.L. (1998). Is parsimony always desirable? Identifying the correct model for a longitudinal panel data set. Journal of Experimental Education, 66(3), 249-255. [20% acceptance rate]
Cifuentes, L., **Sivo, S.**, Reynolds, T. (1997). Building partnerships between preservice teachers and inservice teachers: A project facilitated by interactive videoconferencing. International Journal of Educational Telecommunications, 3(1), 61-82. [10 - 19% acceptance rate]
Albrecht, D.D., Carpenter, D.S. & **Sivo, S.A.** (1994). The effect of college activities and grades on job placement potential. National Association of Student Personnel Administrators, 31(4), 290-297. [11-20% acceptance rate]
JOURNAL ABSTRACTS (Refereed)
Zukley L, Lowndes J, Carpenter RL, Peel JB, Fiutem JJ, Sivo S, Greenstone CL, Angelopoulos TJ, & Rippe JM (2005). Association between C-reactive protein and cardiorespiratory fitness in overweight and obese women is independent of adiposity. Circulation, 111 (14), E228-E228 P213.
Lowndes, J., Zukley, L., Fiutem, J.J., Nguyen, V., Dube, T.J., Yount, B., Sivo, S., Melton, R., Melanson, K., Greenstone, C., Angelopoulos, T.J., & Rippe, J.M. (2005). The impact of caloric restriction and exercise on various components of the metabolic syndrome in women. Circulation, 111(4), E79-E79.
Lowndes, J., Dube, T.J., Yount, B., Zukley, L., Sivo, S., LeBaron, B., Angelopoulos, T.J., & Rippe, J.M. (2004). Does BMI or waist circumference correlate better with risk factors associated with obesity. International Journal of Obesity, 29 (1), S.
Dube, T.J., Yount, B., LeBaron, B., Lowndes, J., Zukley, L., Sivo, S., Angelopoulos, T.J., & Rippe, J. (2004). The relationship of hs_CRP to metabolic syndrome diagnostic criteria and cardiovascular risk factors. International Journal of Obesity, 29 (1), S.
Yount, B., Dube, T.J., Zukley, L., Fiutem, J.J. , LeBaron, B., Lowndes, J., Sivo, S., Angelopoulos, T.J., & Rippe, J. (2004). Association of serum C-reactive protein with cardiorespiratory fitness in middle-aged, sedentary, overweight/obese adults. International Journal of Obesity, 29 (1), S.
ERIC DOCUMENTS (Refereed)
Witta, E.L., & Sivo, S.A. (2003). Latent growth modeling of cognition in the elderly. (ERIC Document Reproduction Service No. ED478197). Witta, E.L., & Sivo, S.A. (2002). Measuring cognitive function: An empirical investigation of the psychometric properties of a cognitive measure. (ERIC Document Reproduction Service No. ED478198).
PROCEEDINGS - National/International (Refereed)
Gunter, G.A., & Sivo, S. (2003). Effective online training: the Georgia GET FIT initiative. Proceedings of the Society of Information Technology and Teacher Education Association for the Advance of Computing Education. (SITE 2003).
Pan, C., Sivo, S., Brophy, J., & Phillips, W. (2003). Attitude is contagious? A structural equation modeling approach. Proceedings of the 5th Annual WebCT User Conference (IMPACT 2003).
Pan, C., Sivo, S., Gunter, G., Hampton, E., Brophy, J., & Cornell, R. (October, 2003). Students' perceived ease of WebCT's use: An exogenous or endogenous variable? Proceedings of the the 26th Association for Educational Communications and Technology International Conference (AECT 2003)
MANUSCRIPTS ACCEPTED WITH REVISION (Refereed Journals) National/International
Sivo, S.A., Fan, X., Witta, E.L., & Willse, J. (accepted with revision). The normative claims of fit index research: Cut-off criteria.
Pan, C., **Sivo, S.**, Gunter, G., & Cornell, R. (accepted with revision). Students' perceived ease of WebCT's use: An exogenous or endogenous variable?
Saunders, C., Chang, Q., Sivo, S.A., & Jiang, J.J. (accepted with revision). Non-response and mail surveys in IS academic journals.
Research

******* Technical Reports *******
Sivo, S.A., & Alwood, J.E. (1994). Engineering support science fundamentals battery: Test analysis

report: Generalizability and decision study. Susquehanna Steam Electric Station, PP&L Test Report, meeting Nuclear Regulatory Committee requirements.

******* Paper Presentations *******

Sivo, S. (April, 2005). The number of occasions needed for detecting growth curve ARMA processes. (Paper presented at the Longitudinal Studies SIG of the American Educational Research Association in Montreal, Quebec, Canada).

Fan, X., & Sivo, S. (April, 2005). The effect of true population model specification on recommended fit index cut-off values. (Paper presented at the Structural Equation Modeling SIG of the American Educational Research Association in Montreal, Quebec, Canada).

Witta, E.L., & Sivo, S. (April, 2005). Measuring Cognition: An empirical investigation of the psychometric properties of a cognitive measure. (Paper presented at Division D - Measurement and Research Methodology of the American Educational Research Association in Montreal, Quebec, Canada).

Sivo, S., Fan, X., Witta, E.L., & Willse, J. (April, 2004). The effect of true population model specification on recommended fit index cut-off values. (Paper presented at the Structural Equation Modeling SIG of the American Educational Research Association in San Diego, CA).

Sivo, S. (April, 2004). The impact of a course management system on two large-sized undergraduate web-enhanced hybrid courses: A factorial analysis using LISREL and SAS PROC CALIS. (Paper presented at the Chinese American Educational Research and Development Association in San Diego, CA).

Fan, X, & Sivo, S. (April, 2004). Evaluate the sensitivity and generalizability of SEM fit indices while controlling for severity of model misspecification. (Paper presented at the Structural Equation Modeling SIG of the American Educational Research Association in San Diego, CA).

Witta, E.L., & Sivo, S. (April, 2004). Latent growth modeling: Explaining cognitive decline in the elderly. (Paper presented at the Educational Statisticians SIG of the American Educational Research Association in San Diego, CA).

Pan, C., Gunter, G., Sivo, S., & Cornell, R. (April, 2004) End-user acceptance of a learning management system in two hybrid large-sized introductory undergraduate courses. Paper presented at the Ninth Annual conference for Teaching in the Community Colleges (TCC) to meet in Honolulu, HI.

Sivo, S.A., Fan, X., & Witta, E.L. (April, 2003). A full integration of latent growth curve and stationery times series. (Paper presented at the Structural Equation Modeling SIG of American Educational Research Association in Chicago, IL).

Witta, E.L., & Sivo, S.A. (April, 2003). Latent growth modeling of cognition among the elderly. (Paper presented at the American Educational Research Association in Chicago, IL).

Pan, C., Sivo, S., & Brophy, J. (April, 2003) Use of a course management system in light of the Technology Acceptance Model: A student perspective. (Paper presented at the Eighth Annual conference for Teaching in the Community Colleges (TCC) to meet in Honolulu, HI).
Pan, C., Sivo, S., & Brophy, J. (April, 2003) Does students' attitude toward a course management system matter? (Paper presented at the 14th International Conference on College Teaching and Learning (ICCTL) in Jacksonville, FL).

Sivo, S.A., & Witta, E. L. (November, 2002). Measuring depressive symtomatology: An empirical investigation of the psychometric properties of the shortened CES-D. (Paper presented at the American

Evaluation Association conference in Washington, D.C.)

Witta, E. L., & Sivo, S.A. (November, 2002). Measuring cognitive functioning: An empirical investigation of the psychometric properties of a cognitive measure. (Paper presented at the American Evaluation Association conference in Washington, D.C.)

Sivo, S.A., Taub, G., Hayes, G., & Miller, K. (August, 2001). *Investigating a new moving average model for longitudinal data.*(Paper to be presented at the American Psychological Association in San Francisco, CA).

Simmer, P., **Sivo, S.A.**, & Sundre, D. (April, 2001). *A Confirmatory Factor Analysis (CFA) of the Student Developmental Task and Lifestyle Inventory (SDTLI)*(Paper to be presented at the American Educational Research Association in Seattle, WA).

Williams, K. & **Sivo, S.A.** (April, 2001). *Power Analysis in SEM: A Comparison of Methods* (Paper to be presented at the American Educational Research Association in Seattle, WA).

Willse, J., & **Sivo, S.A.** (April, 2001). *Cutoff Criteria for Fit Indexes in Structural Equation Modeling: The Need for Cross-Fitting Structural Models when Performing Monte Carlo Studies.* (Paper to be presented at the American Educational Research Association in Seattle, WA).

Shipley, S.M., Vogt K.E., & **Sivo, S.A.** (November, 2000). *Going Full Circle: Using Assessment for "a" Change.* (Paper to be presented at the International Leadership Association Conference in Toronto, Ontario, Canada).

Sivo, S.A. (June, 2000). *Structuring the Assessment Design and Measure: Issues and Procedures.* (Paper presented at the American Association for Higher Education Assessment Conference in Columbia, North Carolina).

Shipley, S.M., Vogt K.E., & **Sivo, S.A.** (June, 2000) *Going full circle with leadership assessment.* (Paper presented at the American Association for Higher Education Assessment Conference Rising Expectations: Can Assessment Deliver? in Columbia, North Carolina).

Sivo, S.A. (April, 1999). *Multiple indicator stationary time series models using SEM.* (Paper presented at the American Educational Research Association - SEM SIG in Montreal, Quebec, Canada).

Hayes, D.J., Shealy, C.N., **Sivo, S.A.**, & Weinstein, Z.C. (August, 1999). *Psychology, religion, and scale 5 (Religious Traditionalism) of the BEVI.* (Paper presented at the American Psychological Association - Division 36 in Boston, MA).

Isley, E.B., Shealy, C.N., Crandall, K.S., **Sivo, S.A.**, & Reifsteck, J.B. (August, 1999). *Relevance of the BEVI for research in developmental psychopathology.* (Paper presented at the American Psychological Association - Division 7 in Boston, MA).

Shealy, C.N., Burdell, L.L., **Sivo, S.A.**, Davino, D.F., & Hayes, D.J. (August, 1999). Men, masculinity, and scale 10 (Gender Stereotypes) of the BEVI. (Paper presented at the American Psychological Association - Division 51 in Boston, MA).

Shealy, C.N., Sears, J.L., **Sivo, S.A.**, Alessandria, K.P., & Isley, E.B. (August, 1999). Intercultural Psychology and scale 3 (Sociocultural Closure) of the BEVI. (Paper presented at the American Psychological Association - Division 52 in Boston, MA).

Trice, A.D., Braxton, H.H., Huffman, C.F., **Sivo, S.A.**, Stoloff, M.J., & Talley, C.E.P. (August, 1999). Connecting introductory courses to the General Education curriculum. (Paper presented at the American

Psychological Association - Division 2 in Boston, MA).

Rohatgi, J., Torisky, D.M., **Sivo, S.A.**, Pearson, J.M., & Brevard, P.B. (June, 1998). Evaluating the use of an animated sequence to teach the concept of protein synthesis. (Paper presented at the Society for Nutrition Education annual meeting in AZ).

Sivo, S.A., & Sundre, D. (April, 1998). Evaluating competing models in SEM: Consulting simulation results for the wrong model. (Paper presented at the American Educational Research Association- SEM SIG in San Diego, CA).

Sundre, D., & **Sivo, S.A.** (April, 1998). The dilemma of teaching statistics: Who's afraid of statistics and computers?. (Paper presented at the American Educational Research Association in San Diego, CA).

Banta, T., & **Sivo, S.A.** (May, 1997). Teaming to assess student knowledge and skills. (Presented at the Student Learning Institute in Harrisonburg, VA).

Banta, T., & **Sivo, S.A.** (May, 1997). Assessing student development and program effectiveness. (Presented at the Student Learning Institute in Harrisonburg, VA).

Banta, T., King, P., Docking, J. & **Sivo, S.A.** (May, 1997). Making a difference in assessment: Panel discussion. (Presented at the Student Learning Institute in in Harrisonburg, VA).

Sivo, S.A. (November, 1996). Alumni longitudinal data: Using structural equation modeling to evaluate the stability of results over time. (Paper presented at the Virginia Assessment Group 10th Annual Conference in Fairfax, VA).

Sivo, S.A. (April, 1996). Modeling causal error structures in longitudinal data. (Paper presented at the American Educational Research Association- SEM SIG in New York, NY).

McNamara, J.F., Campbell, T., Moore, D. & **Sivo, S.A.**(January, 1996). Evaluating the quality of published meta-analysis studies. (Paper presented at the Southwest Educational Research Association in Austin, TX).

Kealy, W.A., Schindehette, S.W. & **Sivo, S.A.** (April, 1995). Effect of image size and perceptual precedence on verbal and spatial processing of graphic displays. (Paper presented at the American Educational Research Association in San Francisco, CA).

Sivo, S.A. (January, 1995). Discriminant analysis: Techniques used in appraising a function. (Paper presented at the Southwest Educational Research Association in Dallas, TX).

Sivo, S.A. (April, 1993). The effects of nonparallel regression slopes on actual error rates across three and four group situations: A Monte Carlo study. (Paper presented at the American Educational Research Association in Atlanta, GA).

Garcia, G., & **Sivo, S.A.** (April, 1993). The role of family in educational and occupational decisions made by Mexican-American Students. (Paper presented at the American Educational Research Association in Atlanta, GA).

Willson, V.L., Rupley, W.H., **Sivo, S.A.** & Vaidya, N. (April, 1993). Item component-based regression modeling of individuals: Fit and cross-validation. (Paper presented at the National Council on Measurement and Evaluation in Atlanta, GA).

Sivo, S.A. (January, 1993). Predicting K-TEA reading comprehension scores with regression. (Paper

presented at the Southwest Educational Research Association in New Orleans, LA).

Kealy, W.A., & **Sivo, S.A.** (January, 1993). Prior knowledge, map recognition, and recall of topographical features. (Paper presented at the Southwest Educational Research Association in New Orleans, LA).

Garcia, G., Clayton, K. & **Sivo, S.A.** (January, 1993). Mexican American junior high school and secondary students: Family influences on and values for career and educational decisions. (Paper presented at the Southwest Educational Research Association in New Orleans, LA).

DiBrito, W., & **Sivo, S.A.** (January, 1993). A factor analytic investigation of the BSI when administered to college students. (Paper presented at the Southwest Educational Research Association in New Orleans, LA).

Sivo, S.A., & Kealy, W.A. (December, 1992). Prior knowledge for adjunct maps in text learning. (Paper presented at the National Reading Conference in San Antonio, TX).

Newman, P., Cain, T., & **Sivo, S.A.** (March, 1992). Where have the Students Gone? The Retention Phenomenon. (Paper presented at American College Personnel Association in San Francisco, CA).

Newman, P., & **Sivo, S.A.** (Spring, 1990) Identifying and Intervening with At-Risk Freshmen. (Curia Grant funded project presented Research Day at Northwestern State University of Louisiana).

APPENDIX C
LIBRARY MEMOS

Memorandum

To: Michael Arthur, Acquisitions and Collections, Head

From: Terrie Sypolt, Reference Librarian

Subject: Applied Learning and Instruction MA Program Resources Proposal

Date: October 15, 2007

The program proposal for a Master's Degree in Applied Learning and Instruction is targeted at independent scholars in specialized areas of learning and instruction with potential application in post-secondary education, and public and private sector instructional environments. The areas identified for concentration are: learning theory, motivation, cognition, instructional methods, pedagogy, educational psychology, teacher education, and organizational development. For the most part, UCF library holdings in these areas compare favorably with the institutions identified who are granting a master's degree: **Michigan State University and Virginia Tech**. The University of Florida, Stanford and Penn State universities have considerably larger collections, but they also support doctoral programs in Educational Psychology as well. A detailed comparison of indexes, journal titles, reference titles and book counts by subject heading is attached for your review.

Recommendations include the following:

No additional databases/indexes are needed to support the proposed MA program. (See attached)

No additional journal titles are necessary to support this proposed degree. However, should new journal titles become available, additional money would be needed to add them to the collection, especially since they would be recurring funds.

,

While the book collection at the University of Central Florida is solid enough to support a Master's program in Applied Learning and Instruction, I would recommend that we add $2,000.00 per year over the next three years to strengthen those highlighted areas where we are weak in comparison to other institutions.

$2,000.00 x 3 years = $6,000.00

Proposal for MA Degree in Applied Learning and Instruction
Program Evaluation
By Terrie K. Sypolt,
UCF Reference Librarian
October 12, 2007

Schools identified by Dr. Louis S. Nadelson for comparison include:

University of Florida
Michigan State (substituted for U of Michigan)
Penn State University (Sypolt added)
Stanford University
Virginia Tech (Sypolt added)

Topics identified by Dr. Louis S. Nadelson for comparison include:

Learning theory
Motivation
Cognition
Instructional methods
Pedagogy
Educational psychology
Teacher education
Organizational development

Databases, indexes and abstracts:

Database name	**UCF**	**UF**	**MSU**	**PSU**	**Va Tech**
Annual Review of Psychology				x	
British Education Index				x	
Dissertation & Theses Full-Text	x	x	x	x	x
Education Full-Text/Education Research Complete	x	x	x	x	x
Education: Sage Full-Text Collection	x	x	x	x	
ERIC	x	x	x	x	x
International Encyclopedia of Social & Behavioral Sciences	x	Print	x	x	Print
Mental Measurements Yearbook	x	x	Paper	x	x
MIT CogNet				x	
Professional Development Collection	x	x	x	x	
PsycArticles	x	x	x	x	x
PsycBooks	x	x		x	
PsycINFO	x	x	x	x	x
Psychology: Sage Full-Text Collection	x	x	x		
PubMed (Medline)	x	x	x	x	x
Sociological Abstracts	x	x	x	x	x

Web of Science (Social Science Citation Index; Science Citation Index)	x	x	x	x	x
What Works Clearinghouse	x			x	
WorldCat	x	x	x	x	x
ABI Inform	x	x	x	x	x
Academic Search Premier/Academic OneFile	x	x	x		x
Blackwell Synergy	x	x	x		x
Business Source Premier/Business Source Complete	x	x			
Expanded Academic ASAP		x	x		x
InfoTrac OneFile	x	x	x		x
Lexis Nexis Academic	x	x	x		x
OmniFile Full-Text	x	x			
Oxford Journals Online	x	x			x
Springer LINK	x	x	x		x
Wiley Interscience	x	x	x		x

Observation: *Databases at UCF Libraries are sufficient to support the proposal without additions.* While MIT CogNet and the Annual Review of Psychology would be nice additions, they are not imperative at the Master's level.

Books

Topic area translated into subject headings	**UCF**	**UF**	**MSU**	**PSU**	**VT**	**Stan ford**
Ability grouping in education	82	191	118	110	61	106
Abstraction	20	41	36	43	24	176
Achievement motivation	191	257	204	241	141	246
Active learning	181	150	159	169	84	85
Adult learning	168	221	134	205	124	117
Apperception	32	47	22	45	22	57
Attention	476	607	567	557	434	300
Attribution Social psychology	63	80	87	68	48	61
Awareness	328	622	57	516	42	525
Child psychology	1595	2906	1778	1915	1135	2611
Cognition **> 1984 (ok)**	**2071** **1662**	**2789** **1961**	**2290** **1447**	**2292** **1614**	**1783** **1440**	**2347** **1473**
Cognition and culture	145	205	131	182	129	201
Cognitive balance	4	3	5	3	1	6
Cognitive consistency	5	4	1	4	5	5
Cognitive dissonance	9	21	22	21	13	36
Cognitive learning	143	145	145	123	81	139
Cognitive maps Psychology	12	16	10	16	9	13
Cognitive psychology	200	200	158	190	131	300
Cognitive styles	185	201	155	167	103	89

Comprehension	539	888	193	525	107	418
Conservation psychology	3	14	10	7	10	14
Differentiation cognition	4	4	8	2	5	8
Education	45,338	91,996	45,330	74,123	45,000	91,546
Education Study and teaching	786	1414	185	1210	72	5548
Educational psychology	**681**	**1610**	**986**	**1446**	**1505**	**1505**
>1984	**333**	**410**	**201**	**372**	**460**	**462**
Emotions and cognition	81	82	78	107	59	91
Experiential learning	164	202	234	192	111	111
Field dependence psychology	6	10	14	35	8	6
Imagination	355	635	433	774	323	602
Intelligence levels	104	172	233	140	137	180
Interest psychology	9	52	66	35	16	74
Knowledge management	569	411	466	436	466	454
Knowledge theory of	1442	2362	2162	2857	1419	2048
Learning	**5962**	**7573**	**4937**	**6894**	**6394**	**6396**
Learning psychology of	**1139**	**1529**	**1644**	**1493**	**1520**	**1520**
Learning theory of	2	4	2	41	86	186
Listening	125	266	163	157	103	130
Mastery learning	7	5	5	4	5	3
Metacognition	35	50	39	28	27	23
Motivation	**1553**	**1761**	**1365**	**1730**	**690**	**1425**
Motivation in education	**377**	**450**	**376**	**350**	**231**	**328**
Open learning	52	45	25	59	27	39
Organizational learning	**392**	**294**	**301**	**321**	**278**	**252**
Pedagogy	**477**	**438**	**7**	**423**	**3**	**323**
Perception	2703	3881	828	3935	466	3753
Personality and cognition	13	14	15	51	13	54
Students psychology	238	359	47	286	29	341
Subconsciousness	148	178	174	196	146	291
Teachers Training of	1739	3609	2510	2988	784	2830
Teaching	**25,246**	**44,415**	**17,101**	**41,154**	**1793**	**43,386**
Thought and thinking	730	1032	1025	1022	592	1129
Totals	96,928	174,461	87,041	149,888	66,795	172,434

Sample list of reference book titles in the UCF Libraries:

- Cambridge Handbook of the Learning Sciences LB 1060 .C35 2006
- Oxford Companion to the Mind, 2004. Reference BF 31 .O94
- MIT Encyclopedia of the Cognitive Sciences Reference BF 311. M556
- Handbook of Child Psychology Reference BF 721 .H242 2006
- International Encyclopedia of the Social and Behavioral Sciences
- Handbook of Research on Teaching Reference LB 1028 .H315
- Handbook of Educational Psychology LB 1051 .H2354 2006

- Educational Psychology: Theory and Practice LB 1051 .S615
- Handbook of Education and Human Development: New Models of Learning, Teaching and Schooling LB 1115 .H313 1998
- Encyclopedia of the Human Brain Reference QP 376 .E86

Observations regarding the book collection: The book collection at the University of Central Florida is solid enough to support a Master's program. The only recommendation I would make is an addition of 40 or so titles in the area of educational psychology to strengthen the existing collection. Currently our collection centers upon school or counseling psychology and not educational psychology which is the focus of the proposed program.

The University of Florida, Stanford and Penn State University have strong research collections with Doctorates in Educational Psychology. Should UCF pursue a doctorate in Educational Psychology, then our collection would need to reflect numbers closer to Penn State with its Learning and Instruction emphasis.

Journals:

For a list of education periodicals arranged by subject see
http://library.ucf.edu/Reference/Guides/EducationJournals/

Selective Journal Titles (Owned by the UCF Libraries) that would support the proposed program include:

American Journal of Education
Applied Cognitive Psychology
Brain and Cognition
Cognition
Cognition and Instruction
Cognitive Development
Cognitive Psychology
Consciousness and Cognition
Contemporary Educational Psychology
Current Issues in Education
Curriculum Inquiry
Developmental Psychology
Early Childhood Research and Practice
Early Childhood Research Quarterly
Educational Psychology
Educational Psychologist
Education and Urban Society
Educational and Psychological Measurement
Educational Philosophy and Theory
Elementary School Journal
Human Resource Development Quarterly
Incentive

Instructor
Journal of Cognition and Development
Journal of Counseling Psychology
Journal of Early Childhood Teacher Education
Journal of Education for Students Placed at Risk
Journal of Educational Psychology
Journal of Educational Research
Journal of Management Development
Journal of Management Education: a Publication of the Organizational Behavior Teaching Society
Journal of Organizational Behavior
Journal of Organizational Behavior Management
Journal of Staff Development
Journal of Teacher Education
Journal of Transformative Education
Leadership and Organization Development Journal
Learning and Motivation
Learning, Memory and Cognition
Pedagogy
Psychology of Learning and Motivation
Review of Education, Pedagogy, Cultural Studies
Review of Educational Psychology
Review of Educational Research
Simulation and Gaming
Teacher Education and Special Education
Teaching History
Teaching Pre K-8
Visual Cognition

Observations about the journal holdings: The current journal titles held by UCF will be sufficient to support the new master's degree program.

TO: Jeannette Ward, Associate Director for Technical Services

FROM: Michael A. Arthur, Head, Acquisitions & Collection Services Department

DATE: October 15, 2007

SUBJECT: Program Proposal for Master of Science Degree in Applied Learning and Instruction

This memorandum is being submitted for your review and approval. As library resources are essential to any new degree program, an analysis of library holdings in support of a Master of Science Degree in Applied Learning and Instruction (monographs and periodicals) was conducted by Terrie Sypolt at the request of Dr. Louis Nadelson, Assistant Professor in the College of Education. Terrie compared the collection at UCF against the University of Florida, the University of Michigan, Michigan State University, Stanford University, and Virginia Tech. I agree with Terrie's request for $6,000.00 ($2000.00 per year for three years) based on her conclusion that current collection strength will adequately support a master's level program.

Previous financial support for the UCF Libraries has resulted in a continued emphasis on print monographs, the foundation of a strong research library. However, current year funding levels will not permit the library to purchase any new materials in support of this program, and the expectations for 2008/2009 are not encouraging. In addition, the library is currently undergoing cancellations in journals and databases in order to meet the university wide budget cuts. Therefore, it is essential that the library receive the recommended funding as outlined by Terrie so that we can strengthen selected areas of the collection where we are weak against our peer institutions, and provide new materials during this period of reduced funding.

University of Central Florida

Library Administration

MEMORANDUM

TO: Dr. Louis S. Nadelson

FROM: Jeannette Ward
Associate Director of Technical Services

SUBJECT: Proposal for MA Degree in Applied Learning and Instruction

DATE: October 15, 2007

I have reviewed the collection analysis completed by Michael Arthur and Terrie Sypolt. A copy of that report is enclosed.

The Library is requesting $6,000 over three years to strengthen the research collection in such areas as Cognition, Motivation, and Educational Psychology.

Enclosure

cc: Barry Baker, Director of Libraries
Patricia Bishop, Vice Provost & Dean, Graduate Studies, MH 230
Michael Arthur, Acquisitions & Collection Services
Terri Sypolt, Reference Services

APPENDIX D
NEW COURSE SYLLABI

EDP 6XXX: Seminar in Applied Learning and Instruction I
University of Central Florida
College of Education

I. Descriptive Information

Department: Educational Studies
Course Title: Seminar in Applied Learning and Instruction I
Course Requirements:
Mode of Instruction: Lecture, discussion
Course Number: EDP 6XXX
Course Credit: 3 semester hours
Semester:
Instructor:
Email Address:
Office:
Office Hours:
Phone:

Catalog Description:

An overview of contemporary theories and research related to issues in human learning and instruction with an emphasis on practical applications for educational and workplace settings. This course will focus on affective and motivational issues surrounding learning and instruction.

II. Statement of Course Goals and Objectives

KEY:

ESOL = English for Speakers of Other Languages
FEAP = Florida Educator Accomplished Practices
PEC = Professional Education Competencies

Through a seminar style format, using class discussions, video and/or computer presentations, student presentations, written assignments, and group interactions, the student will, upon completion of the course, be able to:

1. Understand the role of psychology in general, and educational psychology in particular, plays in the modern classroom. (FEAP/PEC 7)
2. Distinguish more- from less-facilitating learning environments based on an understanding of educational psychological theory. (FEAP/PEC 3, 7, 9, 12; ESOL 18)
3. Create a positive classroom environment to accommodate the various learning styles and cultural backgrounds of students. (LEP). (ESOL 18/PEC 14)
4. Think critically about issues related optimal motivational, learning and instruction. (FEAP 4, PEC 4)

5. Gain an overview of the key problems issues related to teaching and learning in school and workplace settings.
6. Use problem solving skills to solve instructional challenges for diverse populations (FEAP 5, PEC 5)
7. Evaluate contemporary issues relating to learning such as multiple intelligence, theories, rewards, learning styles, diversity, critical thinking, high stakes testing, beliefs about learning, the role of teacher, and the nature and scope of learning. (FEAP 8, PEC 8)
8. Distinguish learning milestones in the development of expertise. (FEAP 7, PEC 7)
9. Evaluate instruction to promote meaningful learning and transfer. (FEAP 1, PEC 1)
10. Create research-based solutions to successfully address the challenges of learning and instruction found in educational and workplace settings. (FEAP 9)
11. Analyze, synthesize and evaluate at least one topic of interest in the area of educational psychology.
12. Critically evaluate a current practice concerning learning or instruction in an educational or workplace setting. (FEAP 1, PEC 1)

III. Required Texts and Readings

- Course pack of selected readings

Recommended Text:

- Publication Manual of the American Psychological Association (5^{th} ed.). (2001). Washington, D.C.: American Psychological Association

IV. Academic Course Requirements

1. Class Participation

Each week you are required to read all materials listed in the course outline. Your ability to discuss the reading material will partially contribute towards earning class participation points. Each week you should be prepared to contribute to class discussion and participate in group activities. Comments, concerns, questions and your personal perspectives will serve as the basis for our weekly class discussions. Thoughtful and creative critique of ideas, including alternative conceptions is warranted and encouraged. Group activities will consist of practical application of theoretical ideas introduced by your readings or discussions. You must be in class to earn credit for class participation and class participation points cannot be made up.

2. Problem Selection Assessment

One of the main objectives of this course is to apply theory in educational psychology to an actual instructional issue in the classroom or workplace. Beginning in Week One you should identify an actual or theoretical problem that will serve as the foundation for the entire semester. The problem you identify should be broad in scope and be one that is within your control to influence. The purpose of the problem selection assessment is to provide a foundation for you to apply your knowledge from the class. Each week you

will interpret the weekly readings and discussions and apply the knowledge to the problem you have identified.

The problem selection assessment is comprised of a 1 - 2 page double-spaced typed description of the issue you would like to influence or the problem you want to resolve. Your problem description should be completed using APA format and should specifically outline a) the problem, b) your goal, c) key individuals, d) the intended solution, and e) the methodology you plan to use to resolve the problem.

3. Analysis Paper

As a means of demonstrating your ability to apply theory to practice, you will critically analyze a classroom or workplace instructional issue that is of interest and/or concern to you. The analysis paper is the culmination paper for the course. The analysis paper consists of applying the research and theory related to the issue you have identified in the problem assessment. Each week we will review articles that offer various perspectives on instructional issues. Your task is to review key articles that relate to both side of the issue, evaluate the extant research on this topic, and then provide a synthesis of theory and research on this topic in the form of an action plan to address the issue of concern. Further details and a grading rubric are located on Webcourses@UCF.

4. Reflection Papers

Each week, you are required to submit a 1 - 2 page, typed, double-spaced reaction paper based upon the weekly readings. A weekly reaction paper requires you to read and reflect on the assigned reading before each class meeting. Agree or disagree with the authors' position or argument. Provide an example or counterexample that you have come across in your experience or have read in another text, or research article. Use the reaction paper to identify which aspects of the reading you found most important, or worthy of class discussion. Most importantly, discuss how the weekly readings might bear on the instructional or learning issue you will be addressing in your final paper. Be creative and thoughtful.

5. Lead a class discussion

Each week a student, or group of students will be responsible for leading the discussion on the weekly readings. For each weekly reading(s), student(s) will:

- Prepare a 20-minute discussion that reviews the reading for that day.
- Offer a critique and analysis of the article. What did you find helpful about the article? What was confusing? What are the practical implications of this article for learning or instruction? Ask relevant questions to start the discussion.
- Search for other relevant articles on the topic. It is the responsibility of the student to look for related articles and books in the library to help lead the discussion.
- Prepare overheads or handouts for the class discussion.

V. Administrative Course Requirements

1. Attendance and Participation

In the case of illness or emergency, contact the professor via **Course Mail** on **Webcourses** before your absence if possible or soon afterward to explain the absence. *More than 1 absence or 1 day of not being prepared for class may result in up to 10 points being deducted from your final grade***.** Pagers and cell phones must be either turned off or set to a silent mode such as vibrate.

2. Technology Use during F2F Classes

Bringing your laptop to use during class is a privilege; therefore, students are expected to use computers appropriately for note-taking and other class-related purposes. Using a computer or other electronic device (PDA, cell phone, MP3 player, etc.) to engage in non-class related activities such as instant messaging, web surfing, checking email, etc. will result in the loss of such privileges of use during class.

3. Academic Integrity

Students will be held to the following standards of the UCF Creed:

a) *Integrity*: I will practice and defend academic and personal honesty.
b) *Scholarship*: I will cherish and honor learning as a fundamental purpose of my membership in the UCF community.
c) *Community*: I will promote an open and supportive campus environment by respecting the rights and contributions of every individual.
d) Creativity: I will use my talents to enrich the human experience.
e) Excellence: I will strive toward the highest standards of performance in any endeavor I undertake.

In addition, all work submitted for this course must be original work, created specifically in response to the course assignments as listed in the syllabus and may not be from assignments submitted for other classes.

4. A Word on Cheating and Plagiarism:

Academic dishonesty in any form will not be tolerated! Violations of student academic behavior standards are outlined in The Golden Rule, the University of Central Florida's Student Handbook. See http://www.ucf.edu/goldenrule/ for further details.

1. Cheating is defined as non-permissible written, visual or oral assistance including that obtained from another student that is used on examinations, course assignments or projects. The unauthorized possession or use of examination or course related material shall also constitute cheating.

2. Plagiarism is defined as deliberately using or appropriating another's work without any indication of the source, thereby attempting to convey the impression that such work is the student's own. Any student failing to properly credit ideas or materials taken from another has plagiarized. This includes copying and pasting website content into one's papers without proper citation.

NOTE: *Wikipedia*, an online "encyclopedia" is neither a reliable nor reputable source for research. Student papers or projects citing or using Wikipedia as a source will receive a grade of 0.

3. A student who has assisted another in any of the aforementioned breach of standards shall be considered **equally** culpable.

ACADEMIC ACTION
** Taken by Instructor, Chair, or Dean of College**
1. Loss of credit for specific assignment, examination or project.
2. Removal from course with a grade of "F" and/or

CONDUCT REVIEW ACTION
Taken by the Office of Student Conduct
1. Warning
2. Probation
3. Suspension
4. Expulsion
5. Permanent conduct record with UCF accessible by other institutions by request.

For more information, please contact the Office of Student Conduct at 823-2851.

VI. Evaluation and Grading system

To be fair to all students in this class, *all assignments are due on time*. There is no makeup procedure for missed assignments. An extra credit assignment (see below) is available for those who want to make up missed work. No exams will be given early or late. Special arrangements may be made in cases of emergency. Please contact the professor in such situations.

NOTE: The withdrawal deadline for the semester is posted on the *ucf.edu* website. Incompletes are only given in very rare circumstances involving last minute, grave emergencies, to students of good academic standing in the class at the time of the emergency. Therefore, if you are concerned about a possible failing grade, you are encouraged to withdraw from class before the withdrawal deadline.

Grades

Grading Component	% of Grade
Problem selection	10%
Participation	10%
Reflection papers	20%
Facilitation of class discussion	20%
Analysis paper—outline	10%
Analysis paper—final draft	30%
Total	100%

1. Grading Scale

A	93-100%	C	73-76%
A-	90-92%	C-	70-72%
B+	87-89%	D+	67-69%
B	83-86%	D	63-66%
B-	80-82%	D-	60-62%
C+	77-79%	F	0-59%

VII. Major Topics of the Course

- What is educational psychology?
- Current controversies
- Development and individual differences
- Social cognition
- Affect and emotions
- Motivation
- Beliefs and belief change
- Educational contexts
  - Teaching
  - Peers
- Societal and cultural perspectives

VIII. Student Disability Statement

Students with disabilities are not required to register with any office or department on campus. However, when requesting specific classroom accommodations for a disability, these students are required to register with Student Disability Services before receiving

accommodations. At the University of Central Florida, the Office of Student Disability Services (SDS) is responsible for coordinating and implementing disability services for students. Student Disability Services is the located in the Student Resource Center Room 132, phone (407) 823-2371, TTY (Text Telephone) / TDD (Telecommunication Device for the Deaf) only phone (407) 823-2116 or e-mail: sds@mail.ucf.edu.

IX. Schedule of Classes

EDP 6XXX COURSE SCHEDULE

Date	Topic	Reading Required
Week 1	**What is educational psychology?**	
Week 2	**Current controversies**	Reflection Paper due
Week 3	**Development and individual differences**	Reflection Paper due **Problem assessment due**
Week 4	**Development and individual differences** Student-led discussions: Group A	Reflection Paper due
Week 5	**Social cognition** Student-led discussions: Group B	Reflection Paper due
Week 6	**Affect and emotions** Student-led discussions: Group C	Reflection Paper due **Outline due**
Week 7	**Self beliefs** Student-led discussions: Group D	Reflection Paper due
Week 8	**Motivation: Goal theory** Student-led discussions: Group E	Reflection Paper due
Week 9	**Motivation: Intrinsic vs. extrinsic** Student-led discussions: Group F	Reflection Paper due
Week 10	**Motivation: Praise, & Self-Regulation** Student-led discussions: Group G	Reflection Paper due
Week 11	**Beliefs and belief change** Student-led discussions: Group H	Reflection Paper due **Draft of Final Paper due**
Week 12	**Educational contexts: Teaching** Peer assessment of rough drafts	Reflection Paper due
Week 13	**Educational contexts: Peers** Student-led discussions: Group I	Reflection Paper due **Final paper due**
Week 14	**Societal and cultural perspectives** Student-led discussions: Group J	Reflection Paper due
Week 15	**Current controversies revisited**	**Paper revisions due**
Finals week	**Completion of student-led discussions**	

X. Teaching Strategies Used:

Peer Tutoring Problem Solving Researching Show Patterns Summarize Predictions Venn Diagrams Compare/Contrast Flow Charts Concept Mapping Overheads Brainstorming Group discussion Use student's experiences Graphic organizers Group reading Analyze, evaluate, synthesize Models

XI. Syllabi Addendum

Course Title & Number: EDP 6XXX: Seminar in Applied Learning and Instruction
Faculty who teach this course (full- time, adjuncts, and TA's): Michele Gill, Ph.D., Bobby Hoffman, Ph. D., Kay Allen, Ph.D. ,

XII. ESOL STANDARDS

Standard #18: Create a positive classroom environment to accommodate the various learning styles and cultural backgrounds of students. (FEAP/PEC 5, 9)

Assessment: In at least one reflection paper, students will incorporate research and theory on diversity to provide at least one recommendation to improve the learning environment of students with various learning styles and cultural backgrounds.

XIII. Bibliography

(see attached)

EDP 6XXX: Seminar in Applied Learning and Instruction II
University of Central Florida
College of Education

XIV. Descriptive Information

Department: **Educational Studies**
Course Title: **Seminar in Applied Learning and Instruction II**
Course Requirements:
Mode of Instruction: **Lecture, discussion**
Course Number: **EDP 6XXX**
Course Credit: **3 semester hours**
Semester:
Instructor:
Email Address:
Office:
Office Hours:
Phone:

Catalog Description:

An overview of contemporary theories and research related to issues in human learning and instruction with an emphasis on practical applications for educational and workplace settings. This course is a continuation of the Applied Learning and Instruction Seminar I with an emphasis on cognition, critical thinking, problem solving, individual differences, and assessment of learning outcomes.

XV. Statement of Course Goals and Objectives

KEY:

ESOL = English for Speakers of Other Languages
FEAP = Florida Educator Accomplished Practices
PEC = Professional Education Competencies

Through a seminar style format, using class discussions, video and/or computer presentations, student presentations, written assignments, and group interactions, the student will, upon completion of the course, be able to:

13. Understand the role of psychology in general, and educational psychology in particular, plays in the modern classroom. (FEAP/PEC 7)
14. Distinguish more- from less-facilitating learning environments based on an understanding of educational psychological theory. (FEAP/PEC 3, 7, 9, 12; ESOL 18)
15. Create a positive classroom environment to accommodate the various learning styles and cultural backgrounds of students. (LEP). (ESOL 18/PEC 14)

16. Think critically about issues related optimal motivational, learning and instruction. (FEAP 4, PEC 4)
17. Gain an overview of the key problems issues related to teaching and learning in school and workplace settings.
18. Use problem solving skills to solve instructional challenges for diverse populations (FEAP 5, PEC 5)
19. Evaluate contemporary issues relating to learning such as multiple intelligence, theories, rewards, learning styles, diversity, critical thinking, high stakes testing, beliefs about learning, the role of teacher, and the nature and scope of learning. (FEAP 8, PEC 8)
20. Distinguish learning milestones in the development of expertise. (FEAP 7, PEC 7)
21. Evaluate instruction to promote meaningful learning and transfer. (FEAP 1, PEC 1)
22. Create research-based solutions to successfully address the challenges of learning and instruction found in educational and workplace settings. (FEAP 9)
23. Analyze, synthesize and evaluate at least one topic of interest in the area of educational psychology.
24. Critically evaluate a current practice concerning learning or instruction in an educational or workplace setting. (FEAP 1, PEC 1)

XVI. Required Texts and Readings

- Course pack of selected readings

Recommended Text:

- *Publication Manual of the American Psychological Association* (5th ed.). (2001). Washington, D.C.: American Psychological Association

XVII. Academic Course Requirements

1. Class Participation

Each week you are required to read all materials listed in the course outline. Your ability to discuss the reading material will partially contribute towards earning class participation points. Each week you should be prepared to contribute to class discussion and participate in group activities. Comments, concerns, questions and your personal perspectives will serve as the basis for our weekly class discussions. Thoughtful and creative critique of ideas, including alternative conceptions is warranted and encouraged. Group activities will consist of practical application of theoretical ideas introduced by your readings or discussions. You must be in class to earn credit for class participation and class participation points cannot be made up.

2. Problem Selection Assessment

One of the main objectives of this course is to apply theory in educational psychology to an actual instructional issue in the classroom or workplace. Beginning in Week One, you should identify an actual or theoretical problem that will serve as the

foundation for the entire semester. The problem you identify should be broad in scope and be one that is within your control to influence. The purpose of the problem selection assessment is to provide a foundation for you to apply your knowledge from the class. Each week you will interpret the weekly readings and discussions and apply the knowledge to the problem you have identified.

The problem selection assessment is comprised of a 1 - 2 page double-spaced typed description of the issue you would like to influence or the problem you want to resolve. Your problem description should be completed using APA format and should specifically outline a) the problem, b) your goal, c) key individuals, d) the intended solution, and e) the methodology you plan to use to resolve the problem.

3. Analysis Paper

As a means of demonstrating your ability to apply theory to practice, you will critically analyze a classroom or workplace instructional issue that is of interest and/or concern to you. You must choose a different issue than the one selected in Current Readings I. The analysis paper is the culmination paper for the course. The analysis paper consists of applying the research and theory related to the issue you have identified in the problem assessment. Each week we will review articles that offer various perspectives on instructional issues. Your task is to review key articles that relate to both side of the issue, evaluate the extant research on this topic, and then provide a synthesis of theory and research on this topic in the form of an action plan to address the issue of concern. Further details and a grading rubric are located on Webcourses@UCF.

4. Reflection Papers

Each week, you are required to submit a 1 - 2 page, typed, double-spaced reaction paper based upon the weekly readings. A weekly reaction paper requires you to read and reflect on the assigned reading before each class meeting. Agree or disagree with the authors' position or argument. Provide an example or counterexample that you have come across in your experience or have read in another text, or research article. Use the reaction paper to identify which aspects of the reading you found most important, or worthy of class discussion. Most importantly, discuss how the weekly readings might bear on the instructional or learning issue you will be addressing in your final paper. Be creative and thoughtful.

5. Lead a class discussion

Each week a student or group of students will be responsible for leading the discussion on the weekly readings. For each weekly reading(s), student(s) will:

- Prepare a 20-minute discussion that reviews the reading for that day.

- Offer a critique and analysis of the article. What did you find helpful about the article? What was confusing? What are the practical implications of this article for learning or instruction? Ask relevant questions to start the discussion.
- Search for other relevant articles on the topic. It is the responsibility of the student to look for related articles and books in the library to help lead the discussion.
- Prepare overheads or handouts for the class discussion.

XVIII. Administrative Course Requirements

4. Attendance and Participation

In the case of illness or emergency, contact the professor via **Course Mail** on **Webcourses** before your absence if possible or soon afterward to explain the absence. *More than 1 absence or 1 day of not being prepared for class may result in up to 10 points being deducted from your final grade***.** Pagers and cell phones must be either turned off or set to a silent mode such as vibrate.

5. Technology Use during F2F Classes

Bringing your laptop to use during class is a privilege; therefore, students are expected to use computers appropriately for note-taking and other class-related purposes. Using a computer or other electronic device (PDA, cell phone, MP3 player, etc.) to engage in non-class related activities such as instant messaging, web surfing, checking email, etc. will result in the loss of such privileges of use during class.

6. Academic Integrity

Students will be held to the following standards of the UCF Creed:

f) *Integrity*: I will practice and defend academic and personal honesty.
g) *Scholarship*: I will cherish and honor learning as a fundamental purpose of my membership in the UCF community.
h) *Community*: I will promote an open and supportive campus environment by respecting the rights and contributions of every individual.
i) Creativity: I will use my talents to enrich the human experience.
j) Excellence: I will strive toward the highest standards of performance in any endeavor I undertake.

In addition, all work submitted for this course must be original work, created specifically in response to the course assignments as listed in the syllabus and may not be from assignments submitted for other classes.

4. A Word on Cheating and Plagiarism:

Academic dishonesty in any form will not be tolerated! Violations of student academic behavior standards are outlined in The Golden Rule, the University of Central Florida's Student Handbook. See http://www.ucf.edu/goldenrule/ for further details.

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NOTE: *Wikipedia*, an online "encyclopedia" is neither a reliable nor reputable source for research. Student papers or projects citing or using Wikipedia as a source will receive a grade of 0.

3. A student who has assisted another in any of the aforementioned breach of standards shall be considered **equally** culpable.

ACADEMIC ACTION
** Taken by Instructor, Chair, or Dean of College**
1. Loss of credit for specific assignment, examination or project.
2. Removal from course with a grade of "F" and/or

CONDUCT REVIEW ACTION
Taken by the Office of Student Conduct
1. Warning
2. Probation
3. Suspension
4. Expulsion
5. Permanent conduct record with UCF accessible by other institutions by request.
For more information, please contact the Office of Student Conduct at 823-2851.

XIX. Evaluation and Grading system

To be fair to all students in this class, *all assignments are due on time*. There is no makeup procedure for missed assignments. An extra credit assignment (see below) is available for those who want to make up missed work. No exams will be given early or late. Special arrangements may be made in cases of emergency. Please contact the professor in such situations.

NOTE: The withdrawal deadline for the semester is posted on the *ucf.edu* website. Incompletes are only given in very rare circumstances involving last minute, grave emergencies, to students of good academic standing in the class at the time of the emergency. Therefore, if you are concerned about a possible failing grade, you are encouraged to withdraw from class before the withdrawal deadline.

2. Grades

Grading Component	% of Grade
Problem selection	10%
Participation	10%
Reflection papers	20%
Facilitation of class discussion	20%
Analysis paper—outline	10%
Analysis paper—final draft	30%
Total	100%

3. Grading Scale

A	93-100%	C	73-76%
A-	90-92%	C-	70-72%
B+	87-89%	D+	67-69%
B	83-86%	D	63-66%
B-	80-82%	D-	60-62%
C+	77-79%	F	0-59%

XX. Major Topics of the Course

- Current controversies, part two
- Cognition and cognitive processes
  - Critical thinking
  - Problem solving
  - Knowledge versus beliefs
  - Metacognition and skill acquisition
- Individual differences
  - Intelligence and the development of expertise
  - Diversity, learning disabilities, and cultural differences
- Educational contexts
  - Technology

- Assessment of learning and teaching
- The future of educational psychology

XXI. Student Disability Statement

Students with disabilities are not required to register with any office or department on campus. However, when requesting specific classroom accommodations for a disability, these students are required to register with Student Disability Services before receiving accommodations. At the University of Central Florida, the Office of Student Disability Services (SDS) is responsible for coordinating and implementing disability services for students. Student Disability Services is the located in the Student Resource Center Room 132, phone (407) 823-2371, TTY (Text Telephone) / TDD (Telecommunication Device for the Deaf) only phone (407) 823-2116 or e-mail: sds@mail.ucf.edu.

XXII. Schedule of Classes

EDP 6XXX COURSE SCHEDULE

Date	Topic	Reading Required
Week 1	**Overview/Introduction**	
Week 2	**Current controversies, part two**	Reflection Paper due
Week 3	**Cognition and cognitive processes**	Reflection Paper due **Problem assessment due**
Week 4	**Critical thinking** Student-led discussions: Group A	Reflection Paper due
Week 5	**Problem solving** Student-led discussions: Group B	Reflection Paper due
Week 6	**Metacognition and skill acquisition** Student-led discussions: Group C	Reflection Paper due **Outline due**
Week 7	**Knowledge versus beliefs** Student-led discussions: Group D	Reflection Paper due
Week 8	**Individual differences** Student-led discussions: Group E	Reflection Paper due
Week 9	**Intelligence and the development of expertise** Student-led discussions: Group F	Reflection Paper due
Week 10	**Diversity, learning disabilities, and cultural differences** Student-led discussions: Group G	Reflection Paper due
Week 11	**Educational contexts: Technology** Student-led discussions: Group H	Reflection Paper due **Draft of Final Paper due**
Week 12	**Assessment of learning and teaching** Peer assessment of rough drafts	Reflection Paper due
Week 13	**Assessment of learning and teaching** Student-led discussions: Group I	Reflection Paper due **Final paper due**
Week 14	**The future of educational psychology** Student-led discussions: Group J	Reflection Paper due
Week 15	**Current controversies, revisited**	**Paper revisions due**
Finals week	**Completion of student-led discussions**	

XXIII. Teaching Strategies Used:

Peer Tutoring Problem Solving Researching Show Patterns Summarize Predictions Venn Diagrams Compare/Contrast Flow Charts Concept Mapping Overheads Brainstorming Group discussion Use student's experiences Graphic organizers Group reading Analyze, evaluate, synthesize Models

XXIV. Syllabi Addendum

Course Title & Number: EDP 6XXX: Seminar in Applied Learning and Instruction
Faculty who teach this course (full- time, adjuncts, and TA's): Michele Gill, Ph.D., Bobby Hoffman, Ph. D., Kay Allen, Ph.D. ,

XXV. ESOL STANDARDS

Standard #18: Create a positive classroom environment to accommodate the various learning styles and cultural backgrounds of students. (FEAP/PEC 5, 9)

Assessment: In at least one reflection paper, students will incorporate research and theory on diversity to provide at least one recommendation to improve the learning environment of students with various learning styles and cultural backgrounds.

XXVI. Bibliography

(see attached)

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APPENDIX E
SAMPLE EMAIL INQUIRIES

E. SAMPLE EMAIL INQUIRIES ABOUT THE MA IN APPLIED LEARNING DEGREE PROGRAM

>>> "Stephenson, Robert J." <stepher@ocps.k12.fl.us> 2/13/2007 10:02 AM >>>

Greetings and salutations, Dr. Gill.

My name is Robert Stephenson and I was in one of your developmental courses about two years ago for the Initial Teacher Preparation Program. I had very little understanding of or exposure to educational psychology from my undergraduate degree in biopsychology from UC Davis, but a new career interest in teaching and developmental theory, as well as you and your course were very inspiring, so I started investigating. I intended on completing the ITPP to finish my teaching certificate and then continuing on into one of the Masters of Education programs at UCF and hopefully on to a doctorate program, however I got a little sidetracked. My daughter was born ten months ago and both my wife and I slowed down to transition into parenthood. Well, that and we ran out of money. (As any proud papa, I attached a picture. Email is now the virtual plastic wallet photo window. Plus I know you like kids so you'll appreciate her fangs and gooey face.)

Now things are starting to align where I can continue my coursework and I noticed on the availability schedule on your door that you are working on an Educational Psychology Masters program. Is any literature available or a description of the program online yet? When will the program officially start? Would you be the mentor professor? (...I say that in a good way, as in "I would very much like to be your student" as opposed to the "Uh oh, not Professor Gill again...")

Any information will be helpful as I make the transition back into university and UCF.

Many thanks,

- Robert Stephenson

Behavioral Science Teacher
Olympia High School
http://www.olympiahigh.ocps.net/ <http://www.olympiahigh.ocps.net/>
4301 South Apopka Vineland Road
Orlando, FL 32835
(407) 905-6400 x 4089
stepher@ocps.net <mailto:stepher@ocps.net>

Bobby Hoffman - MA Degree in Applied Learning & Instruction
From: "Johns, David" <JohnsD@vfservices.com>

To: <mgill@mail.ucf.edu>, <bhoffrnan@mail.ucf.edu>

Date: 2/16/2007 10:53 AM

Subject: MA Degree in Applied Learning & Instruction

To Whom It May Concern:

We have received and reviewed your recent letter regarding possible input to develop a curriculum for a Master of Arts degree in Applied Learning and Instruction. We applaud your efforts and would like very much to be involved in assisting you with this project.

Value has spent many years studying ways to find prospective employees who have **initiative** that can adapt to our way of doing business. We have spent an equal amount of time understanding how best to **engage** our work teams once we have selected the best candidate for the position. **The result of our studies and the implementation of our findings is that Value is the most profitable operation on a per unit basis in our industry in the United States.**

Our research and development of learning experiences for our employees along with our ability to measure and predict productivity have become hallmarks in our industry. In a similar manner, UCF can become a significant contributor to the success of business and industry in Florida by casting a jaundice eye on the worker candidate pool in Florida today (simply stated, **it stinks)** and developing ways to better prepare students for the workplace. At the same time, your mission can be enhanced by teaching about ways to take away obstacles to learning and development in the workplace if the candidate is, indeed, the right candidate.

If you wish to visit with us, we would be pleased to participate in this effort. You should know in advance that we will be candid and straightforward in our discussions about what we have found regarding the lack of preparation on the part of both high school and college graduates relative to the ability of these graduates to become productive participants in a for profit environment.

While his schedule is very crowded, it might be helpful for you to spend some time with our founder and CEO, John Thedford. John has been the driving force behind Value's journey over the past ten years to where we are today. Not only are we the most profitable on a per store basis in our entire industry, but we have an employee turnover figure that is the envy of retail nationwide. We have been told by the Gallup Organization that we are among their very best and most successful clients worldwide. Gallup has further documented that the level of customer satisfaction as well as the level of employee satisfaction at Value is among the highest of all their clients worldwide. This unprecedented level of success has been the result of a vision John has had since opening our first store in the early 90's.

While John is the driving force behind our success, our entire management team, from store managers to our officers, clearly understands and supports our position that any and all success comes from our people….. **engaged people who have initiative.**

If you can come up with a curriculum that will help educators understand how to define, identify and support engagement and initiative among any workforce, then you will succeeded beyond your wildest dreams.

Visit our web site at www.valuepawnandjewelry.com for more information about our company. Call on us if you feel we can contribute to your effort.

David Johns
Vice President - Administration
Value Pawn & Jewelry Stores, Inc.
1063 Maitland Center Commons Blvd. #200
Maitland, Florida 32751
407-339-0064 - Extension 229 - Office
407-257-9402 - Cellular
407-64 1 -9855 - EFAX
johnsd @vfservices.com

>>> **Atsusi Hirumi 6/15/2007 8:46 AM** >>>

Dear Michele:

Thanks for thinking about us. I would be very supportive and in favor of establishing an MA in Educational Psychology with a specialization in Training. As I'm sure you know, learning theories and research on how and why people learn are foundational to the field of instructional technology and I would like to establish stronger ties with individuals and programs that specialize in Ed/Cog Psych. Several initial thoughts:

1. We offer a basic instructional design (EME6613 Instructional Systems Design) and an advanced instructional design course (EME7634 Advanced ISD). Then we offer courses that focus on more specific applications of the systematic design process (e.g., EME6601 Instructional Simulation Design; EME6614 Instructional Game Design; EME6547 Distance Education). These MAY be the most appropriate/relevant.

2. We also have a series of courses (EME6607, EME6209) that focus on the "production" side of the field (creating digital audio, video, text and graphics). These may be of some interest to a few candidates in planned program.

3. We also offer courses that address important issues/aspects of our field, such as, but not limited too: (a) project management (EME6705 Administration of IS); (b) needs assessment, change, and non-training interventions (EME6607 Planned Change); (c) research specific to our field (EME6062 Research in IT); and (d) current trends (EME6503 and IDS6503). These may be of some interest to some candidates in planned program.

In (very) short, people in our field have to have a very strong skills and knowledge in instructional design that they can apply in different ways (Course set #1 above), then they tend to gravitate toward production oriented skills (set #2) or other leadership/design/research oriented skills (Course set #3).

4. Another issue to consider is setting. We apply our skills and knowledge in PreK-12 settings (focusing on use and integration of computer technology and digital media); Corporate and Industry Settings (concentrating on the design of training programs and materials); and Higher Education settings (working with faculty to design digital assets and/or online and hybrid courses). Obviously, there is a lot of overlap. Depending on the setting you want prepare your candidates for, we would probably select different coursework.

5. All of our certificate and masters level coursework are offered in totally online web (W) and mixed (M) mode. For course descriptions and our "master" course schedule, please go to our

program website at http://insttech.education.ucf.edu and look under "Programs."

6. Just for your knowledge, I am pursuing neuro-biological theories/research/explanations for how and why people learn. Some have referred to such studies as "Brain-Based Learning." Related research, concepts and principles are provided a strong foundation for my specific area of interest (designing innovative learning environments applying the principles of interactive entertainment). I plan to seek relationships with new med. school, as well as fostering relationships with medical and health related programs in the area.

Thanks again for thinking about us. Personally, I would love to see us set up an Ed. Psych. degree program. I would love to be able to send my students over to your program to strengthen, as well as broaden there knowledge of Ed./Cog. Psych.

I hope that helps. Please let me know if you need/want any further information.

2c

Atsusi "2c" Hirumi, Ph.D.
Associate Professor & Co Chair
Instructional Technology
University of Central Florida
407.823.1760
hirumi@mail.ucf.edu
http://insttech.education.ucf.edu

APPENDIX F

LETTERS TO SCHOOLS AND BUSINESSES

F. LETTERS TO SCHOOLS AND BUSINESSES

November 8, 2007

Ms. Teacher
School Middle School
Orlando, FL 32816

Dear Ms. T:

Are you or other teachers and administrators at your school interested in obtaining an advanced degree in education that will allow you to apply the latest research on how people learn to improve your ability to teach both children and adults? Would you like a flexible program that is tailored to those who work full-time by offering night and online classes? The Department of Educational Studies at UCF is currently developing a program to address these needs and we would like your help. If you experience one or more of these challenges to learning in your schools, we need your opinion:

- Changing the beliefs, attitudes and behaviors of students, parents, teachers, and administrators as to what constitutes good instruction
- Understanding what motivates learners
- Identifying and implementing the latest findings from important research
- Deciding how, when, where and in what modality to provide the most effective instruction

Our goal is to develop a Master of Arts degree in Applied Learning and Instruction. Individuals completing this combine online and in-person program will be qualified to:

- Diagnosis obstacles to effective learning
- Evaluate evidence-based research to select the most useful instructional methods
- Implement techniques to motivate learners and teachers
- Design and develop customized assessments to enhance learning
- Design and select optimal learning environments
- Assess and measure the success of learning initiatives

With your assistance we can design a program that will work within your existing school structure to help bring the latest skills and strategies to your students and teachers. We will be contacting you by phone within the next few weeks to collect your input and assess your interest in this exciting new program. In the interim, if you would like to designate a particular associate as our contact please email either one of us at mgill@mail.ucf.edu or bhoffman@mail.ucf.edu. Thank you for your time and consideration.

Best regards,

Dr. Michele Gill
Dr. Bobby Hoffman

November 8, 2007

Dr. Michele Bill
Director Human Resources
Progress Energy
Orlando, FL 32816

Dear Dr. Bill:

The rules changed a long time ago. The most successful businesses today are those equipped with the most versatile arsenal of skills, knowledge and talent. Organizations that devote time, energy, and resources to enhancing the development of their staff are simply more profitable ($). The challenge remains in deciphering the best way to design and deliver instruction while simultaneously cultivating a willingness to learn. The Department of Educational Studies at UCF is currently developing a program to address these needs and we would like your help. If you experience one or more of these challenges to cultivating talent and productivity we need your opinion:

- Changing the beliefs, attitudes and behaviors of employees
- Understanding what motivates employees
- Identifying and implementing the latest findings from important research
- Deciding how, when, where and in what modality to deliver training and instruction

Our goal is to develop a Master of Arts degree in Applied Learning and Instruction. Individuals completing this combine online and in-person program will be qualified to:

- Diagnosis workplace obstacles impeding the enhancement of skills
- Evaluate evidence-based research to increase productivity
- Implement techniques to motivate employees
- Design and develop customized tools to enhance learning
- Identify and perfect learning environments
- Assess and precisely measure the success of learning initiatives

With your assistance we can design a program that will bring the latest skills and strategies to your organization while concurrently enhancing the marketability of program participants. We will be contacting you by phone within the next few weeks to collect your input and assess your interest in this exciting new program. In the interim, if you would like to designate a particular associate as our contact please email either one of us at mgill@mail.ucf.edu or bhoffman@mail.ucf.edu. Thank you for your time and consideration.

Best regards,

Dr. Gill
Dr. Hoffman

COMPETITOR ANALYSIS – UCF PROGRAMS

COMPETITOR ANALYSIS – UCF PROGRAMS

School	Program Description	Core Courses	Credit Hours	Contact

COMPETITOR ANALYSIS – UCF PROGRAMS

School	Program Description	Core Courses	Credit Hours	Contact
UCF Industrial/ Organizational Psychology	The Master of Science degree program in Industrial/Organizational Psychology focuses on the application of psychological principles to organizations and emphasizes the major areas of selection and training of employees, applied theories of organizational behavior including models of motivation, job satisfaction, and productivity; test theory and construction; assessment center technology; statistics and experimental design and a variety of current topics. Industrial/Organizational graduates are involved in many issues of critical importance to society including fairness in the selection and treatment of employees, the creation of work environments that maximize the satisfaction and productivity of employees, and the study of technological influences on human performance.	Nonthesis Option Academic Course Work—35 Credit Hours • INP 6058 Job and Task Analysis (3 credit hours) • INP 6080 Advanced Practice in Industrial/Organizational Psychology (3 credit hours) • INP 6094 Current Topics in Industrial/Organizational Psychology (3 credit hours) • INP 6215 Assessment Centers and Leadership (3 credit hours) • INP 6317 Organizational Psychology and Motivation (3 credit hours) • INP 6605 Training and Performance Appraisal (3 credit hours) • PSY 6216 Advanced Research Methodology I (4 credit hours) • PSY 6308 Psychological Testing I (4 credit hours) • PSY 6318 Applied Testing and Selection (3 credit hours) • SOP 5059 Advanced Social Psychology (3 credit hours) • INP 6072 Applied Research Methods in Industrial/Organizational Psychology (3 credit hours) Practicum—3 Credit Hours • INP 6946 Industrial Psychology Practicum I (3 credit hours) Research—2 Credit Hours • INP 6908 Directed Independent Studies (2 credit hours) Thesis Option Academic Course Work—29 Credit Hours	40	**Psychology** University of Central Florida 4000 Central Florida Orlando, FL 32816 **Phone**: 407-823-4344 **Email**: psyinfo@mail.ucf.edu

COMPETITOR ANALYSIS – UCF PROGRAMS

School	Program Description	Core Courses	Credit Hours	Contact
UCF – M.A in Applied Experimental and Human Factors Psychology	Students enrolled in the Applied Experimental and Human Factors (AEHF) Ph.D. track may elect to earn a Master of Arts in AEHF Psychology in route to their doctorate. This is a nonterminal master's degree available only to students in the AEHF Psychology Ph.D. track. For more information, see the requirements for the AEHF Psychology Ph.D. track. "Human Factors" is an integrative approach to practice and design that focuses on the interaction between humans and the environment. It utilizes research, theory, and knowledge of human behavior, capabilities, and limitations to add the "human" into the scientific equation and make life easier, safer, and more enjoyable. The program's mission is to develop the capacity to design, conduct, and apply human factors research in a variety of professional settings.	Required Courses—67 Credit Hours • EIN 5248C Ergonomics (3 credit hours) • EIN 6258 Human Computer Interaction (3 credit hours) • EXP 5256 Human Factors I (3 credit hours) • EXP 6257 Human Factors II (3 credit hours) • EXP 6258 Human Factors III (3 credit hours) • EXP 5208 Sensation and Perception (3 credit hours) • EXP 6116 Visual Performance (3 credit hours) • EXP 6255 Human Performance (3 credit hours) • EXP 6506 Human Cognition and Learning (3 credit hours) • EXP 6541 Advanced Human-Computer Interaction (3 credit hours) • INP 7089 Human Factors Professional Issues (1 credit hour) • INP 6317 Organizational Psychology and Motivation (3 credit hours) • PSB 5005 Physiological Psychology (3 credit hours) • PSY 6216 Advanced Research Methodology I (4 credit hours) • PSY 6217 Advanced Research Methodology II (4 credit hours) • PSY 6219C Advanced Research Methods III (4 credit hours) • PSY 7980 Doctoral Dissertation (15 credit hours) • SOP 5059 Advanced Social Psychology (3 credit hours) Internship—6 Credit Hours • EXP 6945 Human Factors Internship (8 credit hours; to be completed sometime during the last two years of program) 211 Electives—18 Credit Hours Students should choose electives in concentrated course groupings: for example, human-machine systems, performance measurement and evaluation, or simulation and training. Other elective course groupings may be developed for the student's specific interests. Six credit hours of electives must be taken	Minimum of 76 credit hours beyond the bachelor's degree. Required Core Courses —52 Credit Hours	**Psychology** University of Central Florida 4000 Central Florida Orlando, FL 32816 **Phone**: 407-823-4344 **Email**: psyinfo@mail.ucf.edu

COMPETITOR ANALYSIS – UCF PROGRAMS

School	Program Description	Core Courses	Credit Hours	Contact
UCF-Curriculum and Instruction	The Master's of Curriculum and Instruction program is designed to give educators a broad, general background, and allows them to pursue their interests in a wide variety of topics. It offers specializations in: curriculum studies, foreign language education, gifted middle school, multicultural and global, pre-K handicapped, and sports leadership. The program is designed for educators interested in becoming better classroom teachers, becoming curriculum and instruction leaders in their schools or school district, or performing instructional design tasks in military, industry, or business settings.	Professional Teaching Certification Courses—15 Credit Hours Social Factors in American Education Principles of Instruction Lifespan Human Development and Learning Measurement and Evaluation in Education An approved special methods course in teaching field Core C&I Courses—12-15 Credit Hours Required: Analysis of Classroom Teaching Fundamentals of Graduate Research in Education Curriculum Theory and Organization Integrating Technology into the Curriculum And, if needed, one of the following electives: Learning Theories Applied to Classroom Instruction and Management Assessment of Learning Perspectives on Education Contemporary Issues in Education Concentration—9-12 Credit Hours Option I: Approved electives in subject area to meet certification (9-12 credit hours) Option II: Select one of the track options offered in the M.Ed. Program (12-15 credit hours) Internship—Optional—Only required for students who have no teaching experience. EDG 6940 Graduate Internship (6 hours)	36-42 credit hours	David Boote, Ph.D., dboote@mail.ucf.edu phone: (407) 823-4160

COMPETITOR ANALYSIS – UCF PROGRAMS

School	Program Description	Core Courses	Credit Hours	Contact
UCF-Lockstep M.B.A	The 33-month lockstep evening MBA is targeted towards applicants who wish to obtain a MBA degree while continuing in their career path. This program admits only in the fall semester and offers two evening courses per semester allowing for graduation in 33 months. Classes meet two times a week every Fall and Spring semesters and during the second summer of the program.	Professional Core (39 hours) Core I: Decision-Making Tools (18 hours) • BUL 6444 Law and Ethics (3 hours)* • ECO 6416 Applied Business Research Tools (3 hours) • MAN 6245 Organizational Behavior & Development (3 hours) • ACG 6425 Managerial Accounting Analysis (3 hours) Accounting undergraduate majors may not take ACG 6425, but may substitute any other business elective. • ECO 6115 Economic Analysis of the Firm (3 hours) • GEB 6365 International Business Analysis (3 hours) Core II: Decision Applications (12 hours) • MAR 6816 Strategic Marketing Management (3 hours) • FIN 6406 Strategic Financial Management (3 hours) • ISM 6367 Strategic Information Systems (3 hours) • MAN 6721 Applied Strategy and Business Policy (3 hours) Requires grade of "B" or better. Electives (9 hours) Unrestricted electives include any 6000 level business course. All pre-requisites must be met for any elective course. A maximum of two courses or 6 hours may be taken outside the College of Business, with permission from the Associate Dean for Graduate Programs prior to taking the course. A maximum of 6 hours may be used toward an internship or independent study. The MBA program does not require a thesis or a comprehensive exam.	39 hours	Graduate Business Programs Office- 407-823-4723 or cbagrad@bus.ucf.edu

COMPETITOR ANALYSIS – UCF PROGRAMS

School	Program Description	Core Courses	Credit Hours	Contact
UCF- M.B.A	. Applicants selected for the One-Year MBA program will take courses restricted to students in a cohort group, and students will be able to choose from a variety of internship and elective options. The One-Year MBA begins each fall semester and is a limited access program.	MBA Foundation Core (12 hours) Students that do not have an undergraduate degree in Business Administration, or do not have the equivalent undergraduate coursework, will be required to complete the MBA Foundation Core prior to starting the one year MBA. Apply to MBA with foundation core for Spring or Summer admission if you need this option. • Accounting Foundations • Foundations of Finance • Economic Concepts with Math Applications • Business Statistical Concepts and Methods MBA Professional Core (39 hours) Fall Semester (12 hours) • MAN 6245 Organizational Behavior and Development (3 hours) • ECO 6416 Applied Business Research Tools (3 hours) • ECO 6115 Economic Analysis of the Firm (3 hours) • ACG 6425 Managerial Accounting Analysis (3 hours) Spring Semester (9 hours) • BUL 6444 Law and Ethics (3 hours) • MAR 6816 Strategic Marketing Management (3 hours) • FIN 6406 Strategic Financial Management (3 hours) Summer Semester (9 hours) • GEB 6365 International Business Analysis (3 hours) • MAN 6721 Applied Strategy and Business Policy (3 hours) • ISM 6367 Strategic Information Systems (3 hours)		Graduate Business Programs Office- 407-823-4723 or cbagrad@bus.ucf.edu

COMPETITOR ANALYSIS – UCF PROGRAMS

School	Program Description	Core Courses	Credit Hours	Contact
UCF-Management-Human resources/ change management	The College of Business Administration offers a Master of Science in Management degree that provides an alternative to the MBA degree for students who desire specialized study and the development of a high level of professional proficiency in a functional area of business. The primary track in the Management program is Human Resources and Change Management. Students completing the master's program in Human Resources and Change Management will be prepared to work in organizations in such areas as human resources, strategic planning, organizational effectiveness, staffing, and employee relations	Required Courses—18 Credit Hours • MAN 6285 Change Management (3 credit hours) • MAN 6305 Human Resources Management (3 credit hours) • MAN 6311 Advanced Topics in Human Resources Management (3 credit hours) • ECO 6416 Applied Business Research Tools (3 credit hours) • MAN 6395 Leadership Development and Coaching (3 credit hours) • MAN 6385 Strategic Human Resources Management (3 credit hours) Elective Courses—12 Credit Hours • MAN 6286 Innovation and Strategic Change (3 credit hours) • MAN 6323 Human Resources Information Systems	30	Foard Jones, Ph.D. , Associate Professor Phone Number: 407-823-2925 cbagrad@bus.ucf.edu

COMPETITOR ANALYSIS – UCF PROGRAMS

School	Program Description	Core Courses	Credit Hours	Contact
UCF-Lockheed Martin K-8	The mission of the K-8 Mathematics and Science Education M.Ed. degree is to improve the quality of mathematics and science teaching and leadership in central Florida by providing leadership efforts to strengthen the quality of teaching and learning in mathematics and science, create a networks of school-based leadership in mathematics and science education, increase the number of students who enter high school and choose to enroll in mathematics and science courses that will prepare them for careers in mathematics, science and technology fields.	EDS 6938 - Supervision of Professional Laboratory Experiences IDS 6939 - Curriculum Reform in Mathematics and Science SCE 6146 - Environmental Education MAE 6641 - Problem Solving and Critical Thinking Skills EDF 6481 - Fundamentals of Graduate Research in Education IDS 6934 - Using Technology in Mathematics and Science IDS 6937 - Reflecting on Instruction of Mathematics and Science IDS 6933 -SCE 5825 - Space Science for Educators Seminar in Teaching Mathematics and Science Elective IDS 6971 Thesis - Planning, Completion Action Research Paper	39	Dr. Lisa Dieker 407-823-3885 ldieker@mail.ucf.edu

COMPETITOR ANALYSIS – OTHER UNIVERSITIES

	Program Description	Core Courses	Credit Hours	Contact

COMPETITOR ANALYSIS – OTHER UNIVERSITIES

	Program Description	Core Courses	Credit Hours	Contact
FSU	The master's degree program in Learning and Cognition is designed for professionals who are involved with learning, cognition, development, and group processes in a variety of contexts, such as the classroom at any level (including adults), the military, government, private enterprise, the courts, and other organizational settings, and for students who are interested in pursuing a career in these areas.	Four courses (12 hours) from the following list: EDP 5068 Lifespan Development (3) EDP 5216 Theories of Learning and Cognition in Instruction (3) EDP 5217 Principles of Learner Motivation (3) EDP 5275 Development of Children in School (3) SYP 5105 Theories of Social Psychology (3) EDP 5285 Group Processes in Instruction (3) EDG 6328 Alternate Views of Teaching and Learning (3) EDG 6363 Practicum in Experimental Learning Research (3) EXP 5508 Cognition and Perception (3) EDP 6937 Seminar in Special topics (3) EXP 6609r Seminar in Higher Mental Processes (3) EXP 6920r Current Issues in Cognitive/ Behavioral Science (1) **12 hours (typically four courses) in your area of specialization** Students develop their program of study in conjunction with their advisor. For example, an elementary teacher or secondary teacher who is interested in studying children's learning as a teacher researcher would select courses from programs in early childhood, elementary or secondary education, foundations of education, instructional systems, multicultural/multilingual education, reading, special education, or other relevant fields of study. In contrast, a program supervisor from a state agency might select courses from adult education, educational leadership, human services, management, psychology, social work, or sociology. **Research and Data Analysis 9 Hours (typically three courses)** Again, please select courses in consultation with your advisor. Here are possible courses: EDF 5400 Basic statistics (4 hours) EDF 5443 Measurement and Evaluation in the Classroom (3 Hours) EDF 5461 Introduction to Program Evaluation (3 Hours) EDF 5462 Evaluation of New Programs (3 Hours) EDF 5464 Qualitative Evaluation (3 Hours) EDF 5481 Methods of Educational Research (3 hours) LAE 5738 Linguistic Research in Language Arts (3 Hours)	39	Gary Peterson Department Chair 850-644-9445 gpeterso@admin.fsu.edu

COMPETITOR ANALYSIS – OTHER UNIVERSITIES

	Program Description	Core Courses	Credit Hours	Contact
UF	The Educational Psychology program prepares students to become highly accomplished professionals dedicated to the production and application of research-based knowledge about human development and learning. Graduates of the program pursue careers in colleges and universities and in private and public local, state, and federal agencies. The program focuses on developing students' expertise in (a) investigating and developing knowledge that will enhance learners' cognitive, social, emotional, and motivational development and (b) determining how that knowledge can be applied to foster optimal teaching and learning and development. The educational psychology program offers the M. Ed., the M.A.E., and the Ph.D. degree in educational psychology. *Specializations include learning and cognition, human development, and other areas specially designed to meet the individual student's interests and needs related to educational psychology.* Students in the educational psychology program develop expertise in conducting	A. Basic Requirements (6 Hours) EDF 6113 – Human Development EDF 6215 – Learning Theory B. Supervised Research (3 Hours) Each student must complete 3 hours of EDF 6910—Supervised Research, working in collaboration with an educational psychology faculty member on a research topic of mutual interest. D. Research Requirement (6 Hours) Students are expected to develop an understanding of quantitative and qualitative methods of research. A basic course in statistics (STA 2023, 2122, EDF 6401, or the equivalent) is a prerequisite for courses needed to meet this requirement. Students who have taken a basic statistics course but have no other background in statistics should take EDF 6403 Quantitative Foundations of Educational Research (6 credits). Students who have a good mathematics background and competence in basic statistics should begin with EDF 7405 followed by EDF 6481 Quantitative Methods in Education (4 credits). Thesis Requirement (6 Hours) All students pursuing a M.A.E. are required to write an acceptable thesis and to defend the thesis at an oral examination. All students are required to enroll for at least 6 hours of EDF 6971, Research for Master's Thesis.	36	Educational Psychology University of Florida 1403 Norman Hall P.O. Box 117047 Gainesville, FL 32611-7047 Phone: (352) 392-0724 Fax: (352) 392-5929 E-mail: lparsons@coe.ufl.edu Department Chair: Dr. Mark Shermis P.O. Box 117047 1403 Norman Hall Gainesville, FL 32611-7048 392-0725, ext. 224 mshermis@coe.ufl.edu

COMPETITOR ANALYSIS – OTHER UNIVERSITIES

	Program Description	Core Courses	Credit Hours	Contact
University of WI @ Madison	The Educational Psychology program at UWI at M is a joint Master's and Doctoral program. Students may choose to exit the program after completing a Master's degree, however, this is not how the program is designed. Students running the full course of the program will graduate with a Doctorate in Educational Psychology with a specialization in one of four areas: Learning Sciences, Human Development, Quantitative Methods, or School Psychology. The program in human development adopts a life-span approach to individual change. Studying development in context is an important component of the program, so that research can make conceptual/theoretical contributions to the understanding of human behavior and can address practical concerns of educators, parents, and others concerned with the developing person.	<u>*MS Course Requirements*</u> 709: Seminar in Research in Educational Psychology **AND** 710: Seminar in Research in Educational Psychology 723 Developmental Processes Across the Life Span **OR** 725 Theories and Issues in Human Development 720: Advanced Child Development **OR** 920: Seminar in Child Development 721:Adolescent Development **OR** 921: Seminar in Adolescent Development 722: Adult Development and Aging **OR** 922: Seminar in Adult Development and Aging 760: Statistical Methods Applied to Education I 761: Statistical Methods Applied to Education II *Note that at least one of the Human Development course taken for the MS degree must be at the 900 level or be a 711 course that the Human Development area faculty approve as being equivalent to a 900-level course. In the latter case, approval must be received prior to completion of the MS degree requirements.*	32 hours for MS and 48 for Ph.D	Department Chair: Ron Serlin, PhD Department Address: Educational Sciences, Rm 880B 1025 W Johnson St. Madison, WI 53706-1796 Phone: (608) 262-3432 Fax: (608) 262-0843 Graduate Admissions Coordinator: Barbara Lienau Department Address: Educational Sciences, Rm 880E 1025 W Johnson St. Madison, WI 53706-1796 Phone: (608) 262-9407 Fax: (608) 262-0843 balienau@wisc.edu

COMPETITOR ANALYSIS – OTHER UNIVERSITIES

	Program Description	Core Courses	Credit Hours	Contact
University of Maryland	Students who fulfill the requirements of the specialization will gain expertise in the scientific domain of Educational Psychology. The domain of Educational Psychology involves the application of psychological theory and research methodology to educational issues. In particular, this specialization is designed to: (a) attract research-oriented students into Human Development, and (b) give students more experience and greater proficiency in research in such areas as learning and cognition, achievement motivation, self-regulated learning, strategic processing, and the influence of parental and teacher beliefs on student achievement and self-concept. Educational psychologists utilize their research expertise as university professors or as research scientists who work at state, federal, or private agencies. Graduate Courses for EDHD Education, Human Development	EDHD 600 Introduction to Human Development OR EDHD 690 History and Systems in Human Development 3 OR EDHD 760 Educational Psychology EDMS 645 Quantitative Research Methods I 3 EDHD 602 Social Bases of Behavior OR EDHD 720 Social Development and Socialization Processes 3 EDHD 721 Cognitive Development and Learning OR EDHD 692 Cognitive Basis of Instruction 3 EDHD 601 Biological Bases of Behavior OR EDHD 775 Psychophysiological Processes in Human Development 3 EDHD 700 Infant Development EDHD 711 Peer-culture and Group Processes in Human Development EDHD 750 Culture, Context, and Development EDHD 770 Designing Multimedia Computer Environments for Learning EDHD 779 Special Topics in Human Development EDHD 835 Achievement Motivation EDHD 850 Social Cognition and Moral Development Up to 2 courses in other departments (EDMS, EDCI, Psychology, etc.)	30	Department of Human Development, Institute for Child Study 3304 Benjamin Building (#143) University of Maryland College Park, MD. 20742 Phone Number: 301-405-2827 Fax Number: 301-405-2891 Email: humandev@umd.edu

COMPETITOR ANALYSIS – OTHER UNIVERSITIES

	Program Description	Core Courses	Credit Hours	Contact
U of GA	The M.Ed. in Educational Psychology was developed to enhance students' knowledge of human development, learning, and motivation as well as knowledge about behavior problems in the school setting that interfere with academic achievement. Students may pursue one of three MEd.programs (i.e., Cognition and Development, Statistics and Measurement, or Gifted and Creative Education), each of which has distinct goals as detailed below. **M. Ed. Program in Applied Cognition and Development** You will enhance your knowledge of basic human development, learning, and motivation, PLUS develop your professional knowledge and skills in the area(s) most important to you. As an M.Ed. student in Educational Psychology in the program, you will choose one or two areas of specialization and design your own program to meet your needs and professional goals. Therefore, we have designed the program with a minimal number of required courses.	*Core Theory Foundation Courses* The Department requires M.Ed. students to take one 6000-level theoretical foundations courses. Students may select from EPSY 6010: Foundations of Human Development, EPSY 6800: Foundations of Cognition for Education or EPSY 6060: Foundations of Motivation. Program areas may have additional required courses. *Core Research Methodology and Statistics Courses* The Department requires M.Ed. students to take two courses on research methodology or measurement offered under ERSH 7800 or an equivalent. Program areas may have additional required courses. **M. Ed. Program in Applied Cognition and Development** In addition to the departmental requirements, students take either seven (with project) or eight (without project) courses in an area of concentration. Each of the concentrations listed below meets all departmental and university requirements for an M.Ed. in Educational Psychology. Of course, these are only examples. You can choose to focus on any area of concentration you create with approval of your advisory committee. This master's program truly lets you construct a coherent program of courses to gain the knowledge and skills you want to meet your personal and professional goals. *Core Statistics, Research Methodology and Measurement* _____ Two courses on research methodology or measurement offered under ERSH such as ERSH 6200, 6300, 6600, 7600, 7250, or equivalent *Core Theory Foundation Courses* Select two of the following three courses _____ EPSY 6010: Foundations of Human Development, EPSY 6800: _____ Foundations of Cognition for Education or EPSY 6060: Foundations of Motivation *Area of Concentration* _____ EPSY 7650: Applied Project in Ed. Psych (applied track) _____ EPSY 6990: Research Seminar in Educational Psychology	33-36	Dr. Paula Schwanenflugel, program coordinator, Applied Cognition and Development Email: pschwan@uga.edu Dr. Tarek Grantham, program coordinator, Gifted and Creative Education Email: grantham@uga.edu

COMPETITOR ANALYSIS – OTHER UNIVERSITIES

	Program Description	Core Courses	Credit Hours	Contact
Harvard	The Human Development and Psychology (HDP) Program is designed for students interested in the development of children and adults and how knowledge of development can be applied to educational issues. The purpose of the program is to introduce practitioners and future researchers to theory and research on child, adolescent, and adult development and to reflect on potential applications to education. The program in Human Development and Psychology seeks to bridge traditional divisions between academic disciplines and between basic and applied research, building on developmental thinking and incorporating an understanding of diversity. It focuses on the cognitive, emotional, communicative, and relational development of the individual, from birth through early adulthood, considering sociocultural and other contexts in which this development takes place.	Students are required to complete 8 courses in various subject areas relating to human development and psychology: Culture and Social Development (1 course), Cognitive and Language Development (1 course), Research Methods and Data Analysis (1 course), 3 additional courses which focus on human development and psychology (see attached or http://www.gse.harvard.edu/academics/masters/hdp/curriculum/additional_courses.html), and 2 elective courses either from the Harvard Graduate School of Education or other graduate schools within Harvard.	32 credits	Program Coordinator: Mary Kiesling (617) 496-1568 mary_kiesling@harvard.edu

COMPETITOR ANALYSIS – OTHER UNIVERSITIES

	Program Description	Core Courses	Credit Hours	Contact
Nova, UM, FIU, FAU, FAMU, UNF, UWF, Barry	No such programs exist as of yet			

Florida Board of Governors

Request to Offer a New Degree Program

University of Central Florida University Submitting Proposal	Fall 2008 Proposed Implementation Date
Engineering & Computer Science Name of College or School	Engineering Technology Name of Department(s)
Engineering Technology Academic Specialty or Field	Master of Science in Technology, 15.0000 Complete Name of Degree (Include Proposed CIP Code)

The submission of this proposal constitutes a commitment by the university that, if the proposal is approved, the necessary financial resources and the criteria for establishing new programs have been met prior to the initiation of the program.

Date Approved by the University Board of Trustees		President	Date
Signature of Chair, Board of Trustees	Date	Vice President for Academic Affairs	Date

Provide headcount (HC) and full-time equivalent (FTE) student estimates of majors for Years 1 through 5. HC and FTE estimates should be identical to those in Table 1. Indicate the program costs for the first and the fifth years of implementation as shown in the appropriate columns in Table 2. Calculate an Educational and General (E&G) cost per FTE for Years 1 and 5 (Total E&G divided by FTE).

Implementation Timeframe	Projected Student Enrollment (From Table 1)		Projected Program Costs (From Table 2)		
	HC	FTE	Total E&G Funding	Contract & Grants Funding	E&G Cost per FTE
Year 1	25	4.22	$41,298		$9,786
Year 2	80	14.88			
Year 3	120	24.89			
Year 4	125	29.05			
Year 5	125	33.36	$110,129		$3,301

TABLE OF CONTENTS

Note: This outline and the questions pertaining to each section must be reproduced within the body of the proposal to ensure that all sections have been satisfactorily addressed.

INTRODUCTION

I. Program Description and Relationship to System-Level Goals

A. Briefly describe within a few paragraphs the degree program under consideration, including (a) level; (b) emphases, including concentrations, tracks, or specializations; (c) total number of credit hours; and (d) overall purpose, including examples of employment or education opportunities that may be available to program graduates.

The Master of Science in Technology (MST) is an interdisciplinary program emphasizing partnership between industry and academia. It provides an integrated curriculum in technology and leadership. High-tech companies face significant challenges as they try to maintain an advantage in a global economy that offers great business opportunities. Achieving and managing the continuous growth of their core technology competencies and product lines are among the challenges that these companies face. To meet these challenges, managers must possess two sets of competencies: technical knowledge and management skills.

The MST program can greatly help the scientists, technologist, and business leaders who are moving into management positions and recognize that advanced technical knowledge must be coupled with strong communication and administrative skills. The MST program also provides useful tools for managers, business and educational leaders who recognize that an understanding of issues in specific technology fields is critical in maintaining a competitive advantage in a global market.

Engineering Technology is a vital part of today's growing world economy. Communities with skilled technology workforces directly benefit from the growing global economy. Recently, Central and South Florida have become rapidly growing centers for software developers, internet service providers, telecommunications companies, electronic businesses, and widely diverse technology based businesses.

The skills expected from Engineering Technologists are reaching far beyond any specific engineering discipline graduates. While there is a shortage of skilled engineering technology professionals to fill these core areas, the demand for their expertise is increasing along with level of expertise required.

The proposed program, Master of Science in Technology is designed to meet these needs by providing students a high quality and strong curriculum with emphasis on hands-on experience.

The following is a partial list of core skills that are expected of Engineering Technologists:

- Ability to conduct research
- Understanding of technology roles in business processes
- Ability to manage technical projects
- Ability to understand and utilization of statistical models in managing technology projects

As mentioned above, the Master of Science in Technology program will be concerned with and

give emphasis to the technical implementation and administration of areas that are also covered by our Engineering programs.

Goals:

- To meet the increasing demand for advanced education in technology and applied engineering
- To develop highly skilled and adaptable professional who design, implement and manage modern technological systems

Objectives for the Program

- Provide a solid understanding of the methodologies and foundations of managing technology and engineering systems
- Provide hands-on practical designing, implementing and administering of technical systems
- To prepare and educate students for immediate employment upon graduation in the fields that have a technical base
- To provide an opportunity for BA/BS graduates to earn M.S. degrees in technology

Online Delivery

We expect all required courses to be offered online in order to reach a broad and diverse student population. Online students need to show evidence of adequate access to computing and networking facilities, and must have sufficient computer background through education and/or work experience. These students may complete the entire degree online by choosing proper elective courses of the proposed curriculum. Online -- or web-based -- courses allow students from any location to participate, regardless of geographic proximity to UCF. A second advantage is that online courses offer flexibility for those individuals who are unable to attend traditional classroom lectures. The flexibility offered by online courses will facilitate the completion of the degree, as well as allow us to reach a broad and diverse population of students.

Target Audience

- Graduates of all majors who are interested in technology or technology based career
- Community college faculty desiring graduate degree
- This program is intended only for persons with a baccalaureate degree in technology or a BA or BS degree in a related field. All persons with a baccalaureate degree in engineering are strongly encouraged to apply to a graduate program in one of UCF's engineering departments.

Start Date and Expected Graduation Date

The Master of Science in Technology degree program will begin in Fall of 2008, following approval by the UCF BOT in fall of 2007. First group of graduates is expected in spring of 2009.

Student Outcomes Expected

Students are expected to fully understand and be able to design, implement, and manage contemporary technological systems.

Program Outcomes

This program has been designed based on local and national industry needs with emphasis on certain areas of technology. As the program expands throughout the years, it will increase in the number of technical elective courses so students' areas of specialization will grow with industry needs.

The program's effectiveness in training technology leaders will be assessed in a variety of ways, including the students' graded work, evaluations by external technology professionals, and the evaluation of written surveys of employers of recent graduates. The external evaluations will serve not only to evaluate the performance of the students but also to provide data regarding the extent to which the program is meeting its intended learning objectives. Based upon these annual assessments, all aspects of the program will be evaluated in order to determine whether the coursework experiences and assessment procedures are in need of revision. This continual process of assessment and evaluation is essential in ensuring that the program's requirements, courses and experience produce the desired outcomes.

Credit Hours and Courses

The MS in Technology requires a total of 30 credit hours of graduate-level course work (5000 level or above, of those, a minimum of 15 semester hours must be 6000-level courses and part of the approved program). Students admitted to the program will be selected on a competitive basis and must meet the following minimum requirements: a baccalaureate degree from an accredited college or university, 3.0 GPA on the last 60 hours of attempted undergraduate coursework or a competitive GRE score, a letter of professional intent and a resume, and three letters of recommendation. A student who enters a graduate degree is expected to have undergraduate educational experiences, including general education studies similar to those required for the baccalaureate degree at UCF.

Deficiencies for admission to the graduate program, if any, are specified at the time of admission. The applicant's past work and professional experience is also evaluated and taken into consideration when determining admission classification. To be considered for regular admission, a 3.0 GPA is required.

The structure of the curriculum is briefly described below:

Required Core Courses:

Students will be required to complete a set of core courses. These core courses provide an in-depth study of the foundational knowledge and skills required of the discipline, including coursework in project management, quality control, process improvement, management information systems, statistics, and applied research methods.

Restricted Elective Courses:
Students will choose electives from prescribed groups of courses. These courses are used to provide roadmaps specific to each area of technology, by offering advanced topics in concentration areas leading to better problem solving skills.

Graduate Capstone:
Students will have to complete a Graduate Capstone course. The research will be worth three credit hours; the student will work with a faculty advisor typically for one semester. The research results are expected to advance students' knowledge, leading to publication in peer-reviewed journals or conference proceeding.

Summary of MS Requirements:
The proposed Master of Science in Technology Program curriculum consists of the following components:

Requirements	**Hours**
Core Courses	15
Electives	12
Graduate Capstone	3
Total Credit Hours	**30**

Upon completion of core courses, students will choose four courses from a list of technical electives in order to gain their specialization skills. Elective courses must be chosen based on students' background and goals and advisor's approval. Finally, every student must complete a three-credit Graduate Capstone course.

All candidates for the Master of Science in Technology degree program are required to complete a minimum of 30 semester hours of graduate credit. Of those, a minimum of 15 semester hours must be 6000-level courses and part of the approved program. Additional courses may be assigned by the faculty advisor depending on the background of the candidate.

Graduate Program of Study

The program of study is designed to promote greater depth of understanding and preparation in technology as it can be applied to industry and education. The program of study is planned in consultation with an appointed advisor. It is designed for flexibility, permitting the student to select a combination of courses to meet individual career goals.

B. Describe how the proposed program is consistent with the current State University System (SUS) Strategic Planning Goals. Identify which goals the program will directly support and which goals the program will indirectly support. (See the SUS Strategic Plan at http://www.flbog.org/StrategicResources/)

State University System of Florida Strategic Plan

The State University System of Florida's Strategic Plan for 2005 – 2013, adopted by the Board of Governors on June 9, 2005, identifies targeted degree programs to meet statewide professional and workforce needs as one of Strategic Plan's main goals (http://www.flbog.org/StrategicPlan/pdf/StrategicPlan_05-13.pdf). Technology is included as part of education, emerging technology, and information technology, which the State University Strategic plan lists as a targeted discipline.

The Board of Governors adopted the State University System of Florida's Strategic Plan 2005-2013 on June 9, 2005. The Board established system goals for 2012-2013 in the following areas:

- Goal 1: Access to and production of degrees
- Goal 2: Meeting statewide professional and workforce needs
- Goal 3: Building world-class academic programs and research capacity
- Goal 4: Meeting community needs and fulfilling unique institutional responsibilities

The proposed MST degree will directly support all four goals which is described in more detail of this proposal: in Sections II, Need and Demand (Goals 2 and 4), Section IV, Project Benefit (Goals 1 and 2), Section VI, Related Institutional Mission and Strength (Goal 4), and Section VII, Program Quality Indicators (Goal 3).

The proposed program will support UCF's mission and vision by being one of the few of its kind in the United States, with high quality teaching, research, and service, including developing partnerships with industry, community colleges, and government agencies. Technology is our future, and this program will prepare students for employment in community colleges as educators, government, and industry.

Supports UCF Strategic Plan Goals
http://president.ucf.edu/mission.html

Goal 2: Achieve national prominence in key programs of graduate study and research

Currently there are just a few universities in the U.S. that offer this degree and one university in Florida (FAMU) which offers a graduate degree in engineering technology. The degrees offered by all these universities address a specific field in the technology while our proposed program is flexible and can be tailored to the needs of individual students and industry. In that sense it is a unique graduate program, it provides an integrated curriculum in technology and leadership.

High-tech companies face significant challenges as they try to maintain an advantage in a global economy that offers great business opportunities. Achieving and managing the continuous growth of their core technology competencies and product lines are among the challenges that these companies face. To meet these challenges, managers must possess two sets of competencies: technical knowledge and management skills.

The Master of Science in Technology program can greatly help engineers, scientists, technologists, and business leaders who are moving into management positions and recognize that advanced technical knowledge must be coupled with strong communication and administrative skills. It also provides useful tools for managers, business and educational leaders who recognize that an understanding of issues in specific technology fields is critical in maintaining a competitive advantage in a global market.

Because of the demand for such skills, our program should draw from the top students who are interested in pursuing a graduate degree in technology. Moreover, the diversity of the program will draw students from diverse educational backgrounds and skills.

The proposed program, Master of Science in Technology is designed to meet these needs by providing students a high quality and strong curriculum with emphasis on hands-on experience.

Goal 5: Be America's Leading Partnership University

The Department of Engineering Technology has partnership and articulation agreements with almost all central Florida community colleges and some other community colleges around the state. This proposal has been discussed with them and has gained their support. They all have expressed significant of availability of this degree to their instructors. A master degree is required for all community college instructors in order to teach a transfer course.

The Industrial Advisory Board of the department has reviewed and endorsed offering a graduate technology degree program. Members of the Board represent almost all major industries in central Florida. In addition, we have discussed this program with the executive committee of Society for Information Management and gained their approval.

Once the degree is in place we expect these partnerships to grow in kind to include a more diverse audience. Support letters for partnership and collaboration from community colleges and private industry are attached in the appendix.

Supports UCF's Strategic Initiatives

In pursuing and enacting its mission, the UCF Strategic Plan identifies three pathways and 12 strategic initiatives**. Those that are directly supported by the proposed MST degree are described as follows:**

Pathway One: Enhance UCF's Academic Mission

Strategic Initiative 2: Increase Prominence in Graduate Studies

The degree would increase our prominence as one of the few universities to have a program that addresses the growing need for professionals who possess two sets of competencies: technical knowledge and management skills.

Strategic Initiative 3: Foster Excellence in Research and Creative Activities

The diverse skill sets of the faculty members provide a foundation for excellence in teaching and research. These faculty members all possess Ph.D. degrees and have diverse educational backgrounds in electrical and computer engineering, mechanical and aerospace engineering, civil and environmental engineering, industrial engineering, and physics. They all have earned their degrees in top U.S. and international universities such as M.I.T, New York State, Ohio State, UCF, etc. They each have over a dozen publications in peer-reviewed journals and conference proceedings.

These faculty members will serve as the core of the program and will foster research and creative activities consistent with their previous duties. Their publications are listed at the end of this document in each person's curriculum vitae.

Pathway Two: Serve the Central Florida Metropolitan Region

The Department of Engineering Technology has established partnerships with all local government agencies of Central Florida and has been instrumental in helping them to solve some of their more complicated problems and issues. FINDER project, which helps law enforcement agencies in fighting crime, SCIENET project with Seminole county government, Crimenet with Orange county government, Fire & Arson with Volusia county Fire services, are few examples. This proposal has been discussed with central Florida's leading community colleges and also industry and has gained their support. They all have expressed significant of availability of this degree to their instructors and employees. A master degree required for all community college instructors in order to teach a transfer course.

Currently the majority of our students come from the central Florida metro area. Many are working, part-time students who take our courses online. We expect that, initially, most of our students will be from Central Florida, and they will take the knowledge and skills that acquire from our degree back to their local jobs.

Strategic Initiative 7: Enhance Collaboration

This program brings together collaborators from various colleges and departments at UCF to establish a graduate degree with desired high quality. Efficient collaboration is required of our interdisciplinary team of departments including engineering technology, Engineering, business administration, and sciences. Thirty percent of our faculty has joint appointment with University research centers and other departments. A number of our faculty work very closely with The National Center for Forensic Science (NCFS) at UCF.

Pathway Three: Strengthen UCF's Services and Processes

Strategic Initiative 11: Increase Visibility

Being the first Master's of Science in Technology in the state of Florida and among very few in the United States will clearly increase UCF's visibility. It is also important that the program is of the highest quality. Being the first is not necessarily that important if the program is not of high quality. We are building this program from the ground up to provide students with a quality education in technology.
In addition, the proposed MST will support the shared mission of the SUS identified in the Strategic Plan, which states: "The State University System of Florida consists of ten public universities and one Shared Mission public liberal arts college, each with its distinctive mission, collectively dedicated to serving the needs of a diverse state through excellence in teaching, research and public service."

INSTITUTIONAL AND STATE LEVEL ACCOUNTABILITY

II. Need and Demand

A. Need: Describe national, state, and/or local data that support the need for more people to be prepared in this program at this level. Reference national, state, and/or local plans or reports that support the need for this program and requests for the proposed program which have emanated from a perceived need by agencies or industries in your service area. Cite any specific need for research and service that the program would fulfill.

The initial demand for this program was identified in consultation with the Florida Community Colleges. The SACS requirement for instructors is at least 18 hours of graduate work for these instructors, specifically in technology. Because of the extremely diverse nature of Engineering Technology at the Community Colleges they were finding it difficult to find qualified instructors to meet both the domain knowledge necessary for the topics taught and the education background to meet the SACS qualifications. Because the majority of these instructors did not have an engineering undergraduate degree, they also were unable to enroll in programs in graduate engineering.

Future investigation into the needs for technology education showed that the need was both acute and well documented. Reports from NSF, NAS, NASA, and others have done a good job of documenting the need at a national level, the report "Technically Speaking: Why All Americans

Need to Know More About Technology" available from the National Science Foundation and the Battelle Memorial Institute (ISBN-10: 0-309-08262-5) describes this need in full detail.

Excerpts from the Report from the National Academy of Engineering on Technology (http://www.nae.edu/nae/techlithome.nsf/)

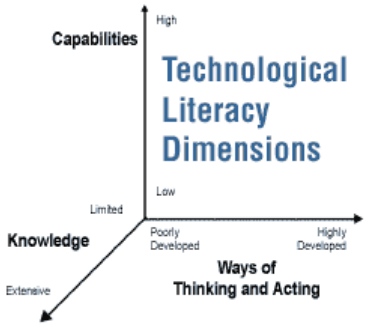
What is Technology?

Technology is the process by which humans modify nature to meet their needs and wants. Most people, however, think of technology in terms of its artifacts: computers and software, aircraft, pesticides, water-treatment plants, birth-control pills, and microwave ovens, to name a few. But technology is more than these tangible products.

Technology includes all of infrastructure necessary for the design, manufacture, operation, and repair of technological artifacts, from corporate headquarters and engineering schools to manufacturing plants and maintenance facilities. The knowledge and processes used to create and to operate technological artifacts -- engineering know-how, manufacturing expertise, and various technical skills -- are equally important part of technology.

Technology is a product of engineering and science, the study of the natural world. Science has two parts: (1) a body of knowledge that has been accumulated over time and (2) a process-scientific inquiry-that generates knowledge about the natural world. Engineering, too, consists of a body of knowledge-in this case knowledge of the design and creation of human-made products-and a process for solving problems. Science aims to understand the "why" and "how" of nature, engineering seeks to shape the natural world to meet human needs and wants. Engineering, therefore, could be called "design under constraint," with science-the laws of nature-being one of a number of limiting factors engineers must take into account. Other constraints include cost, reliability, safety, environmental impact, ease of use, available human and material resources, manufacturability, government regulations, laws, and even politics. In short, technology necessarily involves science and engineering.

What is Technology Literacy?



A technologically literate person:

- Recognizes the pervasiveness of technology in everyday life.
- Understands basic engineering concepts and terms, such as systems, constraints, and trade-offs.
- Is familiar with the nature and limitations of the engineering design process.
- Knows some of the ways technology shapes human history and people shape technology.
- Knows that all technologies entail risk, some that can be anticipated and some that cannot.
- Appreciates that the development and use of technology involve trade-offs and a balance of costs and benefits.
- Understands that technology reflects the values and culture of society.
- Asks pertinent questions, of self and others, regarding the benefits and risks of technologies.
- Seeks information about new technologies.
- Participates, when appropriate, in decisions about the development and use of technology.
- Has a range of hands-on skills, such as using a computer for word processing and surfing the Internet and operating a variety of home and office appliances.
- Can identify and fix simple mechanical or technological problems at home or work.
- Can apply basic mathematical concepts related to probability, scale, and estimation to make informed judgments about technological risks and benefits.

The Challenge

In the late 1960s and early 1970s, a number of colleges and universities launched programs or courses designed to increase student awareness of interactions among science, technology, and society (STS). In 1982, the Alfred P. Sloan Foundation initiated the New Liberal Arts Program, a series of grants to about 30 colleges to help them integrate the study of technology and the engineering process into the general curriculum. About 100 STS programs are estimated to exist today.

Undergraduate and graduate majors in STS have been available for some time at elite colleges

and research universities. These programs vary widely in their emphasis on social sciences, historical sciences, engineering, and physical sciences. Even well-established STS programs face substantial hurdles, such as opposition from faculty in traditional disciplines, difficulties in staffing, and maintaining the multidisciplinary approaches STS studies require.

The Committee on Technological Literacy believes that all Americans must become more knowledgeable about technology and more involved in decisions about its development and use. To this end, the committee has made eleven recommendations in four categories.

RECOMMENDATION 1
Federal and state agencies that help set education policy should encourage the integration of technology content into K-12 standards, curricula, instructional materials, and student assessments in nontechnology subject areas.

RECOMMENDATION 2
The states should better align their K-12 standards, curriculum frameworks, and student assessment in the sciences, mathematics, history, social studies, civics, the arts, and language arts with national educational standards that stress the connections between these subjects and technology. National Science Foundation (NSF)- and Department of Education (DoEd)-funded instructional materials and informal-education initiatives should also stress these connections.

RECOMMENDATION 3
NSF, DoEd, state boards of education, and others involved in K-12 science education should introduce, where appropriate, the word "technology" into the titles and contents of science standards, curricula, and instructional materials.

RECOMMENDATION 4
NSF, DoEd, and teacher education accrediting bodies should provide incentives for institutions of higher education to transform the preparation of all teachers to better equip them to teach about technology throughout the curriculum.

RECOMMENDATION 5
The National Science Foundation (NSF) should support the development of one or more assessment tools for monitoring the state of technological literacy among students and the public in the United States.

RECOMMENDATION 6
NSF and the Department of Education should fund research on how people learn about technology, and the results should be applied in both formal and informal education settings.

RECOMMENDATION 7
Industry, federal agencies responsible for carrying out infrastructure projects, and science and technology museums should provide more opportunities for the nontechnical public to become involved in discussions about technological developments.

RECOMMENDATION 8
Federal and state government agencies with a role in guiding or supporting the nation's scientific

and technological enterprise, and private foundations concerned about good governance, should support executive education programs intended to increase the technological literacy of government and industry leaders.

RECOMMENDATION 9
U.S. engineering societies should underwrite the costs of establishing government- and media-fellow programs with the goal of creating a cadre of policy experts and journalists with a background in engineering.

RECOMMENDATION 10
The National Science Foundation, in collaboration with industry partners, should provide funding for awards for innovative, effective approaches to improving the technological literacy of students or the public at large.

RECOMMENDATION 11
The White House should add a Presidential Award for Excellence in Technology Teaching to those that it currently offers for mathematics and science teaching.

Key Points of the MST Proposal

1. It is designed for admissions of all majors other than engineering.
2. Incorporates a very flexible curriculum.
3. Prepares people from all disciplines to make sound decisions about technology.
4. Is a truly interdisciplinary program.
5. Is designed for professionals that are working
6. Can be completed entirely online

B. Demand: Describe data that support the assumption that students will enroll in the proposed program. Include descriptions of surveys or other communications with prospective students.

The proposed degree will initially recruit undergraduate students in engineering technology, information systems technology, management information systems, and related disciplines, who are currently enrolled at UCF. Recent graduates will also be contacted for their interest in the proposed master's degree. There have been numerous inquiries from these pools of prospective students who have expressed an interest in applying to the MST degree. We plan to contact central Florida community college and employers in greater metropolitan Orlando area for their interest in the proposed graduate degree.

C. If similar programs (either private or public) exist in the state, identify the institution(s) and geographic location(s). Summarize the outcome(s) of any communication with such programs with regard to the potential impact on their enrollment and opportunities for

possible collaboration (instruction and research). Provide data that support the need for an additional program.

There is no similar graduate program in the state of Florida. The program is modeled after similar programs that have enjoyed success at other universities nationally. Notable models for the program are Arizona State University College of Technology and Innovation (http://technology.poly.asu.edu/) and Purdue (http://www.tech.purdue.edu/academics/graduate/grad_options.cfm) among others.

D. Use Table 1 (A for undergraduate and B for graduate) to categorize projected student headcount (HC) and Full Time Equivalents (FTE) according to primary sources. Generally undergraduate FTE will be calculated as 40 credit hours per year and graduate FTE will be calculated as 32 credit hours per year. Describe the rationale underlying enrollment projections. If, initially, students within the institution are expected to change majors to enroll in the proposed program, describe the shifts from disciplines that will likely occur.

Initial headcounts are based upon projections and inquiries made about the program. Ten community colleges have a need to certify between five and ten instructors which would provide an early estimate of fifty students of which half will likely enroll in the program. We have received approximately twenty inquiries about the program from elsewhere.

TABLE 1-B
PROJECTED HEADCOUNT FROM POTENTIAL SOURCES

(Technology Master of Science Degree Program)

SOURCE OF STUDENTS (Non-duplicated headcount in any given year)*	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	
	HC	FTE	HC	FTE	HC	FTE	HC	FTE	HC	FTE
Individuals drawn from agencies/ industries in your service area (e.g., older returning students)	15	4.22	35	7.50	55	10.16	65	11.53	70	11.53
Students who transfer from other graduate programs within the university**	0	0	5	1.41	10	2.97	5	1.41	0	0
Individuals who have recently graduated from preceding degree programs at this university	5	0.00	5	2.32	10	4.64	10	4.64	10	4.64
Individuals who graduated from preceding degree programs at other Florida public institutions	5	0.00	10	0.84	15	2.34	15	5.22	15	8.03
Individuals who graduated from preceding degree programs at non-public Florida institutions	0	0.00	10	0.00	10	0.00	10	0.00	10	0.00
Additional in-state residents***	0	0.00	5	0.00	5	0.56	5	2.03	5	4.94
Additional out-of-state residents***	0	0.00	10	2.81	15	4.22	15	4.22	15	4.22
Additional foreign residents***	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Other (Explain)***	0	0.00	0	0.00	0	0.00	0	0.00	0	0.000
Totals	**25**	**4.22**	**80**	**14.88**	**120**	**24.89**	**125**	**29.05**	**125**	**33.36**

*** List projected yearly cumulative ENROLLMENTS instead of admissions.**
**** If numbers appear in this category, they should go DOWN in later years.**
***** Do not include individuals counted in any PRIOR category in a given COLUMN.**

E. Indicate what steps will be taken to achieve a diverse student body in this program, and identify any minority groups that will be favorably or unfavorably impacted. <u>The university's Equal Opportunity Officer should read this section and then sign and date in the area below.</u>

The College of Engineering and Computer Science proposes to actively recruit minority students and under-represented populations for the M.S. in Technology in the following ways:

- A marketing strategy to increase diversity will be developed to include broad advertising on campus. UCF has minority student associations (http://www.osa.ucf.edu/a-z/EthnicMinority-International.html) that include the African American Student Union, the Asian Student Association, and the Hispanic American Student Association. These groups will be the focus of a special effort to increase diversity in our program.
- Regional and local minority-targeted media sources such as *FLAVOR: Black Life and Style*, and *El Sentinel* are also important outlets to attract minority students.
- The program will maintain an active, carefully constructed website of the proposed program, faculty, research opportunities, internship sites, career opportunities, as well as providing information about admission, curriculum, and graduation requirements.
- Information announcing the program will be sent to all colleges and universities, including those universities that have high minority student enrollment.

_____ _____

Equal Opportunity Officer Date

III. Budget

A. Use Table 2 to display projected costs and associated funding sources for Year 1 and Year 5 of program operation. Use Table 3 to show how existing Education & General funds will be shifted to support the new program in Year 1. In narrative form, summarize the contents of both tables, identifying the source of both current and new resources to be devoted to the proposed program. (Data for Year 1 and Year 5 reflect snapshots in time rather than cumulative costs.)

TABLE 2

PROJECTED COSTS AND FUNDING SOURCES

Instruction & Research Costs (non-cumulative)	Year 1						Year 5				
	Funding Source						Funding Source				
	Reallocated Base * (E&G)	Enrollment Growth (E&G)	Other New Recurring (E&G)	New Non-Recurring (E&G)	Contracts & Grants (C&G)	Subtotal E&G and C&G	Continuing Base** (E&G)	New Enrollment Growth (E&G)	Other*** (E&G)	Contracts & Grants (C&G)	Subtotal E&G and C&G
Faculty Salaries and Benefits	$27,532	$13,766	$0	$0	$0	$41,298	$27,532	$82,597	$0	$0	$110,129
A&P Salaries and Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
USPS Salaries and Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Personnel Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Assistantships and Fellowships	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Library	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Expenses	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Operating Capital Outlay	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Special Categories	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Costs	$27,532	$13,766	$0	$0	$0	$41,298	$27,532	$82,597	$0	$0	$110,129

*Identify reallocation sources in Table 3.

**Includes recurring E&G funded costs ("reallocated base", "enrollment growth", and "other new recurring") from Years 1-4 that continue into Year 5.

***Identify if non-recurring.

Faculty and Staff Summary

Total Positions (person-years)	Year 1	Year 5
Faculty	0.11	0.55
A&P	0	0
USPS	0	0

Calculated Cost per Student FTE

		Year 1	Year 5
Total E&G Funding		$41,298	$110,129
Annual Student FTE		4.22	33.36
E&G Cost per FTE		$9,786	$3,301

B. If other programs will be impacted by a reallocation of resources for the proposed program, identify the program and provide a justification for reallocating resources. Specifically address the potential negative impacts that implementation of the proposed program will have on related undergraduate programs (i.e., shift in faculty effort, reallocation of instructional resources, reduced enrollment rates, greater use of adjunct faculty and teaching assistants). Explain what steps will be taken to mitigate any such impacts. Also, discuss the potential positive impacts that the proposed program might have on related undergraduate programs (i.e., increased undergraduate research opportunities, improved quality of instruction associated with cutting-edge research, improved labs and library resources).

The proposed MST degree will not have a negative impact on participating departments and programs due to reallocation of resources. The curriculum of the degree (described in more detail in Section VIII) is mainly based on existing, regularly offered graduate-level courses out of College of Business Administration and College of Engineering & Computer Science. The only exceptions are new courses proposed by the Engineering Technology Department. However, Engineering Technology has hired additional faculty in 2005-2006 in anticipation of the MST degree. All new courses out of Engineering Technology will be taught by existing faculty given their research interests and expertise.

As the enrollment of the MST degree grows there will be a need to offer additional sections of both required and elective courses. Therefore, additional faculty lines and supporting staff will be needed once the number of students grows over fifty.

C. Describe other potential impacts on related programs or departments (e.g., increased need for general education or common prerequisite courses, or increased need for required or elective courses outside of the proposed major).

The most significant impact on participating programs and departments is the concern of accommodating additional students of the MST degree placed into existing courses

D. Describe what steps have been taken to obtain information regarding resources (financial and in-kind) available outside the institution (businesses, industrial organizations, governmental entities, etc.). Describe the external resources that appear to be available to support the proposed program.

The degree program is designed as a professional program for completion by part time students working full time in a professional capacity. As such resource requirements for program support are expected to be minimal.

IV. Projected Benefit of the Program to the University, Local Community, and State

Use information from Table 1, Table 2, and the supporting narrative for "Need and Demand" to prepare a concise statement that describes the projected benefit to the university, local community, and the state if the program is implemented. The projected benefits can be both quantitative and qualitative in nature, but there needs to be a clear distinction made between the two in the narrative.

The proposed degree is a collaborative effort between various programs and departments of UCF, offering a great opportunity for both faculty and especially students to work on challenges presented by today's sophisticated technology. The MST degree is built on the strength of the existing Engineering Technology program, interests from undergraduate students and working professionals wishing to pursue a graduate degree, and research expertise and professional experiences of participating faculty.

Technology has become increasingly important in today's world, affecting individuals, businesses, local, state and government agencies, and the society as a whole. The proposed MST degree offers a set of core courses that cover the fundamental subject areas of the discipline; the degree allows flexible electives for students to tailor the curriculum based on their interests and needs. The degree will also provide internship opportunities for students to gain real world experience working with local businesses or government agencies.

The Industrial Advisory Board of the department has reviewed and endorsed offering a graduate technology degree program. Members of the Board represent almost all major industries in central Florida. In addition, we have discussed this program with the executive committee of Society for Information Management and gained their approval.

As other states and institutions are becoming aware of and starting to offer courses and programs in technology, UCF has the momentum and capability to advance its engineering technology program to the next level, taking a leader's role in promoting and advancing technology education within the state of Florida.

V. Access and Articulation – Bachelor's Degrees Only

N/A

INSTITUTIONAL READINESS

VI. Related Institutional Mission and Strength

A. Describe how the goals of the proposed program relate to the institutional mission statement as contained in the SUS Strategic Plan and the University Strategic Plan.

University of Central Florida Strategic Plan

The proposed degree is related to UCF's Mission, Vision, Goals, and Strategic Initiatives. The

curriculum is timely and important for the growth of a metropolitan research university. One UCF goal is increasing the quantity and quality of education in technology and information technology. Not only will the curriculum provide excellent educational experience for UCF students, but the collaborative research will continue to enhance the national and international prominence and visibility of UCF.

UCF's Mission

The University of Central Florida is a public, multi-campus, metropolitan research university, dedicated to serving its surrounding communities with their diverse and expanding populations, technological corridors, and international partners. The mission of the university is to offer high-quality undergraduate and graduate education, student development, and continuing education; to conduct research and creative activities; to provide services that enhance the intellectual, cultural, environmental, and economic development of the metropolitan region, address national and international issues in key areas, establish UCF as a major presence, and contribute to the global community.

UCF's Vision

The University of Central Florida will be the nation's leading metropolitan research university recognized for its intellectual, cultural, technological, and professional contributions and renowned for its outstanding programs and partnerships.

Supports UCF Mission and Vision

The proposed program will support UCF's mission and vision by being one of the few of its kind in the United States, with high quality teaching, research, and service, including developing partnerships with industry, community colleges, and government agencies. Technology is our future, and this program will prepare students for employment in community colleges as educators, government, and industry.

Supports UCF Strategic Plan Goals
http://president.ucf.edu/mission.html

Goal 2: Achieve national prominence in key programs of graduate study and research

Currently there are just a few universities in the U.S. that offer this degree and one university in Florida (FAMU) which offers a graduate degree in Engineering Technology. The degrees offered by all these universities address a specific field in the technology while our proposed program is flexible and can be tailored to needs of individual student and industry. In that sense it is a unique graduate program, it provides an integrated curriculum in technology and leadership.

High-tech companies face significant challenges as they try to maintain an advantage in a global economy that offers great business opportunities. Achieving and managing the continuous growth of their core technology competencies and product lines are among the challenges that these companies face. To meet these challenges, managers must possess two sets of competencies: technical knowledge and management skills.

The Master of Science in Technology program can greatly help technologists, and business leaders who are moving into management positions and recognize that advanced technical knowledge must be coupled with strong communication and administrative skills. It also provides useful tools for managers, business and educational leaders who recognize that an understanding of issues in specific technology fields is critical in maintaining a competitive advantage in a global market.

Because of the demand for such skills, our program should draw from the top students who are interested in pursuing a graduate degree in technology. Moreover, the program will draw students from diverse educational backgrounds and skills.

The proposed program, Master of Science in Technology is designed to meet these needs by providing students a high quality and strong curriculum with emphasis on hands-on experience.

Goal 5: Be America's Leading Partnership University

The Department of Engineering Technology has partnership and articulation agreements with almost all central Florida community colleges and some other community colleges around the state. This proposal has been discussed with them and has gained their support. They all have expressed significant of availability of this degree to their instructors. A master's degree required for all community college instructors in order to teach a transfer course.

The Industrial Advisory Board of the department has reviewed and endorsed offering a graduate technology degree program. Members of board represent almost all major industries in the central Florida. In addition, we have discussed this program with the executive committee of Society for Information Management and gained their approval.
Once the degree is in place we expect these partnerships to grow in kind to include a more diverse audience. Support letters for partnership and collaboration from community colleges and private industry are attached in the appendix.

Supports UCF's Strategic Initiatives

In pursuing and enacting its mission, the UCF Strategic Plan identifies three pathways and 12 strategic initiatives**. Those that are directly supported by the proposed MSDF degree are described as follows:**

Pathway One: Enhance UCF's Academic Mission

Strategic Initiative 2: Increase Prominence in Graduate Studies

The degree would increase our prominence as one of the few universities to have a program that addresses the growing need for professionals who possess two sets of competencies: technical knowledge and management skills.

Strategic Initiative 3: Foster Excellence in Research and Creative Activities

The diverse skill sets of the faculty members provide a foundation for excellence in teaching and research. These faculty members all possess Ph.D. degree with a diverse educational background in

electrical and computer engineering, mechanical and aerospace engineering, civil and environmental engineering, industrial engineering, and physics. They all have earned their degrees in top U.S. and international universities such as M.I.T, New York State, Ohio State, UCF, etc. They each have over a dozen publications in peer-reviewed journals and conference proceedings.

These faculty members will serve as the core of the program and will foster research and creative activities consistent with their previous duties. Their publications are listed at the end of this document curriculum vitae.

Pathway Two: Serve the Central Florida Metropolitan Region

The Department of Engineering Technology has established partnership with all local government agencies of Central Florida and has been instrumental in helping them to solve some of their more complicated problems and issues. FINDER project which helps law enforcement agencies in fighting crime, SCINET project with Seminole county government, Crimenet with Orange county government, Fire & arson with Volusia county Fire services, just to name a few. This proposal has been discussed with Central Florida's leading community colleges and also industry and has gained their support. They all have expressed significant of availability of this degree to their instructors and employees. A master's degree required for all community college instructors in order to teach a transfer course.

Currently the majority of our students come from the Central Florida metro area. Many are working, part-time students who take our courses 'online.' We expect that, initially, most of our students will be from Central Florida, and they will take the knowledge and skills that acquire from our degree back to their local jobs.

Strategic Initiative 7: Enhance Collaboration

This program brings together collaborators from various colleges and departments at UCF to establish graduate degree with desired high quality. Efficient collaboration is required of our interdisciplinary team of departments including engineering technology, Engineering, business administration, and sciences. Thirty percent of our faculty has joint appointment with University research centers and other departments. Number of our faculty work very closely with The National Center for Forensic Science (NCFS) at UCF.

Pathway Three: Strengthen UCF's Services and Processes

Strategic Initiative 11: Increase Visibility

Being the first Master's of Science in Technology in the state of Florida and among very few in the United States will clearly increase UCFs visibility. It is also important that the program is of the highest quality. Being the first is not necessarily that important if the program is not of high quality. We are building this program from the ground up to provide students with a quality education in Technology.

B. Describe how the proposed program specifically relates to existing institutional strengths, such as programs of emphasis, other academic programs, and/or institutes and centers.

This program proposal is directly linked to Engineering Technology Information Systems and Software Lab. The laboratory has the ability and experience to:

- Map business processes
- Develop full-scale software systems
- Perform high-end software testing
- Deploy and deliver full software systems
- Perform maintenance and support for software systems

The laboratory is a production software shop with the purpose of supporting research efforts that require production level software. In past three years Engineering Technology Center has performed over 3 million Dollars funded research and currently has over five funded research projects. Engineering Technology Center is trying to expand its area of research to include non-software technologies.

Two faculty members from the Department of Engineering Technology have dual appointments at NCFS (Craiger, Pollitt), and have brought in approximately $450,000 in digital forensics-related research programs in the last two years alone. The department has very close relationship and research collaboration with the National Center for Forensic Science (NCFS).

The program faculty is primarily located in the Departments of Engineering Technology in the College of Engineering and Computer Science. The faculty has taught Electrical, Computer, Mechanical, Industrial, Civil Engineering and Information Systems related topics for years at the university level. Faculty members have an extensive track record in technology related topics, including several dozen publications and conference presentations. (See appendix that includes faculty member vitae).

Strengths of Research Labs and Research Faculty

UCF Engineering Technology faculty has a strong record in performing applied research at the local and national level. The following is a brief explanation of ongoing research in this area.

Research Labs

Faculty from Engineering Technology have access to state-of-the-art facilities for their digital forensics research projects. The Digital Evidence Research Lab has approximately twenty workstations, running a combination of Windows, Linux and Mac OS X. These workstations are used for an assortment of purposes, including the creation and analysis of research material. We have recently acquired several Intel-based Mac computers for additional research. Within our lab we run several networks; our primary internal network is isolated from the Internet and provides basic communication and storage for the analysis workstations. Other networks are used for testing and research. For research storage we currently employ a Linux-based 1.5 Terabyte NAS (Network Attached Storage) connected to our isolated internal network. Additional research is performed using a (Apple Xserve) seven Terabyte SAN (Storage Area Network) connected to workstations via fibre channel. For presentations to visiting researchers and students we have a widescreen 37" LCD television.

UCF Engineering Technology Faculty have access to ENT's research labs for their digital, electronics, feedback & control, software development, database, and network research projects.

Engineering Technology Center

The Engineering Technology Department operates a full scale software development and operations laboratory (ENT Information Systems and Software Lab). The laboratory has the ability and experience to:

- Map business processes
- Develop full-scale software systems
- Perform high-end software testing
- Deploy and deliver full software systems
- Perform maintenance and support for software systems

The laboratory is a production software shop that has the purpose of supporting research efforts that require production level software. The lab's full-time staff are:

1. Dan Burroughs – Development and Project Management
2. Kunal Motwani – Development and Project Management
3. Carlos Martinez – Development and Deployment Specialist
4. Damir Krimer – Maintenance, Support, and Development Engineer
5. Brad Mundt – Development and Testing Engineer
6. Eduardo Rocha – Maintenance and Support Engineer
7. Karla Alvarado – Business Process Engineer
8. Harish Ramakrishnan – Software Development Engineer

In addition to the full time staff we also draw from a pool of talented and expert faculty and graduate/undergraduate students at the University of Central Florida. The lab has completed many large and small software projects.

Research Projects and Faculty

1. FINDER Project

FINDER stands for Florida Integrated Network for Data Exchange and Retrieval. It pertains to the software application that provides the network as well as the information sharing network itself.
http://finder.ucf.edu/

2. SCINET Project

In keeping with its goal of **providing customer service that exceeds expectations**, the Planning and Development Department, Seminole County, Florida, has begun the process of revising its current organization and use of technology in an effort to implement changes that will automate and integrate related process and services. The overall goal is to revamp the way we provide information to the customer, making the best use of technology to create a fully automated and integrated local government. Seminole County Government, by authority of the Board of County Commissioners, has entered into a partnership with the University of Central Florida's College of Engineering and Computer Science (CECS) (Engineering Technology Department)

http://druid.engr.ucf.edu/seminolescinet/index.html

3. CRIMENET Project
Crime mapping & analysis project (ID: 36044) sponsored by Orange County Sheriffs Department. Funded $ 578,925.00.
http://www.cfcrimelinewarrants.com/

4. Virtual Digital Evidence Lab (Research by Dept of Engineering Technology/ NCFS. Funded by National Institute of Justice. Funding totaling $204,000)

Our researchers are developing a virtual digital evidence lab that consists of the tools and resources required for digital forensic examinations, but these resources may be in various geographic locations, and administered and maintained by different entities. These geographic locations are connected via a high-speed network. Examiners access the virtual lab through a single portal, over the Internet. Examiners can upload evidence for secure storage to one location and analyze the evidence using tools from a second location. Reports could be located at a third location. Prosecutors and attorneys would access the results through the same portal. PI: Phil Craiger.

5. Assessing trace evidence of secure deletion tools (Research by NCFS/Dept of Engineering Technology. Funded by State of Florida. Funding totaling $12,000)

Secure delete programs often erase the actual contents of the file, but most leave behind digital artifact, or 'trace evidence' on the file system. Trace evidence can be used by forensic examiners to determine whether a secure delete program was employed, in addition to providing information about the original file (metadata). This research examines different programs currently on the market to discern what trace evidence remains after a secure delete operation is performed.

6. Digital Evidence Markup Language (Research by NCFS/Dept of Engineering Technology. Funded by National Institute of Justice. Funding totaling $141,000)

DEML is a schema based on XML that supports the standardization of digital evidence-related artifacts. Below we provide an overview of DEML. DEML must be built with extensibility and flexibility in mind as technology changes will require consistent and continual changes in the language to appropriately model changes in the technologies used in computer-related crime.

7. Portable Electronic Device Forensics (Research by NCFS/Dept of Engineering Technology. Funded by State of Florida. Funding totaling $16,000)

In the past five years no other technology has grown more than personal electronic devices (PEDs). PEDs are typically small, handheld mobile devices with embedded computers chips and memory to store personal information, for instance, personal digital assistants (PDAs), cell phones, wrist watches, and even game consoles. Some of these devices are hybrid devices that perform more than one function. These generally cause two problems for law enforcement. First is that these devices are often overlooked by law enforcement at the scene of a crime due to ignorance about their functionality. Second, when the items are seized, there is no PED-based forensic software or hardware to create forensically-sound copy of the contents of the device, or software to perform a logical or physical analysis of the device. Microsoft's Xbox game console is little more than a low-

end personal computer; with little effort it can be modified to run additional operating systems, enabling it to store gigabyte's worth of non-game related files in addition to allowing it to run various computer services. Little has been published, however, on the proper forensic procedures to be employed in determining whether an Xbox has been modified, and if so, how to create an unadulterated forensic duplicate and conduct a proper digital forensics investigation. Given the growing number of these devices, it will be important to understand how to identify, image, and examine these systems while reducing the potential for adulterating the media. We approach Xbox forensics from an applied research methodology, providing a set of forensically-sound procedures to be followed during the acquisition and subsequent analysis of an Xbox. PI: Phil Craiger

8. Digital Forensics Tool and Process Validation (Research by Dept of Engineering Technology/ NCFS. Funded by State of Florida, $20,000). PI: Phil Craiger

Digital forensic professionals commonly employ cryptographic one-way hash algorithms for multiple purposes, including identifying notable and known files, and verifying media integrity. While conducting a validation study of proficiency test media we found that applying the same hash algorithm against a single CD using different applications resulted in different hashes. This was unexpected because the only plausible explanation of the different hashes would be if the CD media changed between hashing procedures. We formulated a series of experiments using several variables to determine the cause of the anomalous results. The results suggested that certain burn options might cause hash applications to report various and unpredictable hashes. We conclude with a discussion of possible consequences of these anomalies in a court of law, and recommendations on how to handle this situation. PI: Phil Craiger.

C. Provide a narrative of the planning process leading up to submission of this proposal. Include a chronology (table) of activities, listing both university personnel directly involved and external individuals who participated in planning. Provide a timetable of events necessary for the implementation of the proposed program.

Summer 2000 – Dr. Bob Williams of Daytona Beach Community College approached the department with the idea of developing a graduate degree program that does not require specific undergraduate degree knowledge so their instructors could earn a quality degree in order to qualify them to teach in community colleges. The need for this program was based on the SACS requirements of the community colleges.

Fall 2000 – Engineering Technology Department Chair, Dr. Ronald Eaglin discussed the idea of developing a graduate degree in a faculty meeting. All faculty members welcomed the idea and discussed what would be the best approach. Dr. Eaglin asked Dr. Bahman Motlagh to research and find out about similar programs in the nation.

Summer 2001 – Department decided that developing a graduate degree is an achievable goal providing that department will hire a number of new faculty members who have demonstrated strong research capabilities.

Summer 2003 – Department chair and IST program coordinator started discussing the feasibility of the proposed degree program with local industry and government leaders. Feedback was extremely favorable.

Spring 2005 – Department officially started hiring new faculties as funds became available. It was determined that all faculty hires would need to be qualified to teach graduate level courses and the hiring has followed this objective.

Summer 2006 – Dr. Bahman Motlagh was asked by department chair to start working on proposal to develop a graduate program.

VII. Program Quality Indicators - Reviews and Accreditation

Identify program reviews, accreditation visits, or internal reviews for any university degree programs related to the proposed program, especially any within the same academic unit. List all recommendations and summarize the institution's progress in implementing the recommendations.

The most recent reviews for UCF programs occurred in the period of spring 2005 through summer 2006. The Engineering Technology was reviewed by Dr. Warren R. Hill, Dean, College of Applied Science and Technology at Weber State University. The Engineering Technology Department offers three bachelor's degrees (Engineering Technology, Electrical Engineering Technology, and Information Systems Technology). The Appendix of this proposal contains details of the review reports including department data, enrollment figures, graduation rates, program highlights, and recommendations for program enhancement.

Engineering Technology Program review

Below are the results of the program review for the Department of Engineering Technology, including responses.

- **Faculty felt good about leadership and program in department. Concern that Dr. Eaglin does not spread himself too thin with research, teaching, and administrative duties.**
  - Action: Dr. Eaglin should both delegate many duties to program coordinators and also seek the ability to delegate research duties to focus on priorities with the department.

- **Faculty have broad range of experience and care about students. Small sampling of students are very satisfied with programs with what they were learning and being taught (happy with content and delivery).**
  - Action: Continue to gather feedback from students and assess content, delivery. Ensure the primary goal of employability of the students is being met.

- **Excellent potential for growth in ET. Two issues: where do you get your students (good input from community colleges for recruitment enrollment). High demand for ET graduates because of hands on experience in program**.

- Action: Develop strategic growth plan for the department that will investigate and implement actions based on potential new programs and existing programs.
- Action: Seek faculty and laboratory resources to allow the growth.

- **Look at admissions process for AS degree students; ENT has developed an AS to BS program, not under AS to BS umbrella but directly into the program concentration area and not into ENT in general. Need articulation for example with students from Daytona into Space program. ENT general BAS can develop into this type of program. Probably get funding from legislatures and board of governors to do this type of program.**
  - Action: Continue work with branch campus programs to develop more AS to BS articulation agreements. Pursue fixed goals for the development of AS to BS articulation agreements.

- **Utah has university centers funded by legislature that provides years three and four on regional campuses (2+2). Florida has same type of structure. Cocoa Campus and Valencia West Campus possibilities.**
  - Action: Pursue having a local 2+2 program at a minimum of two community colleges (Brevard and Valencia). Hire faculty and seek resources to make this operational.

ENT Program Weaknesses

- **Lack of lab space complaint by faculty and student. Not sufficient for size of program. Will severely limit ability to grow program.**
  - Action: We must seek additional laboratory space, possibly looking to space at off-campus locations.
  - Action: Lobby College and University Administration as to the critical space needs of the program.

- **Department has seven programs in three degree areas. Department has not clearly articulated what the goals for each of those 7 are which will have to be done for Accreditation Board for Engineering and Technology (ABET). Also of benefit to faculty and students, then can articulate specific learning outcomes, then decide which courses meet those learning outcomes.**
  - Action: The department has developed clear and published goals for each program.
  - Action: An internal review of programs was conducted and is being studied to determine the need for the programs and further to consider reducing the number of programs.
  - Action: The BSET Design program has been renamed and clarified, which is civil construction by another name.
  - Action: The BSET Operation program has been renamed and clarified, which is industrial operations degree.

- **Department currently offers a large number of courses (over 3+ pages); need to look at course offerings and pare it down with only 13 faculty.**

- Action: Perform a curriculum audit and remove un-necessary or outdated courses from the catalog.

- **There needs to be a resolution with IST and IT. Confusion on part of students (maybe employers) difference between IST and IT. IST computer-related technology work. IT for CS students who cannot make it in CS not as academically rigorous.**
  - Action: Review curriculum regularly to prevent overlap in IST and IT. E.g., security minor issue junior and senior years are about the same courses for CS and IT.
  - Action: Ensure advisement is available and required to place students in coorect program.
  - Information: Freshman and sophomore years are different. IST more transfer with students with AA qualifications. IT more FTIC driven. Population served is different for the 2 programs, but outcome, both students look same re: backgrounds at end. 2/3 courses taught through ENT, 1/3 through IT but students in each take courses out of each department offerings. Probably no perception in prestige of IST and IT programs. IST students are usually working professionals with AS degrees, whereas IT are FTICs. IT is 120 credit hours and IST 128 credit hours. Both IT and IST students get the same kind of jobs. Not unhealthy in operating both programs, but confusing in differentiation. Does not require a lot of faculty time and effort.

- **Faculty stretched in teaching and not time to do research. Yet giant overlap in instruction and streamlining courses can free up time.**
  - Action: Streamline courses to free up faculty time; some times problems that are created are by the department themselves by too many course offerings.

Suggestions

- **ET has different teaching load from the rest of the college, need to look at different PNT since ENT faculty have higher teaching loads.**
  - Information: UNC has PNT requirement for ENT different from engineering faculty.
  - Action: Review and develop PNT requirements that truly meet the goals and objectives of the department.

- **Need more faculty to support growth in ENT.**
  - Action: Develop a strategic growth plan for the department that outlines the program growth and new program development objectives.
  - Action: Work to obtain more lines to meet strategic growth plan of the department.

- **With program growth their will be a need to come up with a different advising model**.
  - Information: Program coordinators are advising 100-200 students each. (There is a staff coordinator who advising also, Kim Small.) Also, another advisor position open in Cocoa.
  - Action: Work the undergraduate advising office to ensure adequate advising occurs for all ENT students.

- **Look at adding a graduate program for ENT as it grows.**

- Information: ENT typically has a technical type of MS that is an extension of the ENT program or a broad-base management of technology program typically done with the school of business (or IEMS). Market is there for ENT graduates who will be attracted to this type of program.
- Information: Best example Arizona State or Purdue for a technical ENT MS program. May get a lot of corporate support for an ENT MS program. Very important to keep curriculum current; very easy to get obsolete in technology.
- Information: The only outlet at the moment for UCF ENT students is to go into the IEMS MS track.
- Action: Begin research for development of an MS program.

- **IST Program should require senior design.**
  - Action: Look at adding Senior Design to the required courses in IST.

VIII. Curriculum

A. Describe the specific expected student learning outcomes associated with the proposed program. If a bachelor's degree program, include a web link to the Academic Learning Compact or include the document itself as an appendix.

The Master of Science in Technology (MST) is an interdisciplinary program emphasizing partnership between industry and academia. It provides an integrated curriculum in technology and leadership. High-tech companies face significant challenges as they try to maintain an advantage in a global economy that offers great business opportunities. Achieving and managing the continuous growth of their core technology competencies and product lines are among the challenges that these companies face. To meet these challenges, managers must possess two sets of competencies: technical knowledge and management skills.

The MST program can greatly help technologists, and business leaders who are moving into management positions and recognize that advanced technical knowledge must be coupled with strong communication and administrative skills. It also provides useful tools for managers, business and educational leaders who recognize that an understanding of issues in specific technology fields is critical in maintaining a competitive advantage in a global market.

Engineering Technology is a vital part of today's growing world economy. Communities with skilled technology workforces directly benefit from the growing global economy. Recently, Central and South Florida have become rapidly growing centers for software developers, Internet Service Providers, telecommunications companies, Electronic Businesses, and widely diverse technology based businesses.

The skills expected from Engineering Technologists are reaching far beyond any specific engineering discipline graduates. It is important to recognize that Computer Science and Engineering students are concerned with the science and engineering aspects associated with modern Technology, rather than its technical implementation and administration. While there is a shortage of skilled Engineering Technology professionals to fill these core areas, the demand for their expertise is increasing along with level of expertise required.

The following is a partial list of core skills that are expected of Engineering Technologists:

- Ability to conduct research
- Ability to design, implement, and improve processes
- Ability to manage a technical projects
- Ability to understand and utilization of statistical models in managing technology projects

As mentioned above, the Master of Science in Technology program will be concerned with and give emphasis to the technical implementation and administration of areas that are also covered by our Engineering programs.

Goals:

- To meet the increasing demand for advanced education in technology and applied engineering
- To develop highly skilled and adaptable professional who design, implement and manage modern technological systems

Objectives for the Program

- Provide a solid understanding of the methodologies and foundations of managing technology, and engineering systems
- Provide hands-on practical designing, implementing and administering of technical systems
- To prepare and educate students for immediate employment upon graduation, in the fields that have a technical base
- To provide an opportunity for BA/BS graduates to earn M.S. degrees in technology

Student Outcomes Expected

Students are expected to fully understand and be able to design, implement, and manage contemporary technological systems. As the program matures it is expected that technical specializations in key fields will be made available.

Program Outcomes

This program has been designed based on local and national industry needs with emphasis on certain areas of technology. As the program expands throughout the years, it will increase in the number of technical elective courses so students' areas of specialization will grow with industry needs.

The program's effectiveness in training technology leaders will be assessed in a variety of ways, including the students' graded work, evaluations by external technology professionals, and the evaluation of written surveys of employers of recent graduates. The external evaluations will serve, not only to evaluate the performance of the students, but also to provide data regarding the extent to which the program is meeting its intended learning objectives. Based upon these annual assessments, all aspects of the program will be evaluated in order to determine whether the coursework experiences and assessment procedures are in need of revision. This continual

process of assessment and evaluation is essential in ensuring that the program's requirements, courses and experience produce the desired outcomes.

B. Describe the admission standards and graduation requirements for the program.

The Department of Engineering Technology requires an appropriate baccalaureate degree from an accredited college or university. This program is intended only for persons with a baccalaureate degree in technology or a BA or BS degree in a related field. All persons with a baccalaureate degree in engineering are strongly encouraged to apply to a graduate program in one of UCF's engineering departments.

An applicant must have a GPA of 3.0 (scale is 4.00 = A) or the equivalent, in the last two years of work leading to the bachelor's degree. A student who enters a graduate degree is expected to have undergraduate educational experiences, including general education studies similar to those required for the baccalaureate degree at UCF. The department also requires completion of the Graduate Record Examination (Quantitative and Verbal sections) and three letters of recommendation assessing the applicant's potential to do Masters-level work. A letter of professional intent and a resume should be submitted by the candidate to the Department.

Deficiencies for admission to the graduate program, if any, are specified at the time of admission. The applicant's past work and professional experience is also evaluated and taken into consideration when determining admission classification. To be considered for regular admission, a 3.0 GPA is required.

Graduation requirement

All candidates for the Master of Science in Technology degree program are required to complete a minimum of 30 semester hours of graduate credit. Of those, a minimum of 15 semester hours must be 6000-level courses and part of the approved program. Additional courses may be assigned by the faculty advisor depending on the background of the candidate.

C. Describe the curricular framework for the proposed program, including number of credit hours and composition of required core courses, restricted electives, unrestricted electives, thesis requirements, and dissertation requirements. Identify the total numbers of semester credit hours for the degree.

The proposed Master of Science in Technology Program curriculum consists of the following components:

	Credits
Core Courses	15
Electives	12
Graduate Capstone	3
Total	**30**

Upon completion of core courses, students will choose four elective courses from a list of

technical electives in order to gain their specialization skills. Elective courses must be chosen based on students' background and his/her goals and advisor's approval. Finally, every student must complete a three-credit Graduate Capstone course.

All candidates for the Master of Science in Technology degree program are required to complete a minimum of 30 semester hours of graduate credit. Of those, a minimum of 15 semester hours must be 6000-level courses and part of the approved program. Additional courses may be assigned by the faculty advisor depending on the background of the candidate.

Graduate Program of Study

The program of study is designed to promote greater depth of understanding and preparation in technology as it can be applied to industry and education. The program of study is planned in consultation with an appointed advisor. It is designed for flexibility, permitting the student to select a combination of courses to meet individual career goals.

Required Core Courses:
Students will be required to complete a set of core courses. These core courses provide an in-depth study of the foundational knowledge and skills required of the discipline, including coursework in project management, quality control, process improvement, management information systems, Statistics, and applied research methods.

Core Courses:

Core Courses:

- ETG 5xxx Applied Research Methods 3 Cr.
- ETI 6xxx Technology for Project Management 3
- ETI 6xxx Technology & Analysis for Enterprise 3
- Information Systems 3
    - CET 5xxx Information & Communications Infrastructure
    - EIN 5117 Management Information Systems
- Statistics 3
    - STA 5206 Statistical Analysis
    - ESI 5219 Engineering Statistics

Total 15 Cr.

Elective Courses:
Students will choose electives from prescribed groups of courses. These courses are used to provide roadmaps specific to each area of technology, by offering advanced topics in concentration areas

leading to better problem solving skills. Elective courses are not limited to the sample electives given below. Electives will be chosen based on students' goal and background and has to be approved by student's faculty advisor.

Electives:

• ETG 6xxx	Advanced Topics in Technology	3
• CET 6xxx	Practice of Digital Forensics	3
• CET 6xxx	Incidence Response Technologies	3
• CET 6xxx	OS and File System Forensics	3
• CGS 5131	Computer Forensics I	3
• CGS 5132	Computer Forensics II	3
• EIN 6645	Real-Time Simulation Agents	3
• ESI 6224	Quality Management	3
• ESI 6225	Quality Design and Control	3
• ESI 6247	Experimental Design and Taguchi Methods	3
• EIN 5255	Interactive Simulation	3
• EIN 5140	Project Engineering	3
• ESI 5227	Total Quality Improvement	3
• ISM 5021	Introduction to Management Systems	3
• ECO 6115	Economic Analysis of the Firm	3
• MAN 6245	Organizational Behavior & Development	3
• MAN 6296	Executive Leadership	3
• MAN 6395	Leadership Development and Coaching	3
• MAR 6406	Sales Management and Control	3
• MAR 6677	Marketing Engineering	3
• MAR 6809	Digital Marketing Management	3
• MAR 6816	Strategic Marketing Management	3
• MAR 6839	Marketing of High-Technology Products	3
• ISM 6367	Strategic Information Systems	3

- STA 6106 Statistical Computing 3
- STA 5206 Statistical Analysis 3
- STA 6662 Statistical Methods for Industrial Practice 3
- STA 5103 Advanced Computer Processing of Statistical Data 3
- STA 6714 Data Preparation 3
- STA 5703 Data Mining Methodology I 3
- STA 6704 Data Mining Methodology II 3

Graduate Capstone:
Students will have to complete a Graduate Capstone course. The research will be worth 3 credit hours; the student will work with a faculty advisor typically for one semester. The research results are expected to advance students' knowledge.

D. Provide a sequenced course of study for all majors, concentrations, or areas of emphasis within the proposed program.

A typical program of study

Fall 2008	**Instructor**
ETG 5xxx Applied Research Methods	Divo
EIN 5117 Management Information Systems	IE Faculty
STA 5206 Statistical Analysis	COS Faculty

Spring 2009	**Instructor**
ETI 6xxx Technology for Project Management	Yousef
ETI 6xxx Technology & Analysis for Enterprise	Eaglin
Electives	

Summer 2009	**Instructor**
Electives	UCF Faculty
Electives	UCF Faculty
Electives	UCF Faculty

Fall 2009	**Instructor**
CET 6xxx Graduate Capstone	Motlagh

Course Offerings for the Next Five Years

			2008			2009			2010			2011			2012	
Course #	**Course Description**	**SP**	**SU**	**FA**	**SP**	**SU**	**FA**	**SP**	**SU**	**FA**	**SP**	**SU**	**FA**	**SP**	**SU**	**FA**

	Required Courses															
ETG 5xxx	**Applied Research Methods**			**X**			**X**			**X**	**X**		**X**	**X**		**X**
EIN 5117	**Management Information Systems**			**X**			**X**			**X**			**X**			**X**
STA 5206	**Statistical Analysis**			**X**			**X**			**X**			**X**			**X**
ETI 6xxx	**Technology for Project Management**	**X**			**X**			**X**			**X**			**X**		
ETI 6xxx	**Technology & Analysis for Enterprise**	**X**			**X**			**X**			**X**			**X**		
	Elective Courses															
CET 6xxx	**Enterprise Architecture**					**X**			**X**			**X**			**X**	
ETG 6xxx	**Advanced Topics in Tech.**					**X**			**X**			**X**			**X**	
CET 6xxx	**Practice of Digital Forensics**	**X**		**X**	**X**		**X**	**X**		**X**	**X**		**X**	**X**		**X**
CET 6xxx	**Intrusion Response Technologies**	**X**		**X**	**X**		**X**	**X**		**X**	**X**		**X**	**X**		**X**
CET 6xxx	**OS and File System Forensics**			**X**			**X**			**X**			**X**			**X**

E. Provide a one- or two-sentence description of each required or elective course.

ETG 5xxx. Applied Research Methods
3(3,0). Broad overview of applied research methods from the literature review process to investigation, modeling, experimental design, analysis of results, and technical reports.

CET 5xxx. Information & Communications Infrastructure
3(3,0). PR: Graduate standing or C.I. This course provides an overview of information systems in the technology world. Topics include hardware, software, databases and related technologies, telecommunications systems, the development of information systems, and security, social, and ethical issues involved with information systems technology.

CET 6xxx. Advanced Topics in Technology
3(3,0). PR: ETG 5xxx or C.I.

ETI 6xxx. Technology for Project Management
3(3,0). All around the globe IT is playing an increasingly vital role in helping organizations gain the competitive advantage around the globe. This course offers a global perspective on how IT is transforming business. The course provides information on how organizations operate and compete in the digital economy, and how IT can assist this transformation.

ETI 6xxx. Technology and Analysis for Enterprises
3(3,0). Systematic Road Map to Quality. Defines most major activities that managers and change agents must include if they want to see sustainable results. Provides a set of sequential activities that must be implemented to achieve Enterprise Quality. Also provides tools to identify gaps in their current quality plan.

CET 6xxx. Incidence Response Technologies
3(3,0). Covers security incidents and intrusions, including identifying and categorizing incidents; responding to incidents; log analysis; network traffic analysis; tools; and creating an incident response team.

CET 6xxx. OS and File System Forensics
3(3,0). In-depth coverage of computer forensics-related issues associated with multiple

Operating systems, multiple file systems, and applications.

CET 6xxx: Practice of Digital Forensics
3(3,0). PR: CGS 5131 or C.I. Application of digital scientific techniques to solve information assurance, forensic and legal problems.

CGS 5131. Computer Forensics I: Seizure and Examination of Computer Systems
3(3,0). PR: Computer literacy and C.I. Legal issues regarding seizure and chain of custody. Technical issues in acquiring computer evidence. Popular file systems are examined. Reporting issues in the legal system.

CGS 5132. Computer Forensics II: Network Security, Intrusion, Detection, & Forensic Analysis
3(3,0). PR: CGS 5131. Computer network protocols and security, network intrusion detection and prevention, digital evidence collection and evaluation, and legal issues involved in network forensics analysis.

STA 5206. Statistical Analysis
3(3,0). PR: STA 2023. Graduate status or senior standing or C.I. Data analysis; statistical models; estimation; tests or hypotheses; analysis of variance, covariance, and multiple comparisons; regression and nonparametric methods.

ESI 5219. Engineering Statistics
3(3,0). PR: C.I. Discrete and continuous probability distributions, hypothesis testing, regression, nonparametric stats and ANOVA.

EIN 6645. Real-Time Simulation Agents
3(3,0). PR: EIN 5255C. Mathematical modeling and computer simulation of engineering and scientific systems as agents within a simulation. Examination of hardware, software, and solution methods for real-time systems.

ESI 6224. Quality Management
3(3,0). PR: STA 3032 or equivalent or C.I. Philosophy and concepts of quality management, organization for quality, quality cost, quality audits and corrective actions, tools and techniques for improvement.

ESI 6225. Quality Design and Control
3(3,0). PR: STA 3032 or equivalent. Concepts and methods for quality design and control, including statistical process control (SPC), control charts, process capability, product and process design and improvement, Taguchi methods, case studies. May be repeated for credit.

ESI 6247. Experimental Design and Taguchi Methods
3(3,0). PR: STA 3032 or ESI 4234. Introduction to Taguchi Concepts and Methodologies, use of design of experiments for quality design and improvement.

EIN 5117. Management Information Systems I
3(3,0). PR: C.I. The design and implementation of computer-based Management Information

Systems. Consideration is given to the organizational, managerial, and economic aspects of MIS.

EIN 5255. Interactive Simulation
3(2,2). PR: graduate standing or C.I. Introduction to significant topics relative to the development and use of simulators for knowledge transfer in the technical environment.

EIN 5140. Project Engineering
3(3,0). PR: Graduate standing or C.I. Role of engineer in project management with emphasis on project life cycle, quantitative and qualitative methods of cost, schedule, and performance control.

ESI 5227. Total Quality Improvement
3(3,0). PR: STA 3032 or equivalent. Quality improvement (QI) tools and techniques, advanced QI techniques, quality improvement systems, total quality management concepts and implementation, planning and management tools, and case studies.

ISM 5021. Introduction to Management Information Systems
3(3,0). PR: Acceptance into the graduate program. Designed to provide the student with the fundamentals of business data processing and management information systems used by organizations in a modern society.

ECO 6115. Economic Analysis of the Firm
3(3,0). PR: CBA Master's Program of Study Foundation Core. Commodity price and output determination; factor price determination and functional income distribution; analysis of different types of markets.

MAN 6245. Organizational Behavior and Development
3(3,0). PR: CBA master's program of Study Foundation Core. The analysis of human behavior in organizations in terms of the individual, small group, inter-group relationships, and the total organization.

MAN 6296. Executive Leadership
3(3,0). PR: Admission to the Executive MBA Program. A review of the theory, research, and practice of leadership in organizations. Special attention to contemporary leadership issues, including transactional and transformational leadership.

MAN 6395. Leadership Development and Coaching
3(3,0). PR: Graduate standing or C.I. Course is designed to prepare students to understand the nature and role of leadership development with an emphasis on coaching.

MAR 6406. Sales Management and Control
3(3,0). PR: Graduate standing and MAR 5055 or equivalent. Designed to provide an analysis of the sales and management process. Topics covered include selection and training, compensation, behavioral issues and sales planning, evaluation, and control.

MAR 6677. Marketing Engineering
3(3,0). PR: CBA master's program of Study Foundation Core. Acquire knowledge about a variety

of planning and decision models used to creatively solve marketing problems.

MAR 6809. Digital Marketing Management
3(3,0). PR: CBA master's program of Study Foundation Core. Understand how digital marketing differs from conventional marketing. Develop an ability to formulate digital marketing applications and build viable digital marketing strategies.

MAR 6816. Strategic Marketing Management
3(3,0). PR: MBA Professional Core I. Marketing competitive strategy formulation with respect to product, pricing, promotion and distribution. Course aims at developing strategic thinking, functional marketing expertise and analytical skills.

MAR 6839. Marketing of High-Technology Products
3(3,0). PR: CBA master's program of Study Foundation Core. Understand high technology marketing issues. Acquire concepts and tools to develop high technology business models. Develop insights into branding, new product development, forecasting and CRM.

ISM 6367. Strategic Information Systems
3(3,0). PR: MBA Professional Core I. This course concerns the strategic deployment and management of information technology (IT) within today's complex business organizations.

STA 5103. Advanced Computer Processing of Statistical Data
3(3,0). PR: STA 4163 and knowledge of a programming language, graduate status or senior standing, or C.I. Use of SAS and other statistical software packages; data manipulation; graphical data presentation; data analysis; creating analytical reports.

STA 5703. Data Mining Methodology I
3(3,0). PR: STA 5103 and STA 5206, graduate status or senior standing, or C.I. Data mining to uncover valuable information through SEMMA (Sample, Explore, Model, Modify, and Access). Process with neural network and decision tree.

STA 6106. Statistical Computing I
3(3,0). Computer systems, approximating probabilities/percentiles, random number generation, linear model computations, density estimation.

STA 6662. Statistical Methods for Industrial Practice
3(3,0). Variance components, PCRs, autocorrelation structures, charting, EVOP, design strategies, calibration, standards, and associated awards.

STA 6704. Data Mining Methodology II
3(3.0). PR: STA 5703 and STA 6106. Statistical techniques for data mining that include discriminant analysis, logistic regression, and factor analysis.

STA 6714. Data Preparation
3(3,0). PR: STA 5103. Variable reduction, variable clustering, missing value inputation, and data survey. Additional data preparation topics associated with data mining techniques.

F. For degree programs in the science and technology disciplines, discuss how industry-driven competencies were identified and incorporated into the curriculum and identify if any industry advisory council exists to provide input for curriculum development and student assessment.

The core courses of the MST, project management, quality control & process improvement, management information systems, statistics, and applied research methods, cover the essential knowledge and skills required of a Technologist; the elective courses provide a broader range of topics in related disciplines to further the understanding of scientific and technical issues for advanced investigation and research. the combination of core and elective courses attempt to satisfy the competencies required of the technology discipline.

Program Administration

A faculty member of the Engineering Technology department will be selected to serve as the Graduate Program Coordinator. Staff support will be necessary to assist the Graduate Program Coordinator and will come from the Engineering Technology department.

Graduate Program Coordinator

The Graduate Program Coordinator will administer the M.S. Program in Technology. The Department Chair will appoint a faculty member to the Graduate Program Coordinator position. The Graduate Program Coordinator must be active in the graduate program and research. The Graduate Program Coordinator will receive some FTE for this responsibility each semester, including summer. The Chair will periodically re-assess this assignment for possible additional FTE to be allocated to the Graduate Program Coordinator as the program grows.

The duties of the Graduate Program Coordinator will include, but not be limited to, the following:

- Coordinating the recruitment of students into the M.S. program.
- In consultation with the Department Chair, developing the annual budget for the graduate program.
- Assigning incoming students to a temporary Academic Advisor if necessary, and assisting students in selecting a permanent Academic Advisor if necessary.
- Monitoring the progress of graduate students.
- In consultation with the Department Chair, assigning duties of Teaching Assistants.
- Informing graduate students of opportunities such as fellowships, awards, professional meetings, or other forms of professional advancement.
- Ensuring compliance to all rules and guidelines at all levels of university governance.
- In consultation with the Department Chair, allocating office space to graduate students.
- In consultation with the Department Chair, establishing and monitoring a mentoring program for Technology faculty who have not had experience in chairing an M.S. or other similar type of committee such as Honors in the Major.

G. For all programs, list the specialized accreditation agencies and learned societies that would be concerned with the proposed program. Will the university seek

accreditation for the program if it is available? If not, why? Provide a brief timeline for seeking accreditation, if appropriate.

There are no accrediting bodies that perform accreditation for graduate programs in technology. However, Dr. Motlagh is a program evaluator for ABET/TAC for last six years. He has been trained by ABET and has made six accreditation visits to nationally known universities such as Texas A&M, University of Western North Carolina, Cleveland , etc. Once, such accreditation program becomes available, department will apply for accreditation.

H. For doctoral programs, list the accreditation agencies and learned societies that would be concerned with corresponding bachelor's or master's programs associated with the proposed program. Are the programs accredited? If not, why?

N/A

I. Briefly describe the anticipated delivery system for the proposed program (e.g., traditional delivery on main campus; traditional delivery at branch campuses or centers; or nontraditional delivery such as distance or distributed learning, self-paced instruction, or external degree programs). If the proposed delivery system will require specialized services or greater than normal financial support, include projected costs in Table 2. Provide a narrative describing the feasibility of delivering the proposed program through collaboration with other universities, both public and private. Cite specific queries made of other institutions with respect to shared courses, distance/distributed learning technologies, and joint-use facilities for research or internships.

We expect all required courses to be offered online in order to reach a broader and more diverse student population. Online students need to show evidence of adequate access to computing and networking facilities, and must have sufficient computer background through education and/or work experience. These students may complete the entire degree online by choosing proper elective courses of the proposed curriculum. Online -- or web-based -- courses allow students from any geographical location to participate, regardless of geographic proximity to UCF. A second advantage is that online courses offer flexibility for those individuals who are unable to attend traditional classroom lectures. The flexibility offered by online courses will facilitate the completion of the degrees, as well as allow us to reach a broader and more diverse population of students.

IX. Faculty Participation

A. Use Table 4 to identify existing and anticipated ranked (not visiting or adjunct) faculty who will participate in the proposed program through Year 5. Include (a) faculty code associated with the source of funding for the position; (b) name; (c) highest degree held; (d) academic discipline or specialization; (e) contract status (tenure, tenure-earning, or multi-year annual [MYA]); (f) contract length in months; and (g) percent of annual effort that will be directed toward the proposed program (instruction, advising, supervising internships and practica, and supervising thesis or dissertation hours).

TABLE 4
ANTICIPATED FACULTY PARTICIPATION IN

CODE	Faculty Name or "New Hire"	Academic Discipline/Specialty	Rank	(For Existing Faculty Only)		Initial Date for Participation in Proposed Program	5th Year Workload in Proposed Program (Portion of Person-year)
				Contract Status (Tenure status or equivalent)	Highest Degree Held		
A	Ronald Eaglin	Eng. Technology	Assc.	Tenure earning	Ph.D.	2008	0.20 FTE
A	Bahman Motlagh	Eng Technology	Assc.	Tenured	Ph.D.	2008	0.25 FTE
A	Eduardo Divo	Eng. Technology	Asst.	Tenure earning	Ph.D.	2008	0.25 FTE
A	Philip Craiger	Eng. Technology	Asst	Tenure-earning	Ph.D.	2008	0.25 FTE
A	Scott Shepard	Eng. Technology	Asst	Tenure-earning	Ph.D.	2008	0.10 FTE
A	Nebil Misconi	Eng. Technology	Prof.	Tenured	Ph.D.	2009	0.10 FTE
A	T. Ali	Eng Technology	Asst	Tenure earning	Ph.D.	2009	0.10 FTE
C	Nabeel Yousef	Eng. Technology	Asst.	Non-tenure	Ph.D.	2008	0.25 FTE
C	Mark Pollitt	Eng Technology	Asst.	Non-tenure	MS	2009	0.25 FTE

B. Use Table 2 to display the costs and associated funding resources for existing and anticipated ranked faculty (as identified in Table 2). Costs for visiting and adjunct faculty should be included in the category of Other Personnel Services (OPS). Provide a narrative summarizing projected costs and funding sources.

TABLE 2
PROJECTED COSTS AND FUNDING SOURCES

Instruction & Research Costs (non-cumulative)	Year 1						Year 5				
	Funding Source						Funding Source				
	Reallocated Base* (E&G)	Enrollment Growth (E&G)	Other New Recurring (E&G)	New Non-Recurring (E&G)	Contracts & Grants (C&G)	Subtotal E&G and C&G	Continuing Base** (E&G)	New Enrollment Growth (E&G)	Other*** (E&G)	Contracts & Grants (C&G)	Subtotal E&G and C&G
Faculty Salaries and Benefits	$27,532	$13,766	$0	$0	$0	$41,298	$27,532	$82,597	$0	$0	$110,129
A&P Salaries and Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
USPS Salaries and Benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Personnel Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Assistantships and Fellowships	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Library	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Expenses	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Operating Capital Outlay	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Special Categories	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Costs	$27,532	$13,766	$0	$0	$0	$41,298	$27,532	$82,597	$0	$0	$110,129

C. Provide the number of master's theses and/or doctoral dissertations directed, and the number and type of professional publications for each existing faculty member (do not

include information for visiting or adjunct faculty).

Faculty Name	Professional Publications
Ronald Eaglin	• 1 Book authored • 6 Ph.D Students Committees • Over 20 Masters Students Committees • Over 30 conference and publications
Bahman Motlagh	• 1 Book Authored/Edited. • 4 Refereed Journal Papers. • 23 Refereed Conference Papers. • 18 Refereed Conference Abstracts/Oral Presentations. • 1 Research reports • 2 Technical reports
Eduardo Divo	• 3 Books Authored/Edited. • 3 Book Chapters Authored. • 30 Refereed Journal Papers. • 72 Refereed Conference Papers. • 13 Refereed Conference Abstracts/Oral Presentations.
Philip Craiger	• 1 Books Authored/Edited. • 17 Book Chapters Authored. • 11 Refereed Journal Papers. • 13 Refereed Conference Papers. • 61 Refereed Conference Abstracts/Oral Presentations.
Scott Shepard	• 7 Refereed Journal Papers. • 10 Refereed Conference Papers.
Nebil Misconi	• 33 Refereed Journal Papers
T. Ali	• 6 Refereed Journal Papers. • 13 Refereed Conference Papers. • 11 Refereed Conference Abstracts/Oral Presentations.
Nabeel Yousef	• 1 Refereed Journal Papers. • 13 Refereed Conference Papers.

D. Provide evidence that the academic unit(s) associated with this new degree have been productive in teaching, research, and service. Such evidence may include trends over time for average course load, FTE productivity, student HC in major or service courses, degrees granted, external funding attracted, as well as qualitative indicators of excellence.

Current productivity levels in the Engineering Technology department are high by both College and University standards. The standard course load for ENT faculty is 3/3 with at least 2 courses taught in the Summer term. The program review data given in the appendix provide quantitative indicators of the productivity in student enrollments and research funding supports.

Table 5 demonstrates the research productivity for the Department of Engineering Technology for years 1999-2007.

Table 5. Engineering Technology Research Productivity.

Engineering Technology

FY	# Faculty*	# In Research	New Funding	Pre Encumb.	Total Expenditures
1999	9	4	$43,765.00	$0.00	$30,624.09
2000	9	3	$49,442.00	$0.00	$33,343.64
2001	10	5	$169,241.00	$0.00	$103,347.85
2002	9	4	$103,465.80	$0.00	$95,362.04
2003	12	4	$249,674.50	$0.00	$195,362.64
2004	10	6	$362,900.80	($636.29)	$332,982.05
2005	11	7	$946,150.95	($40,815.85)	$668,135.10
2006	13	7	$728,899.14	$40,815.85	$885,675.57
2007	16	7	$1,375,270.38	$2,244.60	$538,363.85

Table 6 below shows the head counts for the Engineering Technology courses taught between 2004 and 2005

Table 6: Head counts of Engineering Technology Courses Fall 2004 through Spring 2007.

Course #	Course Description	FA 04	SP 05	SU 05	FA 05	SP 06	SU 06	FA 06	SP 07
CET 2123	Microprocessors Electr I								
CET 2364	Systems Applications in C	72	73		79	58		70	75
CET 3010	Introduction to Information Tech.	84	70		76	55		70	72
CET 3144C	Applied Microprocessor Tech.								
CET 3198C	Digital Systems		39			39			35
CET 3323C	Digital Technology	/60			64	40		38	32
CET 3383	Applied Systems Analysis I	/32	72			78			77
CET 3503	Microcomputer Technology I				32				
CET 3529	Linux/ Unix Sys Administration				58	57		38	57
CET 3752	Intro to Telephony	74			62				
CET 3930	Linux Administration and Applications		72						
CET 4134C	Microprocessor Electronics II			19			31		
CET 4138	Digital Programmable Devices			19					
CET 4333	Computer Organization and Design						87		
CET 4334C	Applied Computer Systems II								
CET 4427	Applied Database I	/58	61		58	55		53	40
CET 4429	Applied Database II		31			28			22

CET 4469C	Applied Infobases								
CET 4483	Intro to Local Area Network Tech.		101			94			88
CET 4505	Applied Operating Systems I	56			85				
CET 4523	Applied Systems Analysis II			15					
CET 4583	Web-based Systems I			94			70		
CET 4584	Web-based Systems II	31			42				
CET 4663	Computer and Network Security				/89				48
CET 4741L	Computer Networking Laboratory								
CET 4748	Wide Area Network I	60			52				
CET 4749	Wide Area Network II		18			16			19
CET 4884	Security Method & Practice	16				62		2	42
CET 4932	Investigative Digital Technologies		70				15		
CET 4889	Sec Senor & Biometrics					26			21
CET 4915C	Senior Design Project								
CET 4931	Current Topics Tech			46					
CET 4932	Prac Info Secty						16		
EET 3085C	Electricity and Electronics	40	38	34	70	47	29		35
EET 3143C	Elect Devices/Circuits						11		
EET 3716	Network Analysis		18	17		16	13		32
EET 3930	Photonics Simulation								21
EET 4158C	Linear Integrated Circuits	20			22				
EET 4329C	Communications Systems								11
EET 4339C	Antennas and Propagation								
EET 4359C	Digital Communications Systems								
EET 4389C	Satellite Communications Systems								
EET 4548	Power Systems	17			26				
EET 4732C	Feedback Control Systems		20			20			18
EET 4915C	Senior Design Project								
EMA 4103	Space Environment					14			
EST 3211	Wave Photonics		14			16			11
EST 3213	Photonics Simulation	6			8				
EST 3222	Photonics Technology			30	13				
EST 3543C	Prog Logic Apps and Devices	20	20	22	19	20	18	20	19
EST 4227	Photonics Sensors & Devices		8			4			
EST 4236	Laser Systems Technology	18			10				
EST 4256	Photonics Communication		10			5			5
EST 4502C	Metrology and Instrumentation		/37			33			40
ETC 4206	Construction Estimating		0/0/0						17
ETC 4241C	Construction Materials and Methods				26				
ETC 4242	Construction Contracts		17			15			20

	& Specs								
ETC 4243	Building Systems					11			
ETC 4414C	Applied Structural Design I	17							
ETC 4415C	Applied Structural Design II				6				
ETD 3350C	Applied CADD	29			1				
ETG 3533C	Applied Engr Strength and Materials		32			38			38
ETG 3541	Applied Mechanics	42	49	/0	44	42		77	47
ETG 4950C	Senior Design Project	24	29		/27	38		32	38
ETI 3116	Applied Engr. Quality Assurance	50		25	56				
ETI 3418C	Comp Numerical Controls, Mach Apps			25			20		
ETI 3421	Materials and Processes	35			43				
ETI 3651C	Computer Applications	30	52	49	26	16	30	35	34
ETI 3671	Technical Economic Analysis		62	34		64	52	64	75
ETI 3690	Technical Sales						24		
ETI 4186	Applied Reliability								18
ETI 4205	Applied Logistics	16			20				
ETI 4448	Applied Project Management		54	63		46	68		
ETI 4635	Technical Administration	33	32		41	25			
ETI 4640	Process Planning & Work Measure	17			15				
ETI 4661C	Applied Facilities Planning & Design								
ETI 4700	Occupational Safety						62		
ETI 4835	Rocket Propulsion Technology	5			16				
ETI 4836	Space Systems Technology	18			13				
ETI 4837	Tech. of Small Space Payloads				12				
ETI 4838	Flight Dynamics Technology		15			7			
ETI 4839	Space Electro-Optics Technology								
ETI 4932									
ETM 4220	Applied Energy Systems		34			46			
ETM 4225	Manuf of Photonics				8				
ETM 4232C	Applied Heat Transfer								
ETM 4331C	Applied Fluid Mechanics			20					
ETM 4403C	Applied Kinematics								
ETM 4512C	Applied Design of Machine Elements								
ETM 4755	Applied Air Conditioning								

MAP 3401	Problem Analysis	26	20		/23	16			
STXXXX	Introduction to IT								
SUR 3930									2
Totals		1126	1358	627	1425				

X. Non-Faculty Resources

A. Describe library resources currently available to implement and/or sustain the proposed program through Year 5. Provide the total number of volumes and serials available in this discipline and related fields. List major journals that are available to the university's students. Include a signed statement from the Library Director that this subsection and subsection B have been reviewed and approved for all doctoral level proposals.

B. Describe additional library resources that are needed to implement and/or sustain the program through Year 5. Include projected costs of additional library resources in Table 3.

_____ _____

Library Director Date

C. Describe classroom, teaching laboratory, research laboratory, office, and other types of space that are necessary and currently available to implement the proposed program through Year 5.

Classroom

All proposed graduate courses offered by the Engineering Technology department will be online, and therefore will require no or minimum classroom usage. ENT also has a large lab room that could be used for classes during evening. This lab holds 20 students. ENT computer lab will be most useful in providing hands-on experience.

D. Describe additional classroom, teaching laboratory, research laboratory, office, and other space needed to implement and/or maintain the proposed program through Year 5. Include any projected Instruction and Research (I&R) costs of additional space in Table 2. Do not include costs for new construction because that information should be provided in response to X (J) below.

E. Describe specialized equipment that is currently available to implement the proposed program through Year 5. Focus primarily on instructional and research requirements.

None are needed

F. Describe additional specialized equipment that will be needed to implement and/or sustain the proposed program through Year 5. Include projected costs of additional equipment in Table 2.

None are needed

G. Describe any additional special categories of resources needed to implement the program through Year 5 (access to proprietary research facilities, specialized services, extended travel, etc.). Include projected costs of special resources in Table 2.

None are needed

H. Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5. Include the projected costs in Table 2.

Because UCF currently does not have a graduate program in Technology, it does not yet have any graduate fellowships, scholarships, or dedicated graduate assistantships allocated to the program. We plan on using funds from research grants to provide our best students with graduate assistantships.

I. Describe currently available sites for internship and practicum experiences, if appropriate to the program. Describe plans to seek additional sites in Years 1 through 5.

The program is designed as a Masters program for working professional students. As such it is expected that the vast majority of students will be working professionals and thus have no need for internship or practicum experiences.

J. If a new capital expenditure for instructional or research space is required, indicate where this item appears on the university's fixed capital outlay priority list. Table 2 includes only Instruction and Research (I&R) costs. If non-I&R costs, such as indirect costs affecting libraries and student services, are expected to increase as a result of the program, describe and estimate those expenses in narrative form below. It is expected that high enrollment programs in particular would necessitate increased costs in non-I&R activities.

No new capital expenditures are needed.

Appendix A

Academic Program Reviews, 2005-2006

College of Engineering and Computer Science
Department of Engineering Technology
(B.S.E.T., B.S.E.E.T., B.S.I.S.T.)

Department Data

Total Student Credit Hours by Level:

Category	Engineering Technology SCH	Total
	2003-04	2004-05
Lower	270	432
Upper	7,465	7,931
Graduate		
Thesis		
Total	7,735	8,363

Faculty Information:
(TENURED OR TENURE-EARNING, NON-TENURE TRACK, VISITING, ADJUNCT, GTA)

Category	Engineering Technology SCH	Total
	2003-04	2004-05
Lower	270	432
Upper	7,465	7,931
Graduate		
Thesis		
Total	7,735	8,363

Sponsored Research:
(These data have been provided by the Office of Research and include only external funds that flow through that office.)

Engineering Technology			
Year	Federal	Non-federal	Total
2000-01	$129,200	$40,041	$169,241
2001-02	$5,285	$96,552	$101,837
2002-03	$323,290	$165,238	$488,528
2003-04	$237,298	$329,667	$566,964
2004-05	$298,607	$578,803	$877,410

Program Data

Enrollment and Degree Production by Level and Ten-year Projections (from Spring 2004):

Year	Enrollment Engineering Technology, B.S.	Academic Year	Degrees Granted Engineering Technology, B.S.
Fall 2000	93	2000-01	20
Fall 2001	118	2001-02	15
Fall 2002	117	2002-03	26
Fall 2003	137	2003-04	20
Fall 2004	169	2004-05	23

Year	Enrollment Projection Engineering Technology, B.S.	Academic Year	Degree Projection Engineering Technology, B.S.
Fall 2004	145	2004-05	25
Fall 2005	157	2005-06	28
Fall 2006	168	2006-07	30
Fall 2007	179	2007-08	31
Fall 2008	195	2008-09	33
Fall 2009	211	2009-10	35
Fall 2010	217	2010-11	36
Fall 2011	221	2011-12	37
Fall 2012	227	2012-13	38
Fall 2013	232	2013-14	39

Year	Enrollment Electrical Engineering Technology, B.S.	Academic Year	Degrees Granted Electrical Engineering Technology, B.S.
Fall 2000	156	2000-01	28
Fall 2001	189	2001-02	34
Fall 2002	216	2002-03	28
Fall 2003	190	2003-04	29
Fall 2004	111	2004-05	29

Year	Enrollment Projection Electrical Engineering Technology, B.S.	Academic Year	Degree Projection Electrical Engineering Technology, B.S.
Fall 2004	215	2004-05	31
Fall 2005	290	2005-06	38
Fall 2006	339	2006-07	41
Fall 2007	387	2007-08	46
Fall 2008	462	2008-09	54
Fall 2009	467	2009-10	55
Fall 2010	466	2010-11	54
Fall 2011	464	2011-12	54
Fall 2012	463	2012-13	54
Fall 2013	462	2013-14	53

Year	Enrollment Information Systems Technology, B.S.	Academic Year	Degrees Granted Information Systems Technology, B.S.
Fall 2000		2000-01	
Fall 2001		2001-02	
Fall 2002		2002-03	
Fall 2003	85	2003-04	19
Fall 2004	169	2004-05	38

Year	Enrollment Projection Information Systems Technology, B.S.	Academic Year	Degree Projection Information Systems Technology, B.S.
Fall 2004	68	2004-05	0
Fall 2005	76	2005-06	6
Fall 2006	84	2006-07	7
Fall 2007	92	2007-08	8
Fall 2008	100	2008-09	8
Fall 2009	107	2009-10	9
Fall 2010	115	2010-11	10
Fall 2011	121	2011-12	10
Fall 2012	130	2012-13	11
Fall 2013	136	2013-14	11

Highlights

Department of Engineering Technology

- Engineering Technology Department goals are:
  - Goal 1: A national caliber, diverse faculty who are recognized leaders in teaching.
  - Goal 2: Distinguished, innovative undergraduate and graduate programs.
  - Goal 3: A model for university outreach, globalization, and partnerships.
  - Goal 4: An organization committed to obtaining the highest quality standards in all phases of its operations, processes, and management.
  - Goal 5: An organization successful in obtaining resources to support academic development.
- There are three faculty members in the department currently active in research with the Public Safety Technology Center working on software development and application in information systems; one faculty member has a joint appointment with the MMAE department, one faculty member is actively engaged in NSF curriculum development grant work; one faculty member holds a joint appointment with the National Center for Forensic Sciences working primarily in digital forensics. One faculty member holds a joint appointment with the Center for Research and Education in Optics and Lasers (CREOL).
- Provide faculty and staff with more opportunities for professional development (organized development). Provide faculty with more financial resources for equipment purchases and lab development.
- The lower level and upper level required courses are delivered using the following formats because many students are employed:

a) Live (face-to-face)instruction
b) FEEDS/Live (lecture on FEEDS, lab is live)
c) FEEDS (video streamed over Internet)

B.S. Electrical Engineering Technology

- Last accredited by the Accreditation Board for Engineering & Technology (ABET) in 2003. The next accreditation visit is in 2009.
- Engineering Technology ranked 36th by ASEE in 2003-04 for engineering technology bachelor's degrees awarded by school; ranked 22nd in terms of degrees awarded to women by school; and ranked 47th in terms of enrollment by school.
- The number of degrees granted has maintained since 2000-01. The program enrollment is expected to grow at an average of 20 percent per year over the next ten-year period. The decrease in enrollment seen from 2001-03 was due to the opening of the IST program.
- 16.2% of the Engineering Technology B.S.E.E.T. students were female (Fall 2004), compared to 16.7% in the Fall 2000. This compares to 13.8% of the students in the College of Engineering and Computer Science being female.
- Student Enrollment Status: 36.9% of our B.S.E.E.T. students were full time and 63.1% part time (Fall 2004) compared to 25% full time and 75% part-time students in Fall 2000.
- Compared to the college and university, there is a higher percentage of ethnic minority students and a higher percentage of community college transfers.
- 100% of the FTIC (first time in college) students graduate in five years or less.
- To remain current, the program would like to hire a faculty member with the expertise in RF and Analog/Digital Communications.
- There are three concentrations: in Engineering Technology B.S.E.E.T. Program: electrical systems, computer systems, and photonics. The photonic concentration is a new concentration within the B.S.E.E.T. major that was added based on the needs of the local community.
- A very high percentage (over 70%) of the Electrical Engineering Technology graduates remain employed in the state of Florida. The average annual first year salary is in the high $40,000 range. The program serves the state of Florida very well by providing education and skills necessary for successful employment.

B.S. Engineering Technology

- Last accredited by the Accreditation Board for Engineering & Technology (ABET) in 2003. The next accreditation visit is in 2009. It is the only Engineering Technology Distance ABET accredited degree program offered in Florida and one of only a few in the country.
- Engineering Technology ranked 36th by ASEE in 2003-04 for engineering technology bachelor's degrees awarded by the school; ranked 22nd in terms of degrees awarded to women by the school. Also ranked 47th in terms of enrollment by the school.
- There are three concentrations in the Engineering Technology B.S.E.T. Program,: operations, design, and space systems. The entire degree of the B.S.E.T., Operations, is delivered using state-of-the-art technology, which includes real-time video streaming (FEEDS) and course management software assisted instruction.
- Space systems is taught at KSC and is able to use up-to-date labs on site. Many of the classes use virtual teams as a part of teaching.
- Fall 2005, the B.S.E.T. program has 5.5 full-time faculty members, one adjunct. Two females, one minority (international). Sixty-three are tenured. Several teaching and research labs support the program including Harris Computer Laboratory, Manufacturing and Development Lab, ENT Computer Lab, PLC/Feedback Control Lab.
- Enrollment was projected for Fall 2004 at 145. Actual count for Fall 2004 was 169. Now the enrollment for Fall is projected at 232, a 37% increase.

- The number of males has increased from 80.6% in 2000 to 85.2% in 2004, with CECS higher at 86.2%. The percentage of full-time students has increased to 60.9% from 40.9%.The number of minorities has gone from 22.3% to 25.9%.
- 69.2% of our CC transfer students graduate in 4 years or less, compared to 94.2% of all UCF students. Many of our students are older and are working full time.

B.S. Information Systems Technology

- The only A.S. to B.S. program IST in the state of Florida and is one of a few A.S. to B.S. programs to offer a degree totally online. It requires 33 hours of lower level technical course work in the networking area. All upper level courses are hands-on or very practical.
- The IST program enrollment has grown 242.4% since program inception in 2002 through 2005. The IST program enrollment is expected to grow at an average of 10% per year over the next ten-year period.
- The number of IST degrees granted has increased 200% from AY 2003-04 to 2004-05.
- Student enrollment status: 40.2% of the IST students were full time and 59.8% part time (Fall 2004). (College: full time 73.7%, part time 26.3%)
- Student ethnicity (Fall 2004): White - 65.7%; African American - 5.3%; Hispanic - 16%; Asian - 3.6%; American Indian - 2.4%; Non-Resident Alien - 1.2% ; Not Reported - 5.8%
- Community college transfer rates (Fall 2004): FTIC - 21.9%; CC Transfer - 74.6%; Other Transfer - 3.6% Female Representation: 10.7% of the IST students were female (Fall 2004). This compares to 13.8% of the students in the College of Engineering and Computer Science being female.
- The program is not accredited by ABET because there are no completely established criteria for this program.

Recommendations from Consultants, Dean and Program Review Committee:

Department of Engineering Technology

1. Develop joint courses where appropriate with other departments such as the security minor, Secure Computing and Networks (SCAN) developed with IT.
2. Consolidate and streamline programs.
3. Establish a core curriculum for all ENT programs.
4. Develop M.S. programs for ENT; e.g., M.S. IT in collaboration with IT in CS, a general ENT M.S., etc.
5. Develop curricula for construction engineering and construction management undergraduate programs in collaboration with the Civil Engineering and Industrial Engineering and Management Systems departments.
6. Involve more departmental faculty in academic and professional career advising.
7. Explore 2+1+1 (A.S. at the community college, junior level at UCF regional campus, senior level at UCF Orlando campus) programs at UCF regional campuses

Recommendations for all B.S. Programs in Engineering Technology

1. Increase program offerings and increase courses with consideration of student-faculty ratios.
2. Expand program opportunities and space at Cocoa Campus and consider expansion to other regional campuses.

SUMMARY OF 2005-06 PROGRAM REVIEWS

Program Name	CIP	Level	Result of Review
Electrical Engineering Technology	15.0303	B.S.	Maintain
Engineering Technology	15.0899	B.S.	Maintain
Information Systems Technology	15.1202	B.S.	Maintain

Appendix B

Library Volumes

MEMORANDUM

TO: Jeannette Ward, Associate Director for Technical Services

FROM: Michael A. Arthur, Head, Acquisitions & Collection Services Department

DATE: October 29, 2007

SUBJECT: Program Proposal for Master of Science in Engineering Technology

This memorandum is being submitted for your review and approval. As library resources are essential to any new degree program, an analysis of library holdings was conducted at the request of Dr. Ron Eaglin of the College of Engineering and Computer Science who is working to develop a Master of Science in Engineering Technology. I discussed this degree by phone with Dr. Eaglin and we both feel that the library can adequately support this program with no additional acquisitions. The program will be based on project management within engineering and will incorporate many of the courses already offered within the College of Engineering. The University of Central Florida has the following related programs at the doctoral level:

Civil Engineering
Computer Science
Environmental Engineering
Industrial Engineering & Management
Computer Engineering
Electrical Engineering
Material Science & Engineering

The following data compares the library holdings of the University of Central Florida, Florida Atlantic University and Florida International University. The results of the comparison combined with the amount of materials added in support of related areas supports the conclusion that no additional money is necessary to support this program. However, it should be noted that current budget cuts and anticipated short falls next year will not permit new purchases to support this degree in 2007/2008 or 2008/2009.

MONOGRAPH ANALYSIS

The University of Central Florida was compared to Florida Atlantic University and Florida International University using OCLC WorldCat Analysis on October 29, 2007. The following chart provides details regarding how the two collections compare in some areas that may provide materials in support of the proposed degree. The subject areas were chosen from Library of Congress Subject Headings after closely evaluating the key research areas provided by Dr. Eaglin.

	UCF	FAU	FIU

Total Holdings	996,152	916,400	834,601
Engineering & Technology	69,252	44,315	35,189
Computer Science	28,797	14,827	10,544

ONLINE RESOURCES:

The proposed degree program will be supported by a large number of online journals and databases in the areas of engineering and computer science. The amount of journals alone is well into the hundreds and over 20 databases are available including:

IEEE Xplore
Inspec
Compendex

University of Central Florida

Library Administration

MEMORANDUM

TO: Dr. Ron Eaglin, College of Engineering and Computer Science

FROM: Jeannette Ward
Associate Director of Technical Services

SUBJECT: Proposal for Master of Science in Engineering Technology

DATE: October 29, 2007

I have reviewed the collection analysis completed by Michael Arthur. A copy of that report is enclosed.

I concur with Michael's assessment that the libraries' collections can adequately support the proposed program.

Please let me know if you have any questions.

Enclosure

cc: Barry Baker, Director of Libraries
Patricia Bishop, Vice Provost & Dean, Graduate Studies, MH 230
Michael Arthur, Acquisitions & Collection Services

Appendix C

New Course Proposals

UNIVERSITY OF CENTRAL FLORIDA
COLLEGE OF ENGINEERING AND COMPUTER SCIENCE
DEPARTMENT OF ENGINEERING TECHNOLOGY

ETG 5xxx: APPLIED RESEARCH METHODS

COURSE OUTLINE

Catalogue Title and Description: **ETG5xxx. 3(3,0). APP RESEARCH METH.** Broad overview of applied research methods from the literature review process to the investigation, modeling, experimental design, analysis of results, and technical reports.

Prerequisites and Co-Requisites: Bachelors degree or senior standing.

Textbook and References:

L. Lock, S. Silverman, and W. Spirduso, *Reading and Understanding Research*, Second Edition, Sage Publications, 2004.

J. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, Second Edition, Sage Publications, 2003.

H. Michaelson, *How to Write and Publish Engineering Papers and Reports*, Third Edition, Oryx Press, 1990.

L. Chow, Presentation handout: "The Research Process: A How-To Manual for Doing Basic and Applied Research."

K. Houp, T. Pearsall, and E. Tebeaux. *Reporting Technical Information*, 9th edition, Allyn and Bacon, 1998.

R. Day, *How to Write and Publish a Scientific Paper*, 4th edition, Oryx Press, 1994.

Goals/Objectives:

- to understand the steps and methodology of an effective research process,
- to be familiar with and be able to conduct literature reviews,
- to define research objectives and hypotheses,
- to conduct the preliminary investigations of a research idea,
- to understand the concept and importance of modeling,
- to understand the concept and importance of experimentation,
- to review the concept of uncertainty in a model or experiment,
- to be able to gather and analyze results,
- to be able to convey the findings written and orally,
- to understand the report writing process,
- to determine publication avenues,
- to determine funding opportunities and explore the proposal writing process.

Instructor: **Dr. Eduardo Divo**
Phone: (407) 823-4753
Email: edivo@mail.ucf.edu
Website: http://pegasus.cc.ucf.edu/~edivo

Class Meetings:
Lecture: iCLS

Office Hours: ENG1-247
M-R: ?
No appointment necessary

Computer Usage: Use of internet to perform inquiries for added information, searches, and literature reviews.

Library Usage: Students are encouraged to consult library and internet references to aid in researching course material.

Projects: A case study of an applied research process will be conducted during the semester.

Course Topics:

- What is research? Motivations and requirements.
- Research methodologies and habits.
- Literature reviews.
- Problem description and hypothesis.
- Proof of concept and preliminary tests.
- Design of experiments.
- Modeling and simulation.
- Uncertainty.
- Analysis of results.
- Reporting: Written and Orally.
- Publication and the peer-review process.
- Sponsored research, funding opportunities, and proposal writing.

Guidelines: Reading assignments are to be completed prior to class discussion.

Any change to the schedule will be notified at least two weeks in advance.

Attendance is mandatory not only by university regulations but also by new immigration policies.

Course Grading: The final grade will be based upon the following proportions:

Case Study:	
Abstract	**10%**
Literature Review	**30%**
Hypothesis	**10%**
Results and Discussion	**40%**
Conclusions	**10%**

Grade Distribution:

88.00 – 89.99 = A–	≥ 90.00 = A	
78.00 – 79.99 = B–	80.00 – 85.99 = B	86.00 – 87.99 = B+
68.00 – 69.99 = C–	70.00 – 75.99 = C	76.00 – 77.99 = C+
58.00 – 59.99 = D–	60.00 – 65.99 = D	66.00 – 67.99 = D+
≤ 57.99 = F		

Title and Course Number: ETI 6XXX
Technology and Analysis for Enterprises
Hours 3 (3, 0)

Instructor: Dr. Nabeel Yousef
Office: RM. 248 Eng. I, Orlando Campus
Office Hours:
Phone: (407) 823-5104
E-mail: nyousef@mail.ucf.edu

Course Description: Systematic Road Map to Quality. The course defines most major activities that managers and change agents must include if they want to see sustainable results. It also provides a set of sequential activities that must be implemented to achieve Enterprise Quality. Also provides tools to identify gaps in their current quality plan.

Prerequisites: **PR: STA 3032 or equivalent.**

Textbook: Juran's Quality Planning & Analysis for Enterprise Quality, 5th Edition, Gryna, Chua and Defeo, McGraw Hill 2007

References: Management and Control of Quality by James R. Evans and William M. Lindsay, 5th Edition, 2001.
Introduction to Statistical Quality Control by Montgomery, Wiley, 4th Edition
Taguchi's Quality Engineering Handbook, Taguchi and Yano, Wiley, 2004
Modern Methods for Quality Control and Improvement: by Harrison M., Wadsworth, Kenneth S. Stephens and A. Blanton Godfrey, 2nd Edition, 2001.
Principles for Quality Control by Jerry Banks Wiley 1989

Goals/Objectives: Prepare the student for the management of quality in an environment where companies need to excel in a competitive world that features global supply chains, mass customization, and instant communication. Customers' demands for perfection in quality are becoming the norm and failure to meet such goals produces massive shifts in market share.

Computer Usage: Use of spreadsheets (Excel), statistical software(for example Minitab), charts, and graphs for data measurement and presentation.

TENTATIVE COURSE OUTLINE

TOPIC	CHAPTERS	COMPLETION DATE	PRACTICE PROBLEMS	ASSIGNMENTS DUE DATE
BASIC CONCEPTS				
COMPANYWIDE ASSESSMENT OF QUALITY				
QUALITY IMPROVEMENT & COST REDUCTION				
QUALITY CONTROL				
PROCESS MANAGEMENT				
STRATEGIC QUALITY MANAGEMENT				
DEVELOPING A QUALITY CULTURE				
EXAM 1				
CUSTOMER NEEDS				
DESIGNING FOR QUALITY				
OPERATIONS – MANUFACTURING & SERVICE				
INSPECTION, TEST AND MEASUREMENT				
QUALITY AUDITS				
STATISTICS AND PROBABILITY REVIEW				
DATA ANALYSIS				
TOOLS FOR DESIGNING FOR QUALITY				
STATISTICAL PROCESS CONTROL				
EXAM2				

Grading:

Element	Maximum Points
Exam 1 (individual)	**100**
Exam 2 (individual)	**100**
Project (team)	**300**
Research papers	**200**
Case Studies and Assignments	**300**
TOTAL	**1000**

Grading: (continued)

Based on 1000 points

Numerical Grade	Letter Grade
900 to 1000 points	A
800 to 899 points	B

700 to 799 points	C
600 to 699 points	D
Below 600 points	F

UNIVERSITY OF CENTRAL FLORIDA
DEPARTMENT OF ENGINEERING TECHNOLOGY
COURSE OUTLINE

Title and Course

Number: ETI 6XXX
Technology for Project Management
Hours 3 (3, 0)

Instructor: Dr. Nabeel Yousef
Office: RM. 248 Eng. I, Orlando Campus
Office Hours:
Phone: (407) 823-5104
E-mail: nyousef@mail.ucf.edu

Course Description: All around the globe IT is playing an increasingly vital role in helping organizations gain the competitive advantage around the globe. This course offers a global perspective on how IT is transforming business. The course provides information on how organizations operate and compete in the digital economy, and how IT can assist this transformation.

Prerequisites: **CET3010, ENC3241, ETI4448 or equivalent.**

Textbook: Information Technology for Management: Transforming Organizations in the Digital Economy, 5th Edition, Efraim Turban, Dorothy Leidner, Ephraim McLean, James Wetherbe, Wiley 2005
ISBN-10: 0471705225

References:

- Essentials of Strategic Management, 4th Edition by J. David Hunger and Tom Wheelen; Prentice Hall 2006. ISBN: 0131485237
- Managing and Using Information Systems, 3rd edition by Keri E. Pearlson and Carol S. Saunders; Wiley 2005. ISBN: 0471715387
- Fundamentals of Technology Project Management, by Colleen Garton and Erika McCulloch. Mc Press 2005. ISBN: 1583470534
- Information Technology Project Management, 4th Edition by Kathy. Course Technology 2005. ISBN: 0619215267

Goals/Objectives: Prepare the student for transforming their organization in a competitive digital economy using information technology. The course will also prepare students to understand how organization operates on the global level with the existence of the web and the e-business.

Computer Usage: During that different software will be used to design and help in the scheduling and organization of projects within the organization such as MS Visio and MS Project.

TENTATIVE COURSE OUTLINE

TOPIC	**CHAPTERS**	**COMPLETION DATE**	**PRACTICE PROBLEMS**	**ASSIGNMENTS DUE DATE**
STRATEGIC USE OF INFORMATION TECHNOLOGY IN THE DIGITAL ECONOMY	CH1	2ND WEEK	BOOK: STRATEGIC USE OF INFORMATION TECHNOLOGY FROM OXFORD PRESS AND ANSWER THE ASSIGNMENT QUESTIONS	THE END OF THE SECOND WEEK
INFORMATION TECHNOLOGY CONCEPTS AND MANAGEMENT	CH2	3RD WEEK	**PROJECT DESCRIPTION**	AT THE END OF THE SEMESTER
NETWORK COMPUTING DISCOVERY, COMMUNICATION AND COLLABORATION	CH3	4TH WEEK		
E-BUSINESS AND E-COMMERCE	CH4	5TH WEEK	Case Study: E-Business and Supply Chain Integration	THE END OF THE 6TH WEEK
MOBILE WIRELESS AND PERVASIVE COMPUTING	CH5	6TH WEEK		
TRANSACTION PROCESSING FUNCTIONAL APPLICATIONS, AND INTEGRATION	CH6	7TH WEEK		
ENTERPRISE SYSTEMS: FROM SUPPLY CHAIN TO ERP TO CRM	CH7	8TH WEEK	Case Study: Implementing Enterprise Resource Planning	THE END OF THE 9TH WEEK
EXAM 1		***9TH WEEK***		
INTER-ORGANIZATIONAL AND GLOBAL INFORMATION SYSTEMS	CH8	10TH WEEK	**PROJECT DISCUSSION**	
KNOWLEDGE MANAGEMENT	CH9	11TH WEEK		
DATA MANAGEMENT: WAREHOUSING, ANALYZING, MINING, AND VISUALIZATION	CH10	12TH WEEK		
MANAGEMENT DECISION SUPPORT AND INTELLIGENT SYSTEMS	CH11	13TH WEEK		
USING INFORMATION TECHNOLOGY FOR STRATEGIC ADVANTAGE	CH12	14TH WEEK	City of Winston-Salem Information Technology Strategic Plan	THE END OF THE 15TH WEEK

INFORMATION TECHNOLOGY ECONOMICS	CH13	15TH WEEK		
ACQUIRING IT APPLICATIONS AND INFRASTRUCTURE	CH14	16TH WEEK	**PROJECT DUE DATE**	**PROJECT DUE**
MANAGING INFORMATION RESOURCES AND SECURITY	CH15	17TH WEEK		
THE IMPACT OF INFORMATION TECHNOLOGY ON ORGANIZATIONS, INDIVIDUALS AND SOCIETY	CH16	18TH WEEK		
EXAM2 (FINAL EXAM)				

Grading:

Element	Maximum Points
Exam 1 (individual)	**100**
Exam 2 (individual)	**100**
Project (team)	**300**
Research papers	**200**
Case Studies and Assignments	**300**
TOTAL	**1000**

Grading: (continued)

Based on 1000 points

Numerical Grade	Letter Grade
900 to 1000 points	A
800 to 899 points	B
700 to 799 points	C
600 to 699 points	D
Below 600 points	F

Title: OS and File System Forensics
CET 6xxx

Course Description: In-depth coverage of computer forensics-related issues associated with multiple operating systems, multiple file systems, and applications.

Prerequisites: PR: CGS 5131 or CI.

Course Objectives:

By the end of the semester students should be able to :

(i) Demonstrate an understanding of the following file systems including their structure and functioning:
   1. NTFS
   2. EXT2/3
   3. FAT
   4. HFS/HFS+

(ii) Demonstrate an understanding of the following operating systems including their structure and functioning:
   1. Linux distributions
   2. Windows
      a. Non NT
      b. NT-based (2K, XP, 2003, Vista)
   3. Mac OS X
   4. UNIX (*BSD)

(iii) Demonstrate an understanding of major applications under multiple operating systems, including the ability to identify sources of trace evidence.

(iv) Demonstrate the ability to recover trace evidence from multiple file and operating systems.

(v) Demonstrate an understanding and appreciation of sound forensic procedures.

Course Outline :

1. Introduction
2. Review of computer forensics procedures
3. File Systems
   a. EXT2
   b. EXT3 (journalized EXT2)
   c. NTFS
   d. HFS/HFS+
   e. Others (UFS, FFS, HPFS)
4. Operating Systems & Applications

a. Linux distributions
    i. Redhat-based
    ii. Debian-based
    iii. Trace evidence locations
    iv. Recovery methods
    v. Applications
        1. Mail
        2. Web
        3. Documents
b. Windows (non NT)
    i. 95
    ii. 98/ME
    iii. Trace evidence locations
    iv. Recovery methods
    v. Applications
        1. Mail
        2. Web
        3. Documents
c. Windows NT-based
    i. 2K, XP
    ii. 2003,Vista
    iii. Trace evidence locations
    iv. Recovery methods
    v. Applications
        1. Mail
        2. Web
        3. Documents
d. Mac OS X
    i. Pre OS X systems
    ii. Trace evidence locations
    iii. Recovery methods
    iv. Applications
        1. Mail
        2. Web
        3. Documents

Textbook:

Required:

- Brian Carrier, File System Forensic Analysis, Addison-Wesley Professional, March 17, 2005, ISBN: 0321268172

Optional:

- Advances in Digital Forensics, Volume 1, International Federation of Information Processing, 2006.
- NOTE: There is NO perfect textbook for this course. Therefore, the majority of the readings will be derived from online readings and other sources. See below.

Required Readings:

1. Craiger, P. (2006) *Computer forensics methods and procedures* In H. Bigdoli, (Ed), *Handbook of Information Security* John Wiley & Sons.
2. Craiger, P., Pollitt, M & Swauger, J (2006) *Digital Evidence and law enforcement.* In H Bigdoli, (Ed), *Handbook of Information Security* John Wiley & Sons.
3. Craiger, P. (2006). Recovering digital evidence from Linux systems. In S. Shenoi & M Pollitt (Eds), *Advances in Digital Forensics* International Federation of Information Professing, pp. 233-234.
4. Craiger, P., Swauger, J, & Marberry, C. (2005). Digital evidence obfuscation: recovery techniques. T*he Proceedings of the International Society for Optical Engineering.*
5. Craiger, P, Swauger, J., Marberry, C., (in press). Digital forensic software tool validation In P. Kanellis (Ed) *Digital Crime and Forensic Science in Cyberspace.* Idea Group.
6. Craiger, P., & Burke, P. (in press). Mac Forensics: OS X and the HFS+ File System. To appear in M. Olivier and S. Shenoi (Eds.), Advances in Digital Forensics Volume 2. International Association of Information Processing.
7. Burke, P., & Craiger, J.P. (in press). Digital Trace Evidence from Secure Deletion Programs. To appear in M. Olivier and S. Shenoi (Eds.), Advances in Digital Forensics Volume 2. International Association of Information Processing.
8. NTFS. http://www.ntfs.com/
9. Apple Computer, Target Disk Mode. (http://developer.apple.com/documentation/Hardware/Developer_Notes/Macintosh _CPUs-G4/PowerMacG4_16Jan01/3Input-Output/Target_Disk_Mode_.html), 002.
10. Apple Computer, Technical Note TN1150: HFS Plus Volume Format. (http://developer.apple.com/technotes/tn/tn1150.html), 2004.
11. Microsoft Corporation, How the Recycle Bin Stores Files. (http://support.microsoft.com/default.aspx?scid=kb;en-us;13617&Product=w95), 2004.
12. Network Working Group, RFC 4155 - The application/mbox Media Type. (http://www.faqs.org/rfcs/rfc4155.html), 2005.
13. EXT2/3 File System. http://olstrans.sourceforge.net/release/OLS2000-ext3/OLS2000-ext3.html
14. Apple Computer, Working with Spotlight. (http://developer.apple.com/macosx/spotlight.html), 2005.

Student Products: Products include: written reports; assignments to include acceptable use and security policies; analyzing and correlating log files from multiple devices to determine incident source; demonstration of procedures to recover from various incidents on various

operating systems and platforms. Students must be able to demonstrate effective communication skills in order to pass this course.

Course Policies:

- Unless explicitly stated by me, all assignments must be completed individually. Discussion of course topics is welcomed, but each student must complete his/her own assignments and exams. Each of you will sign an ethics statement on day one indicating your understanding of the consequences of cheating and/or plagiarism in this course.
- All assignments must be completed on time to receive credit.
- All assignments must be submitted via WebCT to receive credit.
- All course related communication with the instructor should be done through the WebCT email system.
- The only exceptions to the above rule will be in extreme circumstances and must be arranged with the instructor ***before*** the assignment due date.
- Assignments are graded on the following factors:
    - Technical accuracy
    - Completeness
    - Professionalism
        - The quality of communicating your ideas
            - THIS IS CRITICAL.
        - The overall appearance of your document

EVALUATION

Grades will be determined on the basis of the student's participation and performance on approximately seven hands-on assignments, including a report with an executive summary written for managers, and a technical summary written for technical peers.

Grading Scale

97 - 100 = A+	77 - 79 = C+
94 - 96 = A	74 - 76 = C
90 - 93 = A-	70 - 73 = C-
87 - 89 = B+	67 - 69 = D+
84 - 86 = B	64 - 66 = D
80 - 83 = B-	60 - 63 = D-

Below 60 is an F

COLLEGE OF ENGINEERING
UNIVERSITY OF CENTRAL FLORIDA
DEPARTMENT OF ENGINEERING TECHNOLOGY

COURSE OUTLINE

Title and Course Number: Information and Communications Infrastructure, CET 5XXX

Course Description: This course provides an overview of information systems in the technology world. Topics include hardware, software, databases and related technologies, telecommunications systems, the development of information systems, and security, social, and ethical issues involved with information systems technology.

Prerequisites and Co-Requisites: Graduate standing or C.I.

Textbook: Stair, Ralph M., and George W. Reynolds. 2006. *Principles of Information Systems*, 7th edition. Boston, Massachusetts: Course Technology.

Goals/Objectives: This course will provide students with an in-depth understanding of Information systems and implementation..

Coordinator: DR. Bahman S. Motlagh
OFFICE: 210 Engineering I Building, Main Campus
PHONE: (407) 823-4748
E-mail: bmotlagh@mail.ucf.edu

Oral and Written Communication: Reports, and project presentation.

Calculus Usage: N/A

Library Usage: Students are encouraged to consult library references to aid in understanding the course material.

Ethics, Social, Economic, and Safety:

- Ethics by inspiring professional concepts into the course and encouraging students to freely discuss situations with ethical dilemmas. Students are encouraged to suggest alternative courses of action.
- Social impact due to possible failure.
- Economics: use of less expensive components to achieve the same intended goal.
- Safety: Safety considerations are discussed to avoid any accident.

Course Topics:

An Introduction to Information Systems
Information Systems in Organizations
Hardware: Input, Processing, and Output Devices
Systems and Application Software
Organizing Data and Information
Telecommunications and Networks
The Internet, Intranets, and Extranets
Electronic Commerce
Transaction Processing and Enterprise Resource Planning Systems
Information and Decision Support Systems
Specialized Business Information Systems: Artificial Intelligence, Expert Systems, Virtual Reality, and Other Specialized Systems
Systems Investigation and Analysis
Systems Design, Implementation, Maintenance, and Review
Security, Privacy, and Ethical Issues in Information Systems and the Internet

Guidelines: Make-up exams, quizzes and late reports will be permitted only for extreme circumstances.

Homework: Homework assignment will be given over the semester. At least one problem from each assignment will be selected at random and graded. Each assignment will be worth a maximum of 10 points. Homework is very important for the following reasons:

- Failure to do the homework will usually lower your overall grade.
- Exam problems are often very similar to homework problems.
- The practice you obtain from homework problems will often enable you to solve exams quicker, for obvious reasons.

Assignments will be collected at the beginning of the class on due date. Late assignments will receive a deduction in their grade.

The exams will consist of problems designed to test your understanding of the concepts covered in class. The tests will also examine your thinking, recognition and problem solving skills by asking questions that are similar (yet different) from the problems covered in class and in the homework.

Course Grading: There will be three exams:

Exam 1	25%
Exam 2	25%
Exam 3	25%
Assignments	25%

Department of Engineering Technology
College of Engineering
University of Central Florida
Dr. Philip Craiger

Title: Incident Response Technologies
CET 6xxx

Course Description: Covers security incidents and intrusions, including identifying and categorizing incidents; responding to incidents; log analysis; network traffic analysis; tools; and creating an incident response team.

Prerequisites: PR: CGS 5131 or CI.

Course Goals :

1. Detect and characterize various incident types
2. Demonstrate a practical understanding of the analysis of artifacts left on a compromised system
3. Demonstrate an understanding of the complexity of and effectively respond to privileged and major event incidents.
4. Obtain practical experience in the analysis of vulnerabilities and the coordination of vulnerability handling tasks
5. Formulate effective advisories, alerts, and management briefings

Course Outline :

5. Introduction to incident and intrusion handling
    a. Definition of incident
    b. Criteria for incidents
    c. Categories of incidents
    d. Types of incidents
    e. Response level to incidents
6. Definition of incident handling
    a. Purpose of incident handling
    b. Steps in incident handling
        i. Preparation
        ii. Identification
        iii. Containment
        iv. Eradication
        v. Recovery
        vi. Follow up
7. Technical Analysis
    a. Log Analysis
        i. utmp/wtmp
        ii. messages

iii. dmesg
b. Configuration files
i. /etc/<services>
ii. passwd/shadow
iii. access control
iv. initab
v. fstab
c. Network Traffic analysis
i. Protocol analyzers
ii. Traffic signatures
8. System Devices
a. Windows servers
b. Mac OS X servers
c. Unix servers
i. Solaris
ii. BSD
iii. Linux
9. Creating a CIRT
a. Motivation
b. Benefits
c. Task of CIRT
d. Stage of CIRT development
e. Information gathering
f. Implementation
10. Common problems
a. CIRT component & constituency
11. Policies & Procedure
a. Standard Operating Procedure (SOP)
12. Case Studies

Textbook: Required:

Grance, T., Kent, K., & Kim, B. (2004). *Computer Security Incident Handling Guide: Recommendations of the National Institute of Standards and Technology*. National Institute of Standards and Technology.

West-Brown, M.J., Stikvoort, D., & Kossakowski, K. (2003). *Handbook for Computer Security Incident Response Teams (CSIRTs).* Computer Emergency Response Team, Carnegie-Mellon University.

Student Products: Products include: written reports; assignments to include acceptable use and security policies; analyzing and correlating log files from multiple devices to determine incident source; demonstration of procedures to recover from various incidents on various operating systems and platforms. Students must be able to demonstrate effective communication skills in order to pass this course.

Course Policies:

- Unless explicitly stated by me, all assignments must be completed individually. Discussion of course topics is welcomed, but each student must complete his/her own assignments and exams. Each of you will sign an ethics statement on day one indicating your understanding of the consequences of cheating and/or plagiarism in this course.
- All assignments must be completed on time to receive credit.
- All assignments must be submitted via WebCT to receive credit.
- All course related communication with the instructor should be done through the WebCT email system.
- The only exceptions to the above rule will be in extreme circumstances and must be arranged with the instructor ***before*** the assignment due date.
- Assignments are graded on the following factors:
    - Technical accuracy
    - Completeness
    - Professionalism
        - The quality of communicating your ideas
            - THIS IS CRITICAL.
        - The overall appearance of your document

EVALUATION

Grades will be determined on the basis of the student's participation and performance on approximately seven hands-on assignments, including a report with an executive summary written for managers, and a technical summary written for technical peers.

Grading Scale

97 - 100 = A+	77 - 79 = C+
94 - 96 = A	74 - 76 = C
90 - 93 = A-	70 - 73 = C-
87 - 89 = B+	67 - 69 = D+
84 - 86 = B	64 - 66 = D
80 - 83 = B-	60 - 63 = D-

Below 60 is an F

CET 6XXX - The Practice of Digital Forensics
Standard Course Outline

Catalog Description:	**CET 6XXX (previously IDS 5790) The Practice of Digital Forensics** (3 credits) Application of digital scientific techniques to solve information assurance, forensic and legal problems. Course prerequisites: CGS 5131 or C.I.
Goals/Objectives of the course:	**The Practice of Digital Forensics:** This course will explore the application of digital scientific techniques to solve information assurance, forensic and legal problems. The course will focus on how practitioners can define customer needs, ensure technically and forensically sound evidence collection, plan an effective examination strategy, employ efficient tools and techniques, and be an effective advocate for the product and the process. Students will utilize case studies to test different scientific and investigative approaches. The Course will culminate with a Moot Court exercise based upon an examination conducted by the student.
Course Outcomes:	**CO-1 Setting the Stage of Digital Forensics** At the conclusion of this section, the student will have a clear understanding of the origins, nature, process and terminology used in the practice of digital forensics. Students will be able to define: digital evidence, digital forensics, forensic acquisition, imaging, Standard Operating Procedures (SOP's), forensic examination and investigative analysis. **CO-2 Customer Requirements** Before committing time, effort and money to a digital forensic matter, it is essential to define the customer requirements along with any limitations. The student will be able to effectively evaluate a forensic request, conduct a follow-up interview and document an examination goal, requirements statement, and proposed forensic product. **CO-3 Process Limitations** There are many constraints placed on the examiner and the examination process. The students will be able to articulate a number of practical, legal and temporal limitations and how to design an examination process while staying within these bounds. Students will be able to clearly state a cost-benefit proposition given a hypothetical

	examination request. Emphasis will be placed on protecting the examiner from liability in connection with the examination process. **CO-3 Developing an Examination Plan** The key to an efficient and effective forensic examination is to develop a plan which will seek to meet the customer's requirements, stay within the process constraints, and provide the best product for the investment. The students will be able to design and document an Examination Plan for a hypothetical case. **CO-4 Selecting Tools for Implementation** The tools available to conduct digital forensic examinations are rapidly evolving and students will be exposed to a number of tool types, including proprietary, commercial and open source. Specific tools will be reviewed for strengths and weaknesses. Students will be exposed to the tool validation including the Computer Forensic Tool Testing Program at the National Institute of Standards and Technology. Students will be able to suggest appropriate tools for specific hypothetical examinations. **CO-5 Analysis versus Examination** Forensic examination is only one phase of the information lifecycle. It is important for the student to understand the roles and responsibilities of each of investigators, examiners, analysts, and attorneys. By understanding the knowledge, skills and abilities of each of these roles, the examiner will be able to effectively perform his or her function and assist in developing a high performance team. Students will be asked to role play in connection with a hypothetical case. **CO-5 Effectively Presenting the Product** An examination is of little or no value if it is not communicated. Students will examine several methods of documenting and presenting the results of a digital forensic examination. Students will be required to perform a simulated examination, create several different reports and do a formal presentation, using exhibits, as an expert witness. •
Relationship to ET	CET 6XXX contributes the following to the ENT program outcomes:

Program Outcomes:	• ----------(Outcome #) • ----------(Outcome #) • ---------- (Matrix showing relationship will be added here)
Textbook:	George Mohay, Alison Anderson, Byron Collie, Olivier de Vel and Rodney McKemmish, Computer and Intrusion Forensics (Norwood, MA: Artech House, 2003) ISBN 1-58053-369-8
References:	www.swgde.org
Topics Covered:	1. Introduction to Forensics 2. Legal Issues – Constitutional, Criminal and Civil Law 3. The Digital Forensic Process 4. Quality Assurance 5. Examination Planning and Design 6. Forensic Tool Selection and Application 7. Forensic and Investigative Roles and Responsibilities 8. Legal Issues – the Law of Evidence and Testimony 9. Forensic Examination Competency and Proficiency 10. Expert Testimony, Trial Exhibits 11. Moot Court
Computer Usage:	Students are required to use word processing, spreadsheets, PowerPoint's and conduct research on forensic software, tools, techniques and programs. Students must perform forensic examinations using both Window XP and Linux operating systems and tools.
Laboratory Exercises:	1. Imaging tools 2. Command line DOS forensic Examination 3. Windows GUI tool forensic examination 4. Linux GUI tool forensic examination 5. Examination of log files 6. Examination of Windows Registry 7. Examination of email
Required Equipment:	N/A
Course Grading:	Course Grading Policies are left to the discretion of the individual instructor
Library Usage:	Students are encouraged to consult library and Internet references to aid in researching course material, complete written projects, and prepare oral presentations.
Course Assessment:	Useful methods for assessing the success of this course in achieving the intended outcomes listed above: • CO1: Forensic examination & discussion • CO2: Forensic examination & discussion • CO3: Forensic examination & discussion • CO4: Forensic examination & discussion

	• CO5: Forensic examination & discussion
Course Policies:	**GRADING OBJECTIONS:** All objections to grades should be made IN WRITING WITHIN ONE WEEK of the work in question. Objections made after this period has elapsed will NOT be considered, no exceptions.
	PROFESSIONALISM AND ETHICS: Academic dishonesty in any form will not be tolerated!!! Violations of student academic behavior standards are outlined in The Golden Rule, the University of Central Florida's Student Handbook. See ttp://www.goldenrule.sdes.ucf.edu/ for further details. Any plagiarism, cheating or unauthorized collaboration is strictly prohibited. Students, who in the opinion of the instructor, are found guilty will have a grade of zero entered for that assignment and, at the sole discretion of the instructor, may receive a grade of "F" for the course overall.
Additional Course Information, Policies and Expectations:	**COMPUTER SKILLS/USAGE** • WebCT and its embedded e-mail will be used to communicate with students and disseminate materials and assignments throughout the course. WebCT and their e-mail at least once per day. **• Students are expected to have access to and be familiar with a word processing application (*e.g.*, Microsoft Word) as all assignments will require its use.** • Students are expected to have access to and be familiar with a spreadsheet application (*e.g.*, Microsoft Excel) and a presentation application (e.g. Microsoft PowerPoint) as some assignments will require their use. **Writing Assignments** • All assignments will be submitted, in electronic form, in a format prescribed by the instructor. Text documents must be in Microsoft Word, presentations shall be in PowerPoint and spreadsheets in Excel (all versions 2003 or earlier). Deviations from this policy must have prior approval of the instructor. The instructor will grade submissions using the mark-up and comments features of Word. Students should therefore become familiar with these features and ensure that their papers are saved in an appropriate format.
	COURSE ASSIGNMENTS • This course is conducted as a hybrid course. In addition to online education using webCT, there will be two Saturday classes. In order to ensure an effective and efficient delivery of the course, the course is organized into "weeks". Each week has course material such as readings, lectures, and discussion questions. • The required readings will be posted as part of the weekly posting by the instructor. Generally, they will mirror those in the syllabus, but may have changes, additions or deletions as determined by the instructor. When in doubt, please post a question to the course feedback section of the WebCT discussion area. • The lectures will consist of PowerPoint slides with audio and/or video tracks. These may be viewed through WEB CT or downloaded for later viewing. They will usually be in Flash

	format. Time and resources permitting, the audio portions of the lecture will be available in .mp3 format for use as podcasts. As a result, students lacking high speed/bandwidth internet connections should expect extremely poor performance of WebCT and excessive download times. • Most weeks will require one or more student postings to the discussion area designated in the week's assignment. Students are expected to frame an articulate, thoughtful and pertinent answer to the question posed. Answers must be in grammatically correct English with appropriate spelling, punctuation and structure. Postings which do not meet these tests will not receive credit. In order to receive full credit for the week's discussion, students must make one or more thoughtful response to other students postings. These follow-up postings must add value to the discussion. Postings that are "me too", "good point", or "I agree" will not receive credit. • Approximately seven forensic examinations will be conducted during this course. Each will require a Forensic Examination Report in the prescribed format. An Examination Plan may be required for any/all of the forensic examinations. • The class will culminate in a moot court exercise wherein students will require testifying about their examinations. Any and all of the examinations conducted for this course may be examined.
	EXAMS This course will not use examinations for grading purposes. At the discretion of the instructor, quizzes may be used to evaluate student comprehension.
	EXCUSAL FROM COURSE ASSIGNMENTS AND EXAMS • While this class is conducted largely online, the student's active participation on a weekly basis is required. The course is not an independent series of modules, but rather a journey to be enjoyed as a group. Therefore, students are required to conduct the assigned work during the weeks designated, except when approved in advance by the instructor. Students need to visit the WebCT site daily during the course in order to keep abreast of any changing requirements. It is the student's obligation to read all postings from the instructor in a timely fashion. • *Late Work* - work turned in late will be accepted at the discretion of the instructor, but will be reduced ½ grade for lateness (even with approval to turn it in late).
	MAKEUP ASSIGNMENTS AND EXAMINATIONS • There will be no makeup assignments given.
Course Coordinator:	Mark Pollitt, Visiting Instructor , mpollitt@mail.ucf.edu

Appendix D

Faculty CV

Dr. Ron Eaglin Resume and Curriculum Vitae

Address	College of Engineering and Computer Science University of Central Florida Orlando, Florida 32816 Office (407) 823-5937 Fax: 823-4746 Cell: (407) 497-9213 reaglin@mail.ucf.edu
Education	University of Central Florida Orlando, Florida Ph. D. Environmental Engineering, August 1993
	University of Central Florida Orlando, Florida M.S. Environmental Engineering, December 1991
	University of South Carolina Columbia, South Carolina B.S. Mechanical Engineering - Magna Cum Laude, May 1985
	South Carolina College Columbia, South Carolina Special Honors Degree, May 1985
Employment	University of Central Florida Orlando, Florida Chair of Engineering Technology College of Engineering (June 2000 - Present)
	University of Central Florida Orlando, Florida Assistant Dean for Distributed Learning College of Engineering (July 1996 – June 2000)
	University of Central Florida Orlando, Florida Visiting Assistant Professor (July 1995 - July 1996)
	Haestad Methods, Inc. Waterbury,Connecticut Senior Software Engineer (August 1994 - July 1995)
	University of Central Florida Orlando, Florida Research Assistant/Teaching Assistant (July 1989 - August 1994)
	United States Navy - Naval Nuclear Power School Orlando, Florida Nuclear Engineer/Lieutenant (June 1985 - July 1989)

Active and Complete Research Projects

Since starting work as an active researcher in 2000, I have slowly built a research program with an emphasis on performing quality research in areas that have a strong positive public impact. I have also built a strong research team that makes it possible to accomplish the over 2 million dollars of annual research that I am involved in. Two primary project in the last 5 years stand out; the FINDER project which is the development of a law enforcement data sharing network and SCINET, which is a full analysis of efficiency of county government along with business process realignment and software development.

PROJECTS **BUDGET**

- **PI, Magiquest, Plasma portal development, Creative Kingdoms $9975**
- **PI, Exploration of Document Management Options for Brevard County Florida, Brevard County FL $25,000**
- **PI, Development Enhancements for the FINDER Project, Law Enforcement Technology Program, $743,432**
- **PI, FINDER Deployment and Enhancement, COPS Program Grant, $145,000**
- **PI, MSBU Process Analysis and Development, Seminole County FL, $85,000**
- **PI, Seminole County Land File development, Seminole County Planning Department, $ 249,417**
- **Co-PI, FINDER Development: Law Enforcement Data Sharing State Grant, Florida**
- **Department of Law Enforcement, $525,000**
- **Co-PI, Development of analysis tools for the FINDER Application,**
- **National Institute of Justice, $300,000**
- **PI, Seminole County Integrated Network Software development project, Seminole County, $497,000**
- **CO-PI, Law Enforcement Data Sharing Consortium – FINDER Development,**
- **Various agencies, Annual recurring (approximately) $250,000**
- **Co-PI, Law Enforcement Data Sharing Consortium – Byrne Grant",**
- **Orange County Sheriff's Office, $91,258**
- **Co-PI, "EDI Automated Clearing House & OFX Server Projects", Fiserv, $60,122**
- **PI, "PSTC: Development of an Online Warrants System for Publishing Active Arrest Warrants",**
- **Central Florida Crimeline, $26,326**
- **PI, "Development of a Critical Incident Management System for Altamonte Springs**
- **Police Department, June 2003 $18,978**
- **PI, "Seminole County Integrated Services", $467,000, August 2003, complete**
- **Co-PI, "Development of a Distributed Data Sharing System for Law Enforcement"**
- **, May 2003, $79,803**
- **Co-PI "Orange County Sheriff's Office Crime Mapping System Enhancement**
- **and Multi-agency Regional Data-sharing Project", $612,370**
- **Co-PI "Drugnet Maintenance and Enhancement". $23,838**
- **Co-PI, "Development of a Fire Mapping System with Arson Component",**
- **National Center for Forensic Science, $54,000**
- **PI, "Development of a Rainfall Intensity Database for the USGS, RAINPLOT",**
- **United States Geologic Survey, January 2001 - ongoing, $68,878**
- **(extended for additional $7550 January 2002) total $76,128**
- **PI, "Development of an Automated Reporting System for Pawn Shop Receipt Reports", $17,000**
- **Co-PI, "Information Sharing for the Florida Law Enforcement Partnership", May 25, 2000, $15,000**
- **Co-PI, "The Florida Department of Law Enforcement Drug Database Project", May 1, 2000, $250,000**

Administration

My administrative tenure began in 1996 when I took an Assistant Dean position with the College of Engineering. The duties of this position included computer support, distance learning, and building management. The responsibilities centered on the goal of the College to establish a solid distance program. At the time I also was working with the retention program and was a key administrator in founding the freshman program in engineering creating two courses for freshman engineering. I was an invited speaker due to my expertise in the distance learning and retention on a nearly monthly basis while serving as assistant dean.

I became interim chair of Engineering Technology Department in 2000, eventually fulfilling the search and becoming permanent chair of the department. Statistics for the growth and success of the department since June 2000 are available on the ENT web site; ent.ucf.edu. The department had just over 160 students in 2000, and now currently has over 600 students and a much greater variety of programs. The quality of the faculty has increased dramatically, and the department is now working on MS programs.

A simple timeline of notable administrative work;

June 1996 – Took position as Associate Dean for Distributed Learning
June 2000 – Took over as interim chair of Engineering Technology Department
June 2002 – Became permanent chair of ENT department
Fall 2002 – Successfully completed ABET accreditation visit, accrediting all programs.
Fall 2005 – Completed program review with excellent results

Publications and Conferences

My publication record is quite diverse and reflects the many interests and opportunities that I have had in research. The interests have varied from retention where I was instrumental in setting up the retention programs for the College all the way to recent work on more complex algorithms to support the research work that I do.

- **Ron Eaglin, Bhaman Motlagh; Offering A Distance Based Course Using an Experiential Education Model, ASEE Annual Conference, 2007**
- **Olcay Kursun, Anna Koufakou, Abhijit Waukchaure, Michael Georgiopoulos, Kennerth Reynolds, Ron Eaglin; ANSWER: Approximate Name Search with Errors in Large Databases by Novel Approach based on Prefix-Dictionary; International Journal of Artificial Intelligence Tools, October, 2006**
- **.Craiger, L. Ponte, C. Whitcomb, M. Pollitt, & R. Eaglin. Masters Degree in Digital Forensics. To appear in Proceedings of the 41st Annual Hawiian International Conference for Systems Science.**
- **Conference Proceeding: O. Kursun, A. Koufakou, B. Chen, M. Georgiopoulos, K.M. Reynolds, R. Eaglin, ANSWER: Approximate Name Search with Errors in Large Database Systems; IEEE Intelligence and Security Informatics Conference (ISI 2006)**
- **K Reynolds, K., Scott, E., Eaglin, R., Pan, P., Kursun, O. (2005) A GIS Based Artificial Intelligence Clustering Algorithm to Detect Auto-Theft Recovery Patterns. The 3rd UK National Crime Mapping Conference, London, UK.**
- **Kursun, O., Reynolds, K., Eaglin, R., Chen, B., Georgiopoulos, M. (2005) Detection and Visualization of Auto Theft Recovery Patterns Across Jurisdictions. GIS Symposium 2005, Troy State University, Troy, AL, USA.**
- **Koufakou, A., Wakchaure, A., Kursun, O., Georgiopoulos, M., Reynolds, K., Eaglin, R. (2005) Burglary Data Mining - A Three Tiered Approach: Local, State, And Nation-Wide. GIS Symposium 2005, Troy State University, Troy, AL, USA.**
- **Kursun, O., Reynolds, K., Eaglin, R., Chen, B., Georgiopoulos, M. (2005) Development of an Artificial Intelligence System for Detection and Visualization of Auto Theft Recovery Patterns. Proceedings of the 2005 IEEE International Conference on Computational Intelligence for Homeland Security and Personal Safety (CIHSPS 2005), ISBN 0-7803-9176-4, Orlando, FL, USA, pp. 25-29.**
- **Reynolds, K., Kurşun, O., Georgiopoulos, M., Eaglin, R. (2004) "Development of an Artificial Intelligence Clustering Algorithm to Detect Auto-Theft Recovery Patterns", *The First Geographic Information System (GIS) Symposium, Troy State University,* Troy, AL, USA.**
- **Watkins, R. C., Reynolds, K. M., Demara, R., Geogiopoulos, M., Gonzalez, A., and Eaglin, R. "Tracking dirty proceeds: an examination of traditional and new innovative methodologies to investigate money laundering", Policing Practice and Research, Forthcoming, Spring 2003.**
- **Southeast Regional American Society for Engineering Education, "Development of the UCF Freshman Engineering Program", Eaglin, Nayfeh, Reinhart, Miller, , Virginia Technical University, April 2000**
- **Batarseh, Eaglin, Qu, and Zhang, "Multimedia Enhancement of the Electrical Engineering Core Courses", ASEE Annual Conference, St. Louis, MO, June 2000**
- **Southeast Regional American Society for Engineering Education, "The Use of Interactive TV to Deliver Engineering Programs to a Remote Site", Eaglin, Virginia Technical University, April 2000**
- **NASA Education and Technology Partnership Conference, "Use of Innovative Distance Learning Technology", Eaglin, October 1999.**
- **American Society of Engineering Education Regional Meeting at, "Development and Evaluation of an Engineering Freshman Program", Eaglin, Miller, and Chopra, Clemson University, April 1999**
- **Educause, "IMS development of Question Interoperability and its applicability to WebCT", Eaglin, Goldberg, Orlando, March 1998**
- **R.D. Eaglin, M.L. Kunnath, "Investigation of Computer Based Testing for Florida Real Estate Licensure", Florida Real Estate Commission, November 1996**
- **M.P. Wanielista, R.D. Eaglin, Linda Eaglin "Isopluval contour curves for long duration storms in Florida", Florida Department of Transportation, Final report WPI #0510680, March 1996.**
- **M.P. Wanielista, R.D. Eaglin, and L.M. Eaglin, "Intensity Duration Frequency Curves for the State of Florida", Report WPI #0510680, Florida Department of Transportation, March 1996.**
- **Wayson, R.L. and R. Eaglin, Air Quality Modeling Graphics: Software and Report, Research Study HPR 0675, Florida Dept. of Transportation, Tallahassee FL, August, 1994.**

- **Ronald D. Eaglin and Martin P. Wanielista, "Development of a Stream Pollutant Mixing Model with Calibration and Verification and its Application to the Econlockhatchee River", Ph.D. Dissertation, University of Central Florida, August, 1993**
- **M.P. Wanielista, Yousef A. Yousef, Ronald D. Eaglin, Denver J. Stutler, and Paul T. Gremillion, "Stormwater Detention Ponds: An Evaluation Using Frequency Distributions for Detention Times and Hydrographic Shape Factors", Report to the Florida Department of Environmental Protection, June 1993.**
- **M.P. Wanielista, Raymond Lance Bennett, and Ronald D. Eaglin, "Econlockhatchee River Flow Rate and Relations to Surficial Aquifer Levels", Report to the St. Johns River Water Management District, July 1993.**
- **M.P. Wanielista, Ronald D. Eaglin, R.L. Bennett, and S.L. Underwood, "Econlockhatchee Hydrologic Balance: Maintaining the Balance", Report to the St. Johns River Water Management District, August 1992.**
- **M.P. Wanielista and Ronald D. Eaglin, "Summary of Historical Water Quality in the Econlockhatchee River", Report to the Florida Department of Environmental Protection, October 1992.**
- **Martin P. Wanielista, and Ron Eaglin, "SMADA, User Interactive Hydrograph Generation and Design", 9th National Conference on Microcomputers in Civil Engineering", University of Central Florida, 1991.**
- **Ron Eaglin and Martin P. Wanielista, "A Polynomial Complete Algorithm for Sewer Line Construction Cost Optimization", 9th National Conference on Microcomputers in Civil Engineering", University of Central Florida, 1991.**
- **Ronald D. Eaglin, "Evaluation of Non-Toxic Solvents in the Surface Finishing Industry", Masters Thesis, University of Central Florida, 1990**

Teaching and Scholarship

The real reason I work as a professor is for teaching. I have taught an incredible diversity of classes and continue to have interests that range from highly technical courses to courses that have a high humanities content. Below are a sample of courses I have developed.

EGN 4931 – Honors Research Seminar - The objective of this course is to introduce honors students to the skills and though processes necessary to be a successful researcher. Research methods are covered along with writing, presentation methods, critical thinking skills, and teamwork. This course is a interdisciplinary course for engineers of all types and I have had Mechanical, Electrical, Civil, Environmental, Aerospace, and Computer Engineering students in this class.

CET 4583/CET 4584 Web Systems I and II – This 2 course sequence was originally taught at the graduate level, but I decided to seek courses status as a 400 level course for information technology and systems students. The course prerequisites are programming, and it is assumed that students have no prior experience with any type of web programming. Staring with html as a topic, the students progress to the point where they build a full 3-tier database system using a modern programming system (.NET or J2EE) with a professional back-end database (Oracle, SQL Server, or MySQL).

CET 4427/CET 4429 Applied Database I and II – These courses were developed as a result of interviews with our industrial review board. It was noted that even though the students had a solid background in data structures, their skills at building and maintaining real databases in an enterprise system were lacking. Students are required to master true database design, programming, structure, and maintenance skills in 2 database system (Oracle and SQL Server) for this 2 course sequence.

Though I no longer teach course in the field of water resources or civil engineering, I have taught course in hydrology, hydraulics, and water resources. In addition my background in Mechanical Engineering, Nuclear Engineering, and Mathematics allows me to teach in all of these fields.

I am also very interested in innovations in the field of teaching. These innovations are shown directly in the way that I utilize web materials, video recording and streaming, experiential learning, and service learning in a classroom environment. Direct links to developed materials for all of the teaching methods I use are at

http://ent.ucf.edu/personnel/faculty/Dr.Eaglin.html

BAHMAN S. MOTLAGH
2161 Forrest Road
Winter Park, Florida 32789
(407) 823-4748
E-mail: bmotlagh@mail.ucf.edu

EDUCATION

Ph.D. Computer Engineering, University of Central Florida, May 1997.
M.S.Cp.E. Computer Engineering, University of Central Florida, May 1993.
B.S. Istanbul Academy of Sciences, Turkey, December 1977.

Ph.D. DISSERTATION

"A Replicated Concurrent-Read Architecture for Scalable Shared-Memory Multiprocessing"
Advisor: Dr. Ronald F. DeMara

VISA STATUS

U.S. Citizen.

RESEARCH INTERESTS

Parallel Computer Architecture,
Performance Modeling and Evaluation,
High Speed Memory-Cache Design,
Barrier Synchronization.
Telecommunications
Information Technology
Computer & Networks Security

TEACHING INTERESTS

Computer Organization and Architecture,
Microprocessor-Based System Design,
Digital Systems,
Operating Systems and Data Structures,
Software Engineering,
Parallel Processing,
High Performance Computer Architecture.
Telephony

Local Area Networks
Wide Area Networks

RELATED WORK EXPERIENCE

Information Systems Technology Program Coordinator (January 1999-Present), Engineering Technology Department, University of Central Florida.

Associate Professor (2003 – Present), Engineering Technology Department, College of Engineering & Computer Science, University of Central Florida.

Assistant Professor (August 1997- 2003), Engineering Technology Department, University of Central Florida.

Visiting Faculty (January 1996-August 1997), Engineering Technology Department, University of Central Florida.

Research Assistant (summer 1995), Funded by Harris Computer Systems, Ft. Lauderdale, Florida. Cache Performance Model and Analysis of Nighthawk Multiprocessor Architecture.

Adjunct Faculty (January 1994 - December 1995), Electrical & Computer

Engineering (ECE) Department, University of Central Florida.Taught two undergraduate courses per semester, developed two new courses for initial offering.

Research Assistant (Summer 1993), Institute for Simulation and Training (IST), University of Central Florida. Performance evaluation of simulator package developed for U.S.Army.

Teaching Assistant (January 1993 - December 1993), ECE Department, University of Central Florida. Taught assembly language in classroom and conducted digital laboratories.

Consulting Engineer (1992 - 1996), Smart Access,Inc., Orlando, Florida. Involved with design of state machines, Hardware design and assembly programming.

Computer System Engineer (1986 - 1992), HESCO Engineering International, Miami, Florida. Computer system administration and configuration.

Computer Administrator (1981 - 1985), ERTVF,Inc., Atlanta,Ga. Automated tracking of forms and migrated to PC-based processing.

RESEARCH COMPUTING ENVIRONMENTS

Analysis and Report Generation Using:
Matlab, Mathcad, Latex, Pspice, Deltagraph, Frammaker, and Lotus.
Simulators written in:
C, C++, and ADA under uniprocessor UNIX and Nighthawk &
n_cube multiprocessor operating system.

PROFESSIONAL AFFILIATIONS AND SERVICE

Institute of Electrical & Electronics Engineers (IEEE), Senior Member.
IEEE Professional activities committee chair, Canaveral Section 2006
Computer Chapter Vice chair, 2001-present.
Computer Chapter Chair, 1999-2001.
Chairman of the IEEE Canaveral Section, 1998-1999.
Vice Chairman of the IEEE Canaveral Section, 1997-1998.
Award committee chair, IEEE Canaveral Section, 1996-1997.
IEEE Computer Society, active member.
American Society for Engineering Education (ASEE), Member.
ASEE International Division Vice Chair, 2000-2001
ASEE International Division Secretary/Treasurer, 2001-2005
Accreditation Board for Engineering and Technology (ABET), Program Evaluator, 2001-Present.
Society for Information Management (SIM), Member
SIM - Orlando CIO Forum & Executive IT Summit, Executive Committee Member, December 2003 – present
American Information Technology Professionals (AITP), member
AITP – UCF Student Chapter Advisor
TAU ALPHA PI National Honor Society.

AWARDS AND HONORS

2004-05 UCF Teaching Incentive Program (TIP) Award
Research Award, Department of Engineering Technology, 1999-2000.
Recipient of Teaching Incentive Program (TIP) Award from the State of Florida, 1999-2000
College of Engineering Excellence in Undergraduate Teaching Award, University of Central Florida, 1999-2000.
IEEE Appreciation certificate for Excellence in Service, 2000
IEEE Appreciation Award for Computer Chapter, 2001
IEEE Certificate of Educational Achievement as an ABET/TAC program evaluator, 2001.
ABET Appreciation certificate for Excellence in Service

PUBLICATIONS

Refereed Journal Publications:

"Performance of Scalable Shared-Memory Architectures", **B. Motlagh**, R. DeMara, *Journal of Circuits, Systems, and Computers*, Vol.10, Nos. 1&2, 2000.

"Adaptive Numerical Methods with Arbitrary Fixed Samplings," A. Rahrooh**, B. Motlagh**, *Journal of Vibration and Control*, Volume 6, Number 2, 2000.

"Generalization and Application of Matrix Integrators," A. Rahrooh, **B. Motlagh**, *International Journal of Modeling and Simulation*, Volume 20, Number 3, May 2000.

Refereed Conference Proceedings Publications:

"Barrier Synchronization Techniques For Distributed Process Creation",Ron F. DeMara, **Bahman S. Motlagh**, IEEE *International Parallel Processing Symposium*, Cancun, Mexico, April 1994.

"Different Approach in Design and Analysis of an Instrumentation Amplifier", A. Rahrooh, W. Buchanan, **B. Motlagh**, ASEE Proceedings, Wahington, D.C., June 1996.

"A New Concept in Designing Future Multiprocessors", **B. Motlagh**, ASEE Conference, Milwaukee, June 1997.

"Memory Latency in Distributed Shared-Memory Multiprocessors", **B. Motlagh**, R. DeMara, IEEE *SouthCon Conference* Proceedings, 1998.

"Neural Network Adaptive Autotuner", A. Rahrooh, **B. Motlagh**, *ASEE Annual Conference Proceedings*, June 1998.

"The Linear Integrated Circuits Laboratory at the University of Central Florida ", **B. Motlagh**, A. Rahrooh, The *Southeastern ASEE Annual Conference Proceedings*, April 1999.

"The Fundamental Digital Circuit Laboratory at The University of Central Florida**", Bahman S. Motlagh**, A. Rahrooh, the *ASEE 1999 Annual Conference proceedings*, June 1999.

"Effective Guidelines to Maximize Engineering Technology Laboratory Work Productivity," **Bahman S. Motlagh**, A. Rahrooh, the proceedings of the *IEEE International Conference on Engineering and Computer Education*, August 11-14, 1999, Brazil.

"A Scalable Replicated Concurrent-Read Architecture," **Bahman S. Motlagh**, Ronald F. DeMara, the *Fourteenth International Symposium on Computer and Information Sciences*, October 18-20, 1999, Izmir, Turkey.

"Adaptive Control Strategies for Robot Manipulator,", A. Rahrooh, Bahman Motlagh, W. Buchanan, the *ASEE Annual Conference Proceedings*, June 2001.

"Innovative Approaches for Teaching Calculus to Engineering Students,", Joby M. Anthony, A. Henry Hagedoorn, **Bahman S. Motlagh**, the *ASEE 2001 Annual Conference proceedings*,, June 2001.

"Redefining Education Methods Using New Technologies," Proceedings of the 2002 American Society for Engineering Education (ASEE) Annual Conference, June, 2002, Montreal, Quebec, Canada.

"The Re-Engineering of Engineering and Technology Education in the new Millennium,", **Bahman S. Motlagh**, Michele Shahir-Motlagh, proceedings of the seventh *International Conference on Engineering and Technology Education*, March 2002, Brazil.

"Re-defining Engineering Education Methods Using New Technologies,", **Bahman S. Motlagh**, Alireza Rahrooh, Nick Safai, *the ASEE 2002 Annual Conference proceedings*, June 2002.

"Redefining Traditional Methods in Engineering Education in the New

Millennium,", Bahman S. Motlagh, *ASEE/SEFI/TU Berlin International Colloquium*, October 2002.

"Preparing Future Engineering Technologists: Collaboration of Education and Industry,", Lucy Morse, **Bahman S. Motlagh**, Jack Selter, *the CIEC 2003 Annual Conference*, January 2003.

"Innovative Technologies in the ET Curriculum", Bahman S. Motlagh, Alireza Rahrooh, Walter Buchanan, *the ASEE 2004 Annual Conference proceedings*, June 2004.

"Development of Goals, Objectives and Assessment Tools for the engineering & Technology Programs,", **Bahman S. Motlagh**, Alireza Rahrooh, ASEE/Tsinghua University, International Colloquium on Engineering Education, September 2004, Beijing, People's Republic of China.

"Adaptive PID Controller Using PC Matlab,", Alireza Rahrooh, Bahman S. Motlagh, Walter Buchanan, *the ASEE 2005 Annual Conference Proceedings*, June 2005.

"Crafting an International Road Map to Global Learning and Project Management", Bahman S. Motlagh, Michele Shahir-Motlagh, Alireza Rahrooh, *the ASEE 2007 Annual Conference proceedings,* June 2007.

"Offering a Distance-Based Course Using an Exponential Education Model", Ronald Eaglin, Bahman S. Motlagh, *the ASEE 2007 Annual Conference proceedings*, June 2007.

"Improving the Efficiency of Spam Filtering Through Cache Architecture", Ashok Khanal, Bahman S. Motlagh, Taskin Kocak, MaSCOTS 2007, *15th Annual Meeting of the IEEE International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems, Bogazici University, Istanbul, Turkey, October 2007.*

"Strategies for Engineering Education Utilizing Global Project Management Protocol", Bahman S. Motlagh, Ronald Eaglin, *the ICEE 2007, International Conference on Engineering Education Conference Proceedings, University of Coimbra, Portugal, September 2007.*

Research Reports:

"Tiered Barrier Synchronization Methods", **Bahman S. Motlagh**, Proceedings of IEEE Cape Canaveral Section, September 1995.

Technical Reports:

"The Linear Integrated Circuits Laboratory Manual,", **B. Motlagh**, A. Rahrooh, Used by all students in Electrical Engineering Technology, UCF, 1998.

"The Fundamental Digital Circuit Laboratory Manual,", **Bahman S. Motlagh**, A. Rahrooh, Used by all students in Electrical Engineering Technology, UCF, 1998.

Refereed Journal Articles Under Review:

"Benchmark Performance of Alternative Cache Coherence Strategies", **Bahman S. Motlagh**, Ronald F. DeMara, Submission Planned to: *Journal of Parallel and Distributed Computing,* Fall 2005.

Presentations at Scholarly Meetings:

"Barrier Synchronization Techniques For Distributed Process Creation", IEEE International Parallel Processing Symposium, Cancun, Mexico, April 1994.

"Tiered Barrier Synchronization Methods", IEEE Cape Canaveral Section, September 1995.

"Different Approach in Design and Analysis of an Instrumentation Amplifier", ASEE Proceedings, Wahington, D.C., June 1996.

"A New Concept in Designing Future Multiprocessors", ASEE Conference, Milwaukee, June 1997.

"Memory Latency in Distributed Shared-Memory Multiprocessors", IEEE SouthCon Conference, 1998.

"Neural Network Adaptive Autotuner", ASEE Annual Conference, June 1998.

"The Linear Integrated Circuits Laboratory at the University of Central Florida ", The Southeastern ASEE Annual Conference , April 1999.

"The Fundamental Digital Circuit Laboratory at The University of Central Florida**",** the ASEE 1999 Annual Conference, June 1999.

"Effective Guidelines to Maximize Engineering Technology Laboratory Work Productivity,", IEEE International Conference on Engineering and Computer Education, August 11-14, 1999, Brazil.

"A Scalable Replicated Concurrent-Read Architecture,", the Fourteenth International Symposium on Computer and Information Sciences, October 18-20, 1999, Izmir, Turkey.

"Adaptive Control Strategies for Robot Manipulator,", the ASEE Annual Conference , June 2001.

"Innovative Approaches for Teaching Calculus to Engineering Students,", the ASEE 2001 Annual Conference, June 2001.

"The Re-Engineering of Engineering and Technology Education in the new Millennium,", the seventh International Conference on Engineering and Technology Education, March 2002, Brazil.

"Re-defining Engineering Education Methods Using New Technologies,", the ASEE 2002 Annual Conference, June 2002.

"Redefining Traditional Methods in Engineering Education in the New Millennium,", Bahman S. Motlagh, *ASEE/SEFI/TU Berlin International Colloquium*, October 2002.

"Preparing Future Engineering Technologists: Collaboration of Education and Industry,", *the CIEC 2003 Annual Conference*, January 2003.

"Development of Goals, Objectives and Assessment Tools for the engineering & Technology Programs,", *ASEE/Tsinghua University, International Colloquium on*

Engineering Education, September 2004, Beijing, People's Republic of China

"Strategies for Engineering Education Utilizing Global Project Management Protocol", Bahman S. Motlagh, Ronald Eaglin, *the ICEE 2007, International Conference on Engineering Education Conference Proceedings, University of Coimbra, Portugal, September 2007.*

Reviewer for Journals and Conferences:

Journal of Vibration and Control
American Society for Engineering Education (ASEE)

RESEARCH/GRANTS CONDUCTED OR PROPOSAL SUBMITTED

1. Co-Investigator for NASA proposal to conduct series of seminars for NASA Employees. $19600 (funded)
2. Co-Investigator for a proposal to the National Science Foundation (NSF). $150000 (funded)
3. Co-Investigator for a proposal to Florida Board of Regents. $34000 (funded).
4. Received $17250 grant from International Engineering Consortium (IEC) to attend an international conference along with four of my students. April 30- May 3, 2001.
5. PI for Fire Mapping Project since Fall 2001($53000 funded).
6. PI for a proposal to Federal Government- Network Security, submitted Fall 2001.
7. Received $17,250 grant from International Engineering Consortium (IEC) to attend an international conference along with four of my students. March 8 - 12, 2003.
8. PI for a proposal to Volusia County Fire Services- Fire/Arson mapping Project ($20,000), Approved, Spring 2004.
9. PI for EDI and OFX project (FISERV), Spring 2004, $60,122. Funded.
10. PI for a proposal to the State of Florida- Fire Marshal's office – Fire/Arson mapping project, $ 84,000. declined.
11. PI for a proposal "An Innovative Approach in Locating and Managing Distributed Computing Resources", was submitted to NSF, declined.
12. Co-PI for a proposal "Information Systems Banner Center" was submitted to State of Florida, declined (all proposals were declined).
13. Co-PI for a proposal "IT education" partnered with Florida Community College in Jacksonville, Florida, submitted to State of Florida, declined

TEACHING

Comprehensive, multidisciplinary design and development of courses has been and continues to be done in order to meet diverse and rapid technological changes.

Courses Taught or Developed

EEL 4767 Computer System Design 1
EEL 3801 Introduction to Computer Engineering
EEL 4801 C Programming
EEL 4882 Engineering System Software
EEL 3342L Introduction to Digital Circuits Lab
CET 3323 Digital Technology
CET 2364 System Applications in C
CET 3198 Digital Systems
CET 3383 Applied Systems Analysis 1
CET 4523 Applied Systems Analysis 2
CET 4427 Applied Database 1
CET 4505 Applied Operating Systems 1
CET 4333 Computer Organization and Design
CET 4950 Senior Design Project
CET 3905 Independent Study
CET 4906 Independent Study
EET 3143 Electronic Devices and Circuits
EET 4518 Linear Integrated Circuits
EET 4915 Senior Design
EET 3905 Independent Study
CET 3752 Introduction to Telephony
CET 4483 Introduction to Local Area Networks Technology
CET 4748 Introduction to Wide Area Networks Technology
CET 4749 Wide Area Networks II
CET 3010 Introduction to Information Technology
MAC 2147 Mathematics for Calculus
MAC 2281 Calculus for Scientists and Engineers I
EGN 1006 Introduction to the Engineering Profession

Laboratories Developed

Digital Technology Laboratory
Linear Integrated Circuits Laboratory
Electronic Devices and Circuits (Revised)

CURRICULUM DEVELOPMENT

Bachelor of Science in Information Systems Technology
Minor in Secure Computing and Networks
Bachelor of Applied Science in Information Technology
Major revision in BSEET Computer Systems Curriculum
Master of Science in Technology – in process
Master of Science in Information Technology – in process

B.S. Information Systems Technology/Security
B.S. Information Systems Technology/Enterprise Systems
Minor in I2Tech: Health Concentration for IST/IT programs

SERVICE

1. CECS, International Committee member, 2007
2. CECS UPCC Committee member, 2007
3. CECS ABET Committee member, 2007
4. Chair, ENT ABET Preparation Committee, 2007
5. Chair, ENT Faculty tenure progress committee, 2006
6. Member of steering Committee, I2 Lab, 2006.
7. Member of Faculty Senate Information Technology Resource Policy Committee, 2003-Present
8. Member of the *Connecting the UCF Community Group* Committee, 2003-Present
9. Member of UCF *Undergraduate Policy and Curriculum Committee*
10. Member of Subcommittee for *Research in Excellence and Teaching* (Faculty Senate-UPCC)
11. Member of *Computer Focus Group* Committee, 1999 (University)
12. Member of steering committee to establish BS in IT program within Computer Science Department, 2000
13. Member of *Faculty Advisory Committee* for BCC and UCF Brevard campus (University)
14. Member of *COE Honors Program Committee*
15. Member of *Computer Users Committee*, College
16. Member of Engineering Technology *Curriculum Committee*
17. Member of Engineering Technology *Budget Committee*
18. Member of *TIP Criteria/Procedures Committee* (1997-98)
19. Member of *COE Honors and awards Committee* (1997-98)
20. Member of *Search Committee* for Engineering Technology Department (1997, 2000, 2004, 2005, and 2006)
21. Member of *TIP Selection Committee* (2001, 2002, 2006)
22. Chair of Search Committee for Engineering Technology Department – 2002.
23. IEEE Cape Canaveral Section, Executive Committee Member, 1996-present.
24. IEEE Cape Canaveral Section, Computer Chapter Vice Chair, 2001-present.
25. IEEE Cape Canaveral Section, Computer Chapter Chair, 1999-2001.
26. IEEE Cape Canaveral Section, Chair, 1998-1999.
27. IEEE Cape Canaveral Section, Vice Chair, 1997-1998.
28. IEEE Cape Canaveral Section, Award Committee Chair, 1996-1997.
29. ASEE International Division Vice Chair, 2000-2001.
30. ASEE International Division Secretary/Treasurer, 2001-present.
31. Accreditation Board for Engineering and Technology (ABET), Program Evaluator, 2001-Present.
32. Society for Information Management (SIM), Member

33. Orlando CIO Forum & Executive IT Summit, December 2002, Executive Committee Member.
34. Orlando CIO Forum & Executive IT Summit, December 2003 Executive Committee Member.
35. American Information Technology Professionals, member and UCF student chapter advisor.
36. Valencia Community College, Engineering & Technology advisory board member
37. Polk Community College, Information Technology advisory board

Curriculum Vitae: Eduardo Divo

P.O. Box 162450. Orlando, Florida 32816-2450.
Tel: 407-823-4753. Email: edivo@mail.ucf.edu

Personal Information

- *Eduardo Alejandro Divo*
- Born in Valencia, Venezuela, April 19, 1971.

Area of Expertise

- Meshless Methods, Boundary Element Methods, Computational Fluid Dynamics, Applied Mathematics, Numerical Heat Transfer, Inverse Problems, Optimization, Genetic Algorithms, High-Performance Parallel Computing, and Virtual Reality.

Educational Background

- Ph.D. Mechanical Engineering, University of Central Florida (UCF), 1998. Dissertation Title: A New Boundary Integral Method for Anisotropic Heat Conduction in Heterogeneous Media. Advisor: Dr. A. Kassab.

M.S. Mechanical Engineering, University of Central Florida (UCF), 1996.

Statistical Control Analyst, Monterrey Institute of Technology (ITESM), Mexico-Venezuela 1993.

Mechanical Engineering Degree, Central Technological University (UNITEC), Venezuela 1992.

Technical Degree in Informatics, Central Technological University (UNITEC), Venezuela 1990.

Technical Degree in Mechanics, Central Technological University (UNITEC), Venezuela 1990.

Publication Record

3 Books Authored/Edited.
3 Book Chapters Authored.
30 Refereed Journal Papers.
72 Refereed Conference Papers.
13 Refereed Conference Abstracts/Oral Presentations.

Employment History

2003-today: Assistant Professor
University of Central Florida (UCF), Orlando, Florida, USA.
Engineering Technology Department (ENT) and Joint Appointment with Mechanical, Materials, and Aerospace Engineering Department (MMAE)

2002-today: Visiting Assistant Professor
University of Central Florida (UCF), MMAE, Orlando, Florida, USA.

1998-2002: Research Scientist and Adjunct Professor
University of Central Florida (UCF), MMAE, Orlando, Florida, USA.
Research and development of numerical solution methods for inverse and conjugate heat transfer under NASA NRA, NSF, and DoE research grants. Teaching in the areas of Mathematics and Thermal-Fluid Sciences in both the graduate and undergraduate levels.

1999-2000: Research Engineer and Software Developer
Dual Incorporated, Lake Mary, Florida, USA.
Development of a Virtual Reality Visualization (VRV) system of dynamic weapon effects over ground and air vehicles for a NAVY Small Business Innovative Research (SBIR) project.

1997-today: Vice-President for Research
Computational Engineering Technologies, Inc., Oviedo, FL, USA.
Conduct research projects and private industry consulting in the areas of numerical heat transfer, CFD, and inverse thermal problems.

1997-1998: Research Associate
University of Central Florida (UCF), MMAE, Orlando, Florida, USA.
Developed a Genetic Algorithm-based parameter estimation code for non-homogeneous materials under a NASA Florida Space Grant Consortium.

1996-1997: Teaching Assistant
University of Central Florida (UCF), MMAE, Orlando, Florida, USA.
Instructor of Engineering Graphics for the SPACE/NASA program.

1996-1998: Research and Programming Engineer
Applied Technology Associates (ATA), Orlando, Florida, USA.
Numerical analysis of thermal ablation of rocket motor vanes under a NAVY SBIR grant. Participated in the development of the heat conduction computer codes Beta2 and Beta3.

1996-1996: Design Engineer
Teslatronics, Orlando, Florida, USA.
Testing and control of magnetic field measurement instruments.

1992-1994: Assistant Professor
Central Technological University (UNITEC), Valencia, Venezuela.
Teaching in the areas of Calculus, Differential Equations, Advanced Engineering Mathematics, Thermodynamics, and Fluid Mechanics.

1992-1994: Special Project Coordinator
Central Technological University (UNITEC), Valencia, Venezuela.
Coordinated several educational projects for government programs.

1990-1992: Teaching Assistant
Central Technological University (UNITEC), Valencia, Venezuela.
Instructor in the area of Calculus I, II, and III and Thermodynamics I.

Consulting Experience

General Dynamics, Orlando, FL.
Engineering Technology Incorporated, Orlando, FL.
Lockheed Martin Missiles and Fire Control, Orlando, FL.
ZONA Technology, Scottsdale, AZ.
RINITech, Orlando, FL.
Dual Incorporated, Lake Mary, FL.
Applied Technology Associates, Orlando, FL.
NASA Glenn Research Center, Turbomachinery Division, Cleveland, OH.
Supervision International Inc., Orlando, FL.

Research Proposals Writing Activity

PI/Co-PI:

_____ 2007 Fiscal year

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2007: $2,000. Project title: RTA #2741, FEM Analysis of Impact and Load Resistance of Custom-made Ambulance. PI's: Eduardo Divo and Alain Kassab, (funded. UCF Continuing Education Acct. #3514373).

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2007: $2,000. Project title: RTA #2923, CFD Analysis of Morphing Crafts. PI's: Eduardo Divo and Alain Kassab, (funded. UCF Continuing Education Acct. #3514373).
- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2007: $2,000. Project title: RTA #2896, Wind Resistance Prediction of NET Restraint Design. PI's: Eduardo Divo and Alain Kassab, (funded. UCF Continuing Education Acct. #3514373).

- DotDecimal 2007, $43,566. Project title: Development of Customized Application for Automatic CAM Format Translation and Tool-path Generation, PI's: Eduardo Divo and Alain Kassab, (Funded, Acct. #1627-8013).

- UCF Undergraduate Teaching Equipment Grant, 2007: $19,950. Project title: Computer Numerical Controls and Computer Integrated Manufacturing 5500 CNC Lathe. PI: Eduardo Divo, (pending).

- UCF Presidential Equipment Grant, 2006-2007, $44,871. Project title: Computational Mechanics Laboratory High-Performance Computing Infrastructure Expansion. PI's: Eduardo Divo and Alain Kassab, (declined).

- SUS of Florida Turbine Initiative, 2007, $178,403. Project title: A Novel Enhanced Heat Transfer Device for NASA's technology, enabling long space flight. PI's: R. Narayanan, A. Kassab, E. Divo, (pending).

_____ 2006 Fiscal year

- National Science Foundation, 2006, $318,336. Project Title: Shape Optimization of Femoral Bypass Grafts using an Evolutionary Meshless Approach, PI's: Eduardo Divo, Alain Kassab, and Gerald Smith, (pending).

- SUS of Florida Turbine Initiative: Advanced Turbines, Energy and Environment, 2006, $247,515. Project Title: Coupled FVM/BEM Conjugate Thermo-Elastic Analysis and Automated Design of Cooling Channel Configurations, PI's: Alain Kassab and Eduardo Divo, (Funded at $50,000, Acct. #1626-9036).

- Florida High Tech I-4 Council, 2006, $15,000. Project Title: Optimization and Thermal Modeling for RF Antennae, PI's: Eduardo Divo and Alain Kassab, (Funded, Acct. #2019-0053).

- Sciperio, Inc., 2006, $30,000. Project Title: Optimization and Thermal Modeling for RF Antennae, PI's: Eduardo Divo and Alain Kassab, (Funded, Acct. #1627-8009).

- National Science Foundation, 2006, $575,941. Project Title: iCLS: An Integrated High-Quality Engineering Content Delivery System, PI's: Eduardo Divo and Alfred Ducharme, (declined).

- American Chemical Society, Petroleum Research Fund, 2006, $134,580. Project Title: Numerical Analysis and Prediction of Streamline Propagation from Wells in Anisotropic and Heterogeneous Oil Reservoirs using a Generalized BEM/Evolutionary Algorithm, PI's: Eduardo Divo and Alain Kassab, (declined).

- Space Research Initiative, 2006, $155,000. Project Title: Miniaturization of a Novel Enhanced Heat Transfer Device for NASA's technology enabling long space flight, PI's: Alain Kassab, Eduardo Divo, and R. Narayanan, (declined).

- Space Research Initiative, 2006, $155,000. Project Title: Space-Related Education in the Physical Sciences for K-12, PI's: R. Narayanan, Alain Kassab, and Eduardo Divo, (declined).

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2006: $2,000. Project title: RTA #2456, Lubricant Contact Model of a Synkinetics Device. PI: Alain Kassab and Eduardo Divo, (funded. UCF Continuing Education Acct. #3514373).

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2006: $2,000. Project title: RTA #2325, Pressure Drop Analysis of a new Hydro-Turbine Design. PI: Alain Kassab and Eduardo Divo, (funded. UCF Continuing Education Acct. #3514373).

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2006: $2,000. Project title: RTA #2247, Heat Transfer Study of Aluminum Extrusion Process. PI: Eduardo Divo and Alain Kassab, (funded. UCF Continuing Education Acct. #3514373).

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2006: $2,000. Project title: RTA #1978, CFD Analysis of Anchor Sail. PI: Alain Kassab and Eduardo Divo, (funded. UCF Continuing Education Acct. #3514373).

- Dell Higher Education, 2006: $10,582.25. Project title: Matching Funds to Support HPCC Infrastructure Expansion. PI's: Eduardo Divo and Alain Kassab, (funded. Equipment, no acct.).

- UCF Undergraduate Teaching Equipment Grant, 2006: $18,911.00. Project title: Computer Numerical Controls and Computer Integrated Manufacturing 5500CNC Lathe. PI: Eduardo Divo, (declined).

- American Heart Association, 2006: $43,540. Project title: Hemodynamics Meshless Modeling and Evolutionary Shape Optimization of a Bypass Graft End-to-Side Distal Anastomosis. PI's: Alain Kassab and Eduardo Divo, (declined).

- UCF Presidential Equipment Grant, 2005-2006, $39,327. Project title: Expansion of the High Performance Computing Infrastructure of the Computational Mechanics Laboratory. PI's: Alain Kassab and Eduardo Divo, (funded. Acct. #20020004).

_____ 2005 Fiscal year

- US Marine Corps, 2005, $276,379. Project title: HEAD AND NECK BLUNT TRAUMA MODEL FOR THE ATBM. PI's: David Nicholson, Eduardo Divo, and Alain Kassab, (declined).

- Siemens AG Power Generation, 2005, $48,224. Project title: CFD Modeling and Analysis of Gas Turbines. PI's: Alain Kassab and Eduardo Divo, (declined).

- Florida High Tech I-4 Council, 2005, $38,226. Project title: CFD Modeling and Analysis of Nozzle Design and Parallel Genetic Algorithm Optimization of Antennae Arrays. PI's: Alain Kassab and Eduardo Divo, (funded. Acct #20190012).

- ZONA Technology, Inc., 2005, $56,500. Project title: MDA STTR Phase I: Effective GPU acceleration of Meshless Navier-Stokes Solver. PI's: Sumanta Pattanaik, Charles Hughes, Eduardo Divo, and Alain Kassab, (declined).

- Space Research Initiative, 2005, $248,776. Project Title: Miniaturization of a Novel Enhanced Heat Transfer Device for NASA's technology enabling long space flight, PI's: R. Narayanan, Eduardo Divo, and Alain Kassab, (declined).

- Space Research Initiative, 2005, $249,744. Project Title: Air quality and ventilation in space vehicles and space environments - meshless simulation and experimental verification, PI's: Eduardo Divo, Alain Kassab, and R. Narayanan, (declined).

- National Institute of Health (NIH), 2005: $1,382,980.00. Project title: Automated Segmentation and Flow Analysis of Carotid MRA Images. PI's: Olusegun Ilegbusi, Eduardo Divo, Alain Kassab, (declined).

- Dell Higher Education, 2005: $20,216.00. Project title: Supporting Equipment Grant for High-Performance PowerEdge Cluster. PI's: Eduardo Divo and Alain Kassab, (funded. Equipment, no acct.).

- Florida Space Grant Consortium (FSGC), 2005: $38,369. Project title: Air Quality and Ventilation in Space Vehicles and Space Stations. PI's: Eduardo Divo and Alain Kassab, (declined).

- UCF Undergraduate Teaching Equipment Grant, 2005: $19,977.00. Project title: Computer Numerical Controls and Computer Integrated Manufacturing 5600CNC Mill and Conveyor System. PI's: Eduardo Divo and Rosida Coowar, (funded. ENT Department acct.).

- UCF Undergraduate Teaching Equipment Grant, 2005: $19,050.75. Project title: Computer Organization and Design External Parallel Cluster. PI's: Eduardo Divo and Alain Kassab, (declined).

- Sciperio, 2005, $38,226. Project Title: Parallel Genetic Algorithm Optimization of Antennae Arrays, PI's: Eduardo Divo and Alain Kassab, (funded. Acct #16268057).

- nScrypt, 2005, $38,226. Project Title: CFD Modeling and Analysis of Nozzle Design, PI's: Eduardo Divo and Alain Kassab, (funded. Acct #16268057).

- UCF/Office of Research, 2005, $7,484. Project Title: Meshless Simulation of Air Quality and Contaminant Transport. PI: Eduardo Divo, (funded. Acct #16279004).

- General Dynamics, 2005, $19,621. Project Title: Monte Carlo Simulation of Smoke Patterns. PI's: Alain Kassab and Eduardo Divo, (funded. Acct #16268057).

- General Dynamics, 2005, $4,533. Project Title: Monte Carlo Simulation of Smoke Screens. PI's: Alain Kassab and Eduardo Divo, (funded. Acct #16268057).

- Florida High Tech I-4 Council, 2005, $12,041. Project Title: Monte Carlo Simulation of Smoke Screens, part II. PI's: Alain Kassab and Eduardo Divo, (funded. Acct #20170010).

- Florida High Tech I-4 Council, 2005, $13,281. Project Title: Monte Carlo Simulation of Smoke Screens. PI's: Alain Kassab and Eduardo Divo, (funded. Acct #20170010).

- Florida High Tech I-4 Council, 2005, $5,720. Project Title: Monte Carlo Simulation of Smoke Disribution. PI's: Alain Kassab and Eduardo Divo, (funded. Acct #20170010).

- Florida High Tech I-4 Council, 2005, $19,230. Project Title: Evaluation Study of Heat Transfer CFD Grid Generation Tools. PI's: Alain Kassab and Eduardo Divo, (funded. Acct #20170011).

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2005: $3,000. Project title: RTA #1794, CAD Design and CFD Analysis of a Dual Blower. PI: Eduardo Divo, (funded. UCF Continuing Education Acct. #3514373).

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2005: $2,000. Project title: RTA #1938, CAD Design of a Luggage Unit. PI: Eduardo Divo, (funded. UCF Continuing Education Acct. #3514373).

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2005: $2,000. Project title: RTA #1601, CAD Design for Spring Clip. PI's: Eduardo Divo and Alain Kassab, (funded. UCF Continuing Education Acct. #3514373).

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2005: $2,000. Project title: RTA #1577, Optimization of Cyclone Separators. PI's: Alain Kassab and Eduardo Divo, (funded. UCF Continuing Education Acct. #3514373).

_____ 2004 Fiscal year

- Space Research Initiative, 2004, $248,776. Project Title: Oscillatory Flow as a Means of Enhanced Species Separation: application to life support for NASA`s long-term space-based missions, PI's: R. Narayanan, Eduardo Divo, and Alain Kassab, (funded at $200,000.00. Acct #20040002).

- Space Research Initiative, 2004, $248,776. Project Title: Air quality and ventilation in space vehicles and space environments - meshless simulation and experimental verification, PI's: Eduardo Divo, Alain Kassab, and R. Narayanan, (declined).

- Engineering Technology Incorporated, 2004: $11,439.00. Project title: Montecarlo Simulation of Smoke Distribution. PI's: Alain Kassab and Eduardo Divo, (funded. Acct #16268049)

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2004: $2,000. Project title: RTA #1231, CFD Analysis to Determine Optimum Design Configuration to Maximize Fuel Performance at Air Intake. PI's: Eduardo Divo and Alain Kassab, (funded. UCF Continuing Education Acct. #3514373).

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2004: $2,000. Project title: RTA #1130, Reduce Airflow through Fume Hoods. PI's: Alain Kassab and Eduardo Divo, (funded. UCF Continuing Education Acct. #3514373).

- NASA, Glenn Research Center, 2004: $529,076.00. Project title: Glenn-HT/BEM: conjugate thermo-elastic analysis for active control of turbomachinery tip gaps. PI's: Alain Kassab and Eduardo Divo, (declined).

- Siemens-Westinghouse Power Corporation, 2004: $3,150.00. Project title: CFD Modeling of Transition Section. PI's: Alain Kassab and Eduardo Divo, (funded. Acct #16268057).

- Siemens-Westinghouse Power Corporation, 2004: $38,459.00. Project title: Evaluation Study of Heat Transfer CFD Grid Generation Tools. PI's: Alain Kassab and Eduardo Divo, (funded. Acct #16268047).

- Florida Space Grant Consortium (FSGC), 2004: $57,325. Project title: Meshless Modeling of Air Quality and Ventilation in Space Vehicles and Space Stations. PI's: Alain Kassab and Eduardo Divo, (declined).

- Space Alliance Technology Outreach Program (SATOP), Titusville, Florida, 2004: $2,000. Project title: Aerodynamic drag reduction on open wheel road racing car. PI's: Alain Kassab and Eduardo Divo, (funded. UCF Continuing Education Acct. #3514373).

- Lockheed Martin Corporation, Missiles and Fire Control, 2004: $10,799. Project title: DRBEM - Based Inverse Algorithm to Determine an Unknown Multi-dimensional Transient Temperature Boundary Condition. PI's: Alain Kassab and Eduardo Divo, (funded. UCF OOR Acct. #16-26-8042).

- UCF Presidential Equipment Grant, 2004, $59,992. Project Title: Computing Cluster for Computational Fluid Dynamics and Computational Mechanics. PI's: Alain Kassab and Eduardo Divo, (funded. UCF OOR Acct. # 2003009).

- UCF Office of Research, 2004: $7,474.00. Project title: Efficient Modeling of Large-Scale Fluid Flow-Heat Transfer Problems with a Parallel Domain Decomposition Meshless RBF Collocation Approach. PI: Eduardo Divo, (declined).

_____ 2003 Fiscal Year

- Florida High Tech I-4 Council, 2003, $10,000. Project title: Beowulf Cluster for Computational Fluid Dynamics. PI's: Alain Kassab and Eduardo Divo, (funded. UCF OOR Acct. #20030007).

- Siemens-Westinghouse Power Corporation, 2003: $20,004.40. Project title: Beowulf Cluster for Computational Fluid Dynamics. PI's: Alain Kassab and Eduardo Divo, (funded. UCF OOR Acct. #16268034).

- UCF/UF Space Research Initiative, 2003: $124,388.00. Project title: Oscillatory Flow as a Means of Enhanced Species Separation – application to life support and to detection. PI's: Alain Kassab and Eduardo Divo, (declined).

- UCF Undergraduate Teaching Equipment Grant, 2003: $19,853.00. Project title: Computer Numerical Controls and Computer Integrated Manufacturing 5600CNC Mill and Conveyor System. PI's: Eduardo Divo and Rosida Coowar, (declined).

- UCF Undergraduate Teaching Equipment Grant, 2003: $19,931.00. Project title: Programmable Logic Applications and Device Integration 5250 Servo Robot and Training Software. PI's: Rosida Coowar and Eduardo Divo, (funded. UCF/ENT Acct. #16270001).

- UCF Undergraduate Teaching Equipment Grant, 2003: $20,004.15. Project title: Computer Organization and Design External Parallel Cluster. PI's: Eduardo Divo and Alain Kassab, (declined).

_____ Prior to 2003

- Florida Space Grant Consortium Undergraduate Summer Research Experience, 2002: $3,000. Project title: investigative study for a cryo-surgery kit for long-term space-based missions, PI's: Kassab, A.J. and Divo, E., undergraduate student: Ms. Kristel Gonsette (funded. UCF-OOR Acct #16-26-991).

- Florida Space Grant Consortium and Technological Research Development Authority, 2001-2002: $30,000. Project title: Cryosurgery Kit for Long-term Space Based Missions, PI's: Divo, E. and Kassab, A.J., (declined).

- Florida Space Grant Consortium and Technological Research Development Authority, 1999-2000: $35,192. Project title: Inverse BEM Algorithm for Identification of Multi-Dimensional Time-Dependent Convective Heat Transfer Coefficients in Aerospace Components, PI's: Kassab, A.J. and Divo, E., NASA Contract number: NGTS- 40025, (funded. UCF DSR Acct. #16-26-774).

Principal Researcher/Associate Scientist:

- NASA, National Research Announcement NRA-01-GRC-2, NASA Glenn Research Center, 2001-2004: $300,000. Project Title: Glenn-HT/BEM Conjugate Heat Transfer Solver for Large-Scale Turbomachinery Models. PI's: Kassab, A.J. and Kapat, J. NASA Grant Number NAG3-2691 (funded. UCF-OOR Acct. #16-26-232).

- NASA, National Research Announcement NRA-99-GRC-2, NASA Glenn Research Center, 1999-2001: $103,740. Project Title: Investigation of Conjugate Heat Transfer in Turbine Blades and Vanes. PI's: Kapat, J. and Kassab, A.J., NASA Grant Number NAG3-2311 (funded. UCF OOR Acct. #16-26-228).

- United States National Science Foundation, 1999-2001: $110,584. Project Title: Reconstruction of Multidimensional Convective Heat Transfer Coefficient Distributions Using an Inverse BEM-Based Problem Approach. PI's: Kassab, A.J. and Kapat, J.S. NSF grant no. CTS-9978558 (funded. UCF OOR Acct. #16-26-412).

- Florida Space Grant Consortium and Technological Research Development Authority, 1998-1999: $43,791.Project title: Development of a 3-D Boundary Element Method Model to Predict Recession Rates of Thermal Protection Systems of Re-Entry Vehicles, PI's: Kassab, A.J. and Cavalleri, R., NASA Contract number: NGTS- 40025, (funded. UCF DSR Acct. #16-26-762).

- Florida Space Grant Consortium and Technological Research Development Authority, 1997-1998: $33,277. Project title: Thermal Conductivity Characterization of Non-homogeneous Aerospace Materials. PI's: Kassab, A.J. and Cavalleri, R., NASA, Contract number: NGTS- 40025, (funded. UCF DSR Acct. #16-26-745).

Teaching Experience

Graduate Level (UCF):
EML5060: Mathematical Methods in Mechanical and Aerospace Engineering.
EML6062: Boundary Element Methods.
EML6154: Conduction Heat Transfer.

Undergraduate Level (UNITEC):
Superior Engineering Mathematics I.
Superior Engineering Mathematics II.
Differential Equations.
College Algebra.
Calculus I.
Calculus II.
Calculus III.
Fluid Mechanics.
Thermodynamics I.
Thermodynamics II.
Applied Thermodynamics for Electrical Engineering.

Undergraduate Level (UCF):
CET2364: System Applications in C
EGN1006: Introduction to the Engineering Profession
EGN1007: Engineering Concepts and Methods
EGN1111: Engineering Graphics
EGN3343: Engineering Thermodynamics
EML3034: Modeling Methods in Mechanical and Aerospace Engineering
EML3701: Fluid Mechanics I
EML4142: Heat Transfer
EML4703: Fluid Mechanics II

EST3543C: Programmable Logic Applications and Device Integration
EST4502C: Metrology and Instrumentation
ETG3533C: Applied Engineering Strength of Materials
ETG4950: Engineering Senior Design
ETI3418C: Computer Numerical Controls – Machining Applications
ETI3421: Materials and Processes
ETI3651C: Computer Applications
ETM4331: Applied Fluid Mechanics
ETM4512C: Applied Design of Machine Elements

Service

1. Appointed Member of the Editorial Board for the International Journal of Engineering Analysis (Elsevier) in 2007.

2. SolidWorks Training Sessions for Faculty and Teaching Assistants.

3. Host to UCF-UC (University of Carabobo, Venezuela) agreement for Visiting Scholars and Ph.D. International Advisor.

4. Developed iCLS Initiative for Classroom-less Content Delivery for CECS Introduction to Engineering Courses. Expanded the Initiative to ENT Courses. Participated in the iCLS Training of other CECS Faculty Members.

5. CECS Outreach Program High-School Faculty Trainer.

6. Member of the CECS Undergraduate Task Force Committee.

7. Joint UCF/CECS/BCC/RC Pre-Engineering Partnership Faculty Trainer.

8. International Scientific Advisory Committee for BEM/MRM 29, UK, 2007.

9. Faculty Advisor for the Society of Hispanic Professional Engineers (SHPE).

10. University Library Advisory Committee (LAC) 2005-2007.

11. Faculty Advisor and Lecturer for the Summer Program for Academic Careers in Engineering (SPACE).

12. Mentor for the Undergraduate Research and Mentoring Program (RAMP).

13. Judge for the Annual NSF Florida-Georgia Louis Stokes Alliance for Minority Participation in Engineering & Science (FGLSAMP).

14. 2003-2004 Faculty Library Representative for Engineering Technology.

15. 2003-2004 University Course Request Committee (UCRC) Engineering Technology Representative.

16. Proposal Reviewer for the U.S. Civilian Research & Development Foundation (CRDF) for the Independent States of the Former Soviet Union. Advance the transition of weapons scientists to civilian work by funding collaborative non-weapons research and development projects.

Student Advising Activities

Undergraduate:

Andres Osorio. RAMP and RAMP-UP Mentor. CFD.
Kevin Durette. Research Supervisor. Numerical Analysis.
M. Alejandra Ricaurte. Research Supervisor. Biomechanics.
Luis Rosa. Research Supervisor. CFD.
Victor Huayamave. Research Supervisor. CFD.
Christian Saffon. Research Supervisor. CFD.
Shannon Statham. Research Supervisor. Conjugate Heat Transfer.
Colleen Crawford. Research Supervisor. CFD.
Salvadore Gerace. Honors in the Major Co-Advisor. Meshless Methods.
Jonathan Wehking. Honors in the Major Co-Advisor. Brownian Ratchets.
Carolina Barriento. Research Supervisor. Parallel Clustering.
Kevin Erhart. Honors in the Major Co-Advisor. BEM.
Eric Mitteff. Research supervisor. Meshless methods.
Luis Quintana. Research supervisor. Meshless methods.
Santiago Salazar. Research supervisor. CFD.
Anthony Esposito. Research supervisor. Genetic Algorithms.
Leonardo Rocha. RAMP mentor. Aerodynamics.
Dustin Johnson. RAMP mentor. Parallel Clustering.

Graduate:

Mohammed Elshennawy. Ph.D. research supervisor. Biomechanics.
Santiago Salazar. M.S. Advisor. Conjugate Heat Transfer.
Stefan Mancas. Department of Mathematics. Ph.D. Dissertation Committee Member. Solitons.
Tomasz Wlodarczyk. Department of Mathematics. Ph.D. Dissertation Committee Member.
Anthony Amadio. M.S. Thesis Committee Member. Driver-Gas Tailoring for Test-Time Extension using Unconventional Driver Mixtures.
Zaher El Zahab. Ph.D. Co-Advisor. Meshless Methods, Combustion, Bio-Fluids.
Rodolfo Hutchinson. Ph.D. Advisor. BEM Thermoelasticity.
Ivan Oropeza. M.S. and Ph.D. Advisor. Oscillatory Species Separation, CFD.
Jennifer Crain. M.S. and Ph.D. Advisor. Oscillatory Species Separation, CFD.
Eric Mitteff. M.S. and Ph.D. Advisor. Meshless Methods.
Kevin Erhart. M.S. and Ph.D. Advisor. BEM, Meshless Methods, and Inverse Problems.
Salvadore Gerace. M.S. Co-Advisor. Meshless Methods and Multi-Objective Optimization.
Andreas Hadjinicolaou. Ph.D. Co-Advisor. BEM and Inverse Problems in Heat Transfer.
Franklin Rodriguez. Ph.D. Advisor. Numerical Conjugate Heat Transfer.

Mahmood Silieti. Ph.D. Co-Advisor. Numerical Conjugate Heat Transfer and CFD.
Jennifer Gill. M.S. Co-Advisor. Thermal Contact Resistance and Genetic Algorithms.
Mohamed Elfahdli. M.S. Co-Advisor. Numerical Conjugate Heat Transfer and CFD.
Bhaskar Sirivastra. M.S. Committee member. Laser speckle Pattern Correlations.
Brian Gulliver. M.S. Committee member. Rotary Micro-Compressor.
Rachid Aitmaalemachen. M.S. Committee member. Explicit Sensitivity Coefficient.
Ed Chehab. M.S. Committee member. Heat Transfer Coefficients in Channels.

International:

David Ojeda. Central University, Venezuela. Ph.D. International Advisor. BEM/GA Cavity Detection in Biomechanics.
Brizeida Gamez. Central University, Venezuela. Ph.D. International Advisor. BEM Domain Decomposition Thermoelasticity and Fracture Mechanics.
Carlos Morales. University of Carabobo, Venezuela. Ph.D. International Advisor. Virtual Fluoroscopy System for Spine Surgery.
Carolina Peña. University of Carabobo, Venezuela. Ph.D. International Advisor. Numerical Optimization for Braquiotherapy Planning.

Academic Awards and Recognitions

State of Florida University System. Teaching Incentive Program. 2006-2007.

Faculty Excellence Award. College of Engineering and Computer Science. 2006-2007.

Faculty Excellence Award. Engineering Technology Department. 2006-2007.

Fellow of the Wessex Institute of Great Britain. July 12, 2004.

Member of the International Association of Networking Professionals.

Who's Who in Science and Engineering, 2005-2006.

Awarded 'Teacher of the Year 2001' recognition by Pi-Tao-Sigma, National Mechanical Engineering Honors Society.

Consistently received excellent teaching evaluations at UCF. Overall assessment of instructor: 89.19% excellent, 10.81% very good, 0% good, 0% fair, and 0% poor.

Selected as Distinguished and Valedictorian Professor for the class of 1991 at UNITEC.

Cumulative Grade Point Average (GPA) of 4.0/4.0, Graduate Program, UCF 1998.

Certificate of Excellence, Mechanical Engineering Graduate Program, UCF 1996.

Order "Antonio José de Sucre ", FUNDAYACUCHO, Venezuela 1993.

Best Academic Index (GPA) Award for the Class of 1992, Central Technological University.

Excellent Academic Performance Award, Central Technological University, 1992.

Valedictorian for the Class of 1992, Central Technological University.

Distinguished Thesis, Central Technological University 1992.

BOOKS AUTHORED/EDITED

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61. DIVO, E., KASSAB, A.J., KAPAT, J.S., AND CHYU, M.K., "RETRIEVAL OF MULTIDIMENSIONAL HEAT TRANSFER COEFFICIENT DISTRIBUTIONS USING AN INVERSE BEM-BASED REGULARIZED ALGORITHM: NUMERICAL AND EXPERIMENTAL RESULTS," ASME PAPER HTD-VOL. 364-1, PP. 235-244, PROCEEDINGS OF THE ASME, HEAT TRANSFER DIVISION, 1999, WITTE, L.C. (ED.), IMECE99 HTD, K14 SESSION 34, NASHVILLE, TENNESSEE, NOV 13, 1999.

62. DIVO, E., KASSAB, A.J., AND RODRIGUEZ, F., "A BEM-BASED INVERSE METHOD FOR IDENTIFICATION OF THERMAL CONDUCTIVITY OF NON-HOMOGENEOUS MEDIA," PROCEEDINGS OF THE 2ND UNITED KINGDOM CONFERENCE ON THE

BOUNDARY INTEGRAL EQUATION METHOD, BRUNEL UNIVERSITY, LONDON, UNITED KINGDOM, SEPT. 13-15, 1999, WROBEL L.C. AND CHANDLER-WILDE (EDS.), BRUNEL UNIVERSITY PRESS, PP. 1-12, (INVITED PAPER AND INVITED LECTURE/OPENING ADDRESS).

63. KASSAB, A.J., DIVO, E., AND CHYU, M., "A BEM-BASED INVERSE ALGORITHM TO RETRIEVE MULTIDIMENSIONAL HEAT TRANSFER COEFFICIENTS FROM TRANSIENT TEMPERATURE MEASUREMENTS," BETECH99, PROCEEDINGS OF THE 13TH INTERNATIONAL BOUNDARY ELEMENT TECHNOLOGY CONFERENCE, LAS VEGAS, NV, JUNE 8-10, 1999, CHEN, C.S., BREBBIA, C.A., AND PEPPER, D, (EDS.), COMPUTATIONAL MECHANICS, BOSTON, MA, 1999, PP. 65-74, (INVITED PAPER AND KEYNOTE ADDRESS).

64. STEFANESCU, A., KASSAB, A.J., AND DIVO, E., "A BOUNDARY INTEGRAL EQUATION METHOD FOR TRANSIENT DIFFUSION IN ISOTROPIC NON-HOMOGENEOUS MEDIA," PROCEEDINGS OF THE UTAM/IACM/IABEM SYMPOSIUM ON ADVANCED MATHEMATICAL AND COMPUTATIONAL ASPECTS OF THE BOUNDARY ELEMENT METHOD, BURCZYNSKI, T. (ED.), MAY 30-JUNE 3, 1999, CRACOW, POLAND, KLUWER ACADEMIC PUBLISHERS, TO APPEAR (INVITED PAPER).

65. RODRIGUEZ, F., DIVO, E., AND KASSAB, A.J., "AN EFFICIENT BEM ALGORITHM TO CHARACTERIZE SPACE DEPENDENT THERMAL CONDUCTIVITY WITH AN EVOLUTIONARY-GENETIC APPROACH, "PROCEEDINGS OF BEM 20, THE 20TH INTERNATIONAL CONFERENCE ON BOUNDARY ELEMENTS, KASSAB, A.J., BREBBIA, C.A., AND CHOPRA, M.B., (EDS.), ORLANDO, FLORIDA, AUGUST 19-21, 1998, PP. 371-381.

66. DIVO, E. AND KASSAB, A.J., "BOUNDARY INTEGRAL FORMULATION FOR NON-LINEAR HEAT CONDUCTION IN ANISOTROPIC HETEROGENEOUS MEDIA, " PROCEEDINGS OF BEM 20, THE 20TH INTERNATIONAL CONFERENCE ON BOUNDARY ELEMENTS, KASSAB, A.J., BREBBIA, C.A., AND CHOPRA, M.B., (EDS.), ORLANDO, FLORIDA, AUGUST 19-21, 1998, PP. 659-669.

67. DIVO, E., KASSAB, A.J., AND CAVALLERI, R.J., "BEM MODEL OF ABLATION CHARACTERISTICS OF A THRUST VECTOR CONTROL VANE," AIAA 98-2578, PRESENTED AT THE 7TH AIAA/ASME JOINT THERMOPHYSICS AND HEAT TRANSFER CONFERENCE, JUNE 15-18, 1997, ALBUQUERQUE, NM.

68. CAVALLERI, R.J., DIVO, E., AND KASSAB, A.J., "BOUNDARY ELEMENT METHOD THERMAL AND ABLATION ANALYSIS OF THRUST VECTOR VANES," 22ND ANNUAL CONFERENCE ON COMPOSITE MATERIALS AND STRUCTURES, ORGANIZED BY CMC COMMITTEE OF ACWG, USAF, US ARMY, NASA, DARPA, AND US DOE, COCOA BEACH, JAN. 26-30, 1998.

69. DIVO, E. AND KASSAB, A.J., "A GENERALIZED BOUNDARY INTEGRAL EQUATION FOR AXISYMMETRIC HEAT CONDUCTION IN NON-HOMOGENEOUS

MEDIA," PROCEEDINGS OF BEM 19, THE 19TH INTERNATIONAL CONFERENCE ON BOUNDARY ELEMENTS, BREBBIA, C.A., SANTINI, P., ALIABADI, M.H., AND ORLANDI, P., (EDS.), ROME, ITALY, SEPTEMBER, 9-12, 1997, PP. 453-464.

70. DIVO, E. AND KASSAB, A.J., "A GENERALIZED BIE FOR TRANSIENT HEAT CONDUCTION IN HETEROGENEOUS MEDIA," AIAA PAPER 97-2436, PRESENTED AT THE 32ND AIAA THERMOPHYSICS CONFERENCE, JUNE 23-25, 1997, ATLANTA, GEORGIA.

71. DIVO, E. AND KASSAB, A.J., "ON A BOUNDARY-ONLY BEM FOR HEAT CONDUCTION IN NON-HOMOGENOUS ANISOTROPIC MEDIA," PROCEEDINGS OF BETECH97, THE 12TH INTERNATIONAL BOUNDARY ELEMENT TECHNOLOGY CONFERENCE, BREBBIA, C.A. AND FRANKEL. J., (EDS.), APRIL 9-11, 1996, KNOXVILLE, TENNESSEE.

72. Kassab, A.J. and Divo, E., "On a Boundary Integral Equation for Heat Conduction in Heterogeneous Media," Proceedings of BEM18, the 18th International Conference on Boundary Elements, Brebbia, C.A., Martin, J.B., Aliabadi, M.H., and Haie, N. (eds.), September 24-26, Braga, Portugal, 1996, pp. 75-84, (invited paper).

Refereed Conference Abstracts/Oral Presentations

1. Divo, E. and Kassab, E., "Air Quality and Ventilation in Space Vehicles and Space Environments: A Meshless Method Model" HABITATION 2006, Conference on Habitation Research and Technology Development, Feb 5-8, 2006, Orlando, FL.

2. Thomas, A., Crain, J., Oropeza, I., Kassab, A., Divo, E., and Narayanan, R., "Oscillatory Flow as a Means of Enhanced Species Separation – application to life support" HABITATION 2006, Conference on Habitation Research and Technology Development, Feb 5-8, 2006, Orlando, FL.

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3. El Zahab, Z., Divo, E., and Kassab, A.J., "Parallel Domain Decomposition Meshless Modeling of Dilute Chemical Species Transport," Combustion Institute, Eastern States Section Meeting, November 13-16, 2005, Orlando, FL.

4. Kassab, A.J. and Divo, E., "Parallel Domain Decomposition Boundary Element Method for Large-Scale Heat Transfer Problems," IMSE 2004, August 2-5, 2005, Orlando, FL.

5. Divo, E. and Kassab, A.J., "A Dual Reciprocity Boundary Element Method for Transient Non-linear Heat Transfer with an Effective Post-Priori Error Estimator," IABEM 2004, May 24-26, 2004. Minneapolis, MN, USA.

6. Silieti, M., Divo, E., and Kassab, A.J., "An Inverse Boundary Element Method/Genetic

Algorithm Based Approach for Retrieval of Multi-dimensional Heat Transfer Coefficients within Film Cooling Slots," IABEM 2004, May 24-26, 2004. Minneapolis, MN, USA.

7. Divo, E. and Kassab, A.J., "A Domain Decomposition Approach Applied to a Meshless Solution of Heat Transfer and Fluid Flow Problems," BEM 26, 26th International Conference on Boundary Element Methods and other Mesh Reduction Methods. April 19-21, 2004. Bologna, Italy.

8. Eduardo Divo, A. Kassab, and J. Kapat, "Determination of Heat Transfer Coefficients Using Thermochromic Liquid Crystal Thermography - A Steady-State Application," Session I, Session Chairman, Keith Woodbury Tenth Inverse Problems in Engineering Seminar Program, June 5-6, 2000, University of Texas, Arlington.

9. Divo, E., Kassab, A.J., and Rodriguez, F., "A Steady-State BEM-based inverse approach to identifying unknown multidimensional thermal conductivity of non-homogeneous materials," Session 1C (Nonlinear and inverse problems), Symposium on Advances in Boundary Element Methods organized by J. Bialek, T. L. Cruse, G. Maier, R. Pak, during USNCCM'99, Fifth US National Congress on Computational Mechanics, University of Colorado at Boulder, CO, USA-August 4-6, 1999 (by invitation only).

10. Divo, E. and Kassab, A.J., "A New Boundary Element Method for Heat Conduction in Non-Homogeneous Media," 13th US National Congress on Applied Mechanics, June 21-26, 1998, University of Florida, Gainesville, Florida.

11. Kassab, A.J. and Divo, "Boundary Integral Error Estimate for the Sifting Property of the Forcing Function Used in the Generalized Boundary Integral Equation for Heat Conduction in Non-Homogeneous Media," IABEM98, 1998 International Symposium on Boundary Element Methods, Ecole Polytechnique, Plaiseau, France, May 26-29, 1998.

12. Rodriguez, F., Divo, E., and Kassab, A.J., "An Inverse Boundary Element Method for Characterization of Thermal Conductivities of Non-Homogeneous Aerospace Materials," NASA, 1st Annual Partners in Education and Research Conference, Cocoa Beach, October 6-8, 1998.

13. Kassab, A.J. and Divo, "A Boundary Only BEM for Heat Conduction in Heterogeneous Media," Symposium on BEM in Mechanics, p. 81, 1997 Joint Summer Meeting of the ASME, ASCE, and SES, June 29-July 2, 1997, Evanston, Illinois.

Short Courses, Invited Talks, Keynote Addresses:

1. Divo, E., "Beyond Grids: Meshless Incompressible Flow CFD," Invited short course at ASME SHT/InterPack 2007, Vancouver, BC, Canada, July 8, 2007.

2. Kassab, A.J. and Divo, E., "Singular-Superposition Method for the Inverse Geometric Problem - applications in heat transfer and elasticity," Invited mini-symposium presented at the 2007 Applied Inverse Problems Conference, Vancouver, BC, Canada, June 25-29, 2007.

3. Divo, E., "Computational Mechanics. Numerical Methods in Mechanical Engineering," Invited Talk at Jose Antonio Paez University, San Diego, Venezuela, March 17, 2006.

4. Kassab, A.J. and Divo, E., "Fractional Time Step Localized Meshless Method for Forced and Natural Convective Heat Transfer," 44th AIAA Aerospace Science Meeting and Exhibition, Jan. 9-12, 2006, Reno, NV. (Invited panel session).

5. Kassab, A.J. and Divo, E., "Boundary Elements and Other Mesh Reduction Methods," Short Course at the NASA Thermofluids Analysis Workshop (TFAWS 2005), Orlando, August 9-12, 2005.

Reviewing

-International Journal of Numerical Methods in Engineering (IJNME)
-Computers and Fluids Journal
-Numerical Heat Transfer NHT2005 EUROTHERM Symposium 82.
-Engineering Analysis with Boundary Elements.
-International Journal of Heat and Mass Transfer.
-Cambridge University Press.
-Journal of Inverse Problems in Science and Engineering (IPSE).
-BEM/MRM: International Conference in Boundary Element and Mesh Reduction Methods.
-BETECH: International Conference in Boundary Element Technology.
-SECTAM: South Eastern Conf. in Theoretical and Applied Mechanics.

Formatted: Bullets and Numbering

Chair/Co-Chair of International Conferences

Member of Organizing Committee for NASA's 16th Annual Thermal and Fluids Analysis Workshop TFAWS05. UCF, Orlando, FL, August 8-12, 2005.

27th World Conference on Boundary Elements and Other Mesh Reduction Methods (BEM 27/MRM). Kassab, A.J., Brebbia, C.A., and Divo, E., co-chairs. UCF, Orlando, Florida, March 12-15, 2005.

BETECH2001, the 14th International Boundary Element Technology Conference. Kassab, A.J., Brebbia, C.A., Chopra, M.B. and Divo, E., co-chairs. UCF, Orlando, Florida, March 12-14, 2001.

Conference Sessions Chaired/Organized

Chaired sessions 6 and 9 at CIMENICS 2006, 8th International Congress of Numerical Methods in Engineering and Applied Sciences. Margarita Island, Venezuela, March 20-24, 2006.

Organized and chaired session HTD K20 Coupled Field Problems at the ASME IMECE 2005 Congress in Orlando, Florida, November 2005.

Chaired session S17 "Other Applications II", Numerical Heat Transfer NHT2005 EUROTHERM Symposium 82, Krakow, Poland, Sept. 13-17, 2005.

Organized and chaired Minisymposium on Conjugate Heat Transfer and Thermoealsticity for the ECCOMAS Conference on Computational Methods for Coupled Problems in Science and Engineering, May 25-28, 2005, Santorini, Greece.

Organized and chaired session HT-1D K20 Boundary Element Methods in Heat Transfer, Sunday, Nov. 14, at the ASME IMECE 2004, Anaheim, California.

Chaired Session 5 on advanced Mesh Reduction, Tuesday, April 20, 2004, at BEM 26, Bologna, Italy, April 19-21, 2004.

Chaired Session at ISIP2003, International Symposium on Inverse Problems in Engineering Mechanics 2003, Nagano, Japan, February 18-21, 2003.

Chaired Session at SECTAM XXI, the 21st Southeast Conference on Theoretical and Applied Mechanics, UCF, Orlando, Florida, May 19-21, 2002.

Chaired Session at BETECH2001, the 14th International Boundary Element Technology Conference, UCF, Orlando, Florida, March 12-14, 2001.

Philip Craiger

Assistant Director for Digital Evidence
National Center for Forensic Science
12354 Research Parkway
University of Central Florida
Orlando, FL 32816
Email: pcraiger@mail.ucf.edu
Voice: (407) 823-3527

Assistant Professor
Department of Engineering Technology
University of Central Florida
Orlando FL, 32826

Email: philip@craiger.net

EDUCATION

- Ph.D., 1992, University of South Florida, Tampa, FL Specializing in Industrial Psychology. Minor in Artificial Intelligence from the Department of Computer Science.
- Dissertation title: A heuristic procedure for mapping knowledge, skills, and abilities to tasks.
    - Published as: P. Craiger and M. Coovert (1993) A fuzzy system for mapping worker attributes to task. Behavior Research Methods, Instruments and Computers, 26, 107-111.
- M.S., 1990, University of South Florida, Tampa, FL Specializing in Industrial Psychology.
- B.S., 1980, Florida State University, Major in Government.

EDITED BOOKS

- P. Craiger and S. Shenoi. Advances in Digital Forensics III, International Federation for Information Processing, New York, 2007.

JOURNALS (PEER-REVIEWED)

1. P. Burke and P. Craiger. Xbox forensics. Journal of Digital Forensics Practice, New York, Taylor & Francis, to appear.
2. C. Marberry and P. Craiger. CD-R acquisition hashes affected by write options. Journal of Digital Forensics Practice, New York, Taylor & Francis, to appear.
3. P. Craiger, P. Burke, and C. Marberry. Forensics Analysis of Phishing Cases Using Open Source and Free Tools. Anti-phishing and Online Fraud. Journal of Digital Forensics Practice, New York, Taylor & Francis, 223-230, 2007.
4. P. Craiger, M. Coovert and M. Teachout, Fuzzy rule-based system for predicting job performance, International Journal of Information Technology and Decision Making, 2003.
5. M. Coovert and P. Craiger, An expert system for integrating multiple fit-indices for structural equations modeling, New Review of Applied Expert Systems, 6, pp 131-140, 2001.
6. J. Shroder, M. Bishop, J. Olsenholler and P. Craiger, Geomorphology education and the World Wide Web Geomorphology and Public Policy 47, pp 343-363, New York, Elsevier, 2002.
7. M. Coovert, P. Craiger and M. Teachout, The effectiveness of the direct product versus confirmatory factor model for reflecting the structure of multimethod-multirater job performance data, Journal of Applied Psychology, 2, pp. 271-280, 1997.
8. P. Craiger, R. Weiss, D. Goodman and A. Butler, Simulating organizational behavior with fuzzy cognitive maps International Journal of Computational Intelligence and Organizations, 3, pp. 120-133, 1996.
9. P. Craiger and M. Coovert, A fuzzy system for mapping worker attributes to tasks, Behavior Research Methods, Instruments and Computers, 26, pp. 107-111, 1993.
10. P. Craiger and M. Coovert, Fuzzy Fit-Index Tutoring System (FFITS): An intelligent system for interpreting and integrating fit indices from covariance structure modeling solutions, Applied Psychological Measurement, 15, p. 292, 1991.
11. L. Penner, S. Harris, J. Llobet and P. Craiger, Studying personnel decisions about female managers: Methodological, 1991. considerations, Equal Opportunities International, 10, pp. 3-9, 1991.

BOOK CHAPTERS (PEER REVIEWED)

1. P. Burke and P. Craiger, Forensic Analysis of Xbox Consoles. In P. Craiger and S. Shenoi (Eds.), Advances in Digital Forensics III, Springer, New York, to appear.
2. C. Maryberry and P. Craiger, Burn Options Affect Cryptographic One-way Hashes of CD-R Media. In P. Craiger and S. Shenoi (Eds.), Advances in Digital Forensics III, Springer, New York, to appear.
3. P. Craiger, Training and Education in Digital Forensics. In J. Barbara (Ed.), Handbook of

Digital and Multimedia Evidence. Humana Press, to appear.

4. P. Craiger and P. Burke, Mac OS X Forensics. In M. Olivier and S. Shenoi (Eds.), Advances in Digital Forensics II, Springer, New York, to appear.
5. P. Burke and P. Craiger, Trace evidence of secure delete programs. In M. Olivier and S. Shenoi (Eds.), Advances in Digital Forensics II. Springer, New York, to appear.
6. P. Craiger, Computer forensics methods and procedures In H Bigdoli, (Ed), Handbook of Information Security, New York, John Wiley and Sons, 2, pp. 736-755, 2006.
7. P. Craiger, M. Pollitt and J. Swauger, Digital Evidence and law enforcement In H Bigdoli, (Ed), Handbook of Information Security, New York, John Wiley and Sons, 2, pp. 739-777, 2006.
8. P. Craiger, Recovering digital evidence from Linux systems, In S. Shenoi and M. Pollitt (Eds), Advances in Digital Forensics, New York, Springer, pp. 233-243, 2006.
9. P. Craiger, J. Swauger, and C. Marberry. Digital forensic software tool validation. In P. Kanellis (Ed) Digital Crime and Forensic Science in Cyberspace Idea Group, 91-108, 2006.
10. M. Coovert, L. Foster and P. Craiger, Technology and Stress, J. Barling, K. Kelloway and M. Frone (Eds), Handbook of Work Stress, New York, Sage Publications, pp.5-9, 2003.
11. P. Craiger and V. Collins. Practical guide to evaluating computer-enabled communication in organizations. In J. Edwards, J. Scott and N. Raju, N (Eds), The Human Resources Handbook of Program Evaluation, New York: Sage Publishing, pp. 34-56, 2003.
12. P. Craiger, Computer-assisted instruction, In M. Zeleny (Ed), Handbook of Information Technology in Business, London: Thompson International Publishing, pp. 34-55, 2000.
13. P. Craiger, Human-Computer Interaction, In M. Zeleny (Ed), Handbook of Information Technology in Business, London: Thompson International Publishing. pp. 450-66, 2000.
14. M. Coovert and P. Craiger, Modeling performance and establishing training criteria in training systems. In J. K. Ford (Ed), Improving training effectiveness in work organizations pp 47-71 Hillsdale, NJ: Lawrence Erlbaum Associates. 1996.
15. M. Coovert, P. Craiger and J. Cannon-Bowers, Innovations in modeling and simulating team performance: Implications for decision making. In R. Guzzo and E. Salas (Eds), Team effectiveness and decision making in organizations: Frontiers in industrial and organizational psychology pp 149-203 New York: Jossey-Bass. 1996.
16. L. Penner, B. Fritzsche, P. Craiger and T. Freifeld, Measuring the prosocial personality In J. Butcher and C. D. Spielberger (Eds) Advances in personality assessment (Vol 10) Hillsdale, NJ: Lawrence Erlbaum, 1995.
17. L. Penner and P. Craiger, Individual performance in a team context: The weakest link. R. Swezey and E. Salas (Eds), Teams: Their training and performance New York: ABLEX. 1991.

GRANTS AND CONTRACTS

2006:

18. PI, Virtual Digital Evidence Lab $140,600
19. PI, Digital Evidence Mark-Up Language (DEML) $ 57,479
20. PI, Digital Evidence Certification $ 51,922

2005:

1. PI, Digital Evidence Markup Language and Digital Evidence Certification. National Institute of Justice. $84,000.
2. PI, Virtual Digital Evidence Lab. National Institute of Justice 2006 $64,000.
21. PI, Tool Validation and Testing/Media Attribution, State of Florida $15,000.

2003:

22. B. Burnham, P. Craiger (Primary Author: 95%) and V. Winter, Cybercorp Scholarships at the University of Nebraska at Omaha Information Assurance Program, National Science Foundation, DUE-0313691, $2.2 Million (4 years).
23. B. Burnham and P. Craiger (Primary author: 90%) Department of Defense Information Assurance Program Scholarships at the University of Nebraska at Omaha Information Assurance Program, U.S. Department of Defense, Awarded $294,000.
24. P. Craiger, Computer and Network Forensics NASA Nebraska Space Grant and EPSCoR Seed Research Program $1,000.
25. P. Craiger and K. Gubbels, Honeypots for Defense in Depth, NASA Nebraska Space Grant and EPSCoR Seed Research Program $1,200

2001:

1. P. Craiger, Ubiquitous Computing Lab, The Nebraska Foundation. $60,000.
2. M. Bishop, P. Craiger and A. Stoyen, Global Land-Ice Measurements from Space NASA Nebraska Space Grant Consortium, $10,000.
3. M. Bishop, P. Craiger and A. Stoyen, Global Land-Ice Measurements from Space NASA Nebraska Space Grant and EPSCoR Seed Research Program. $1,000.
4. P. Craiger, NASA Space Grant and EPSCoR Program Seed Program. $3,000.

Pre-2000:

1. P. Craiger A statistical model of Marine Corps Quality of Life, US Army Research Office Contract DAAH04-96-C-0086. $20,000.
2. P. Craiger and D. Peak, AT&T Peter Kiewit Foundation for Educational Technology (Co-Principal Investigator). $1500.
3. P. Craiger (SME) Statewide education for advanced practice community health nursing Subject matter expert (Federal Department of Health and Human Services), $4,000 subcontract to UNO.
4. PI, P. Craiger, Navy QoL Predictive Model Project US Army Research Office Contract No DAL03-91-C-0034, TCN 96217 Awarded $38,000.
5. PI, P. Craiger and J. Crehan, National Aeronautics and Space Administration Space Grant Consortium. $7,500.

6. P. Craiger First Data Corp (Non disclosure contract: Proprietary contract work) Principal investigator Awarded, $17,000
7. P. Craiger and R. Weiss, Conagra Contract (Non disclosure contract: Proprietary contract work) Research design and data analysis Statistical package training. 3,000.
8. PI, P. Craiger Navy Quality of Life Predictive Model Project US Army Research Office Scientific Services Program, Contract DAAL03-91-C-0034, Awarded $54,000.
9. D. Peak, P. Craiger and R. Bernier, Environmental Justice Through Pollution Prevention (Environmental Protection Agency PY90060204). $75,000.

PROFESSIONAL CONFERENCE PROCEEDINGS

1. P. Craiger, L. Ponte, C. Whitcomb, and M. Pollitt. Master's in Digital Forensics. Proceedings of the 40th Annual Hawaii International Conference on System Sciences. To appear.
2. P. Craiger, M. Pollitt, C. Marberry, and P. Burke. CD-ROM Write Options Affect Calculation of One-way Cryptographic Hashes. Proceedings of the 2007 Annual Meeting of the American Academy of Forensic Science. To appear.
3. P. Craiger, J. Swauger and C. Marberry, Digital evidence obfuscation: recovery techniques. The Proceedings of the International Society for Optical Engineering, pp. 777-888, 2005.
4. P. Craiger, Portable forensics with Linux. Proceedings of the Annual Meeting of the Nebraska Academy of Sciences, Lincoln, NE, 2004.
5. P. Craiger, et al, An applied course in network forensics. Proceedings of the Workshop for Dependable and Secure Systems University of Idaho, Moscow, Idaho, Sept 23-35, 2002.
6. R. Weiss and P. Craiger, Implications of the Elaboration Likelihood Model for automation monitoring failure. Proceedings of the Annual Meeting of the Nebraska Academy of Sciences, Lincoln, NE, 2002.
7. M. Coovert, Elliot, L. Foster and P. Craiger, Measurement in synthetic task environments for teams: A methodological typology. Proceedings of the Eighth International Conference on Human-Computer Interaction, 2002.
8. P. Craiger, M. Coovert and M. Teachout, Fuzzy neural models in industrial psychology research. Proceedings of the World Congress on Neural Networks, Vol II, 617-620, 1993.
9. R. Weiss, J. de Groot and P. Craiger, Presenting the Programmable Task Battery for research into automation bias/automation induced complacency. Proceedings of the Annual Meeting of the Human Factors and Ergonomics Society, Chicago, IL, 1998.
10. P. Craiger, D. Goodman, R. Weissand J. DeGroot, Mental models and pilot performance: A cognitive science approach. Proceedings of the Nebraska Academy of Sciences Meeting, Lincoln, NE, 1997.
11. P. Craiger and M. Coovert, Modeling dynamic social and psychological processes with fuzzy cognitive maps. textitProceedings of the Third IEEE World Conference on Fuzzy Systems, 3, 1873-1877, 1994.
12. P. Craiger, Discovering causal model implications with fuzzy cognitive maps: Help for

the behavioral scientist. textit Proceedings of the Fourth IEEE World Conference on Neural Networks, 2, 836-841, 1994

13. M. Coovert, E. Salas, J. Cannon-Bowers, P. Craiger and P. Takalkar, Understanding team performance measures: Application of Petri nets Proceedings of the IEEE International Conference on Systems, Man and Cybernetics, pp 387-393, Washington, D C: IEEE Computer Society Press, 1990.

CHAIRED CONFERENCES AND PROGRAM PANELS

1. (Chair) International Federation for Information Processing Working Group 11.9 (Digital Forensics), January, 2007, Orlando FL.
2. (Program panel) Computer Forensics Track of the ACM SAC 2007, The 22nd Annual ACM Symposium on Applied Computing, Seoul Korea.
3. (Co-chair), Anti-Phishing Working Group Fall Meeting, November, 2006, Orlando, FL. (General Chair) International Federation for Information Processing Working Group 11.9 (Digital Forensics), January, 2006, Orlando FL.
4. (Member) Technical Working Group on Training and Education in Digital Forensics. NIST/NIJ Sponsored Education Committee.
5. (General Chair) International Federation for Information Processing Working Group 11.9 (Digital Forensics), January, 2005, Orlando FL.

CONFERENCE PRESENTATIONS

1. M. Pollitt, P. Craiger, N. Beebe, R. Jewel, and A. Brill (2007). Digital evidence workshop. Presentation for the 2007 Annual Meeting of the American Academy of Forensic Science. February 2007, San Antonio, TX.
2. P. Craiger, M. Pollitt, C. Marberry, and P. Burke. CD-ROM Write Options Affect Calculation of One-way Cryptographic Hashes. Presentation for the 2007 Annual Meeting of the American Academy of Forensic Science. February 2007, San Antonio, TX.
3. M. Pollitt, C. Whitcomb, P. Craiger, N. Bebe, and A. Brill. A Primer and update on digital evidence. Presentation for the 2007 Annual Meeting of the American Academy of Forensic Science. February 2007, San Antonio, TX.
4. P. Craiger, L. Ponte, C. Whitcomb, and M. Pollitt. Master's in Digital Forensics. Presentation for the 40th Annual Hawaii International Conference on System Sciences. January, 2007, Hawaii, Hawaii.
5. P. Craiger, P. Burke, and C. Marberry. Forensics Analysis of Phishing Cases Using Open Source and Free Tools. 2006 Anti-Phishing Working Group Fall General Meeting. November, 2006, Orlando, FL.
6. P. C. Maryberry and P. Craiger, Burn Options Affect Cryptographic One-way Hashes of CD Media. Presentation at the Third Annual International Federation for Information Processing Working Group (Digital Forensics) Meeting, January, 2007, Orlando, FL.
7. P. Burke and P. Craiger, Forensic Analysis of Xbox Consoles. In P. Craiger and S. Shenoi

(Eds.), Presentation at the Third Annual International Federation for Information Processing Working Group 11.9 (Digital Forensics) Meeting, January, 2007, Orlando, FL.

8. P. Craiger and P. Burke. Mac OS X Forensics. Second Annual Conference of the International Federation for Information Processing Working Group 11.9 (Digital Forensics). Feb. 2, 2006, Orlando, FL.
9. P. Burke and P. Craiger Trace evidence of secure delete programs. Second Annual Conference of the International Federation for Information Processing Working Group 11.9 (Digital Forensics). Feb. 2, 2006, Orlando, FL.
10. R. Eaglin and P. Craiger, Data Sharing and the Digital Evidence Markup Language. 1st Annual GJXDM Users Conference, Atlanta, GA. (not peer reviewed), 2005.
11. P. Craiger, Recovering digital evidence from Linux systems, First Annual Conference of the International Association of Information Professionals Working Group 11.9 (Digital Forensics), Orlando, FL, February, 2005.
12. P. Craiger, Digital evidence obfuscation: Recovery techniques Meeting of the International Society for Optical Engineering Orlando, FL, April, 2005.
13. P. Craiger, Portable Linux Forensics, Presentation accepted for the 26th Annual Department of Energy Conference on Computer Security Training Kansas City MO, May, 2004.
14. P. Craiger and S. Webb, Forensics with Linux/ Presentation for the 8th Annual INFOTEC Conference Omaha, NE, April, 2004.
15. P. Craiger, Network forensics investigative techniques, 25th Annual Department of Energy Conference on Computer Security Training Baltimore MD, April, 2003.
16. S. Webb and P. Craiger, Defensive Battle Stations In Network-Centric Warfare: Rapid-response Computer and Intrusion Forensics Proceedings of the 6th Annual Systems Engineering Conference, San Diego, CA, October, 2003.
17. K. Gubbels and P. Craiger, Honeypots for Defense-in-Depth/ 25th Annual Department of Energy Conference on Computer Security Training Baltimore MD, April, 2003.
18. P. Craiger, Computer and network forensics. Seventh Annual INFOTEC Conference Omaha, NE, April, 2003.
19. K. Gubbels and P. Craiger, Defense-in-depth with honeypots. Seventh Annual INFOTEC Conference Omaha, NE, April, 2003.
20. P. Craiger, An applied course in network forensics. Workshop for Dependable and Secure Systems University of Idaho, Moscow, Idaho, Sept 23-35, September, 2002.
21. P. Craiger, Ubiquitous Security? Sixth Annual INFOTEC Conference, April, 2002. S. Whalen and P. Craiger. Attacking and Defending Wireless Networks, Sixth Annual INFOTEC Conference, April, 2002.
22. P. Craiger and R. Weiss. Supporting Telework: Applications of Distance-Based Training In M. Coovert (Chair), The Future Organization: Telework, Intelligent Agents and Nomadic Computing
23. Presented at the 14th Annual Conference of the Society for Industrial and Organizational

Psychology, April, 1999.

24. P. Craiger, A. Stoyen, M. Bishop, J. Shroder and H. Sharif. Grand Challenge Computing Problems in Environmental Monitoring: UNO's Geomatics Program, Presentation for the American Association for the Advancement of Science, Omaha, NE, 1999.
25. M. Bishop, P. Craiger, J. Shroder and A. Stoyen. Web-based software for the Global Land-Ice Measurements from Space 1st International Conference on Global Land-Ice Measurements from Space, Zurich, Switzerland, 1999.
26. M. Bishop, P. Craiger, J. Shroder and A. Stoyen. UNO/CMIT Geomatics Program, 1st International Conference on Global Land-Ice Measurements from Space, Zurich, Switzerland, 1999.
27. M. Hawkins and P. Craiger, Differential effects of computer-based instruction, In P. Craiger (Chair), Human-Computer Communication Systems: Research and Application accepted for the 14th Annual Conference of the Society for Industrial and Organizational Psychology, Atlanta, GA, 1999.
28. M. Coovert, L. Elliot, L. Foster and P. Craiger. Measurement in synthetic task environments for teams: A methodological typology Eighth International Conference on Human-Computer Interaction Munich, Germany, 1999.
29. J. Shroder, M. Bishop, M. Olsenholler and P. Craiger, Geomorphology education and the World Wide Web. 30th Biennial Conference on Geomorphology, Binghamton, New York, 1999.
30. P. Craiger, J. McGourty, M. Hawkins and K. Ury. Human-Computer Communication Systems: Research and Application Symposium for the 14th Annual Conference of the Society for Industrial and Organizational Psychology, 1999.
31. P. Craiger, R. Weiss and A. Butler. Marital status and gender differences in a model of work-family conflict. 13th Annual Conference of the Society for Industrial and Organizational Psychology, Dallas, TX, 1998.
32. R. Weiss, J. de Groot, and P. Craiger. Presenting the Programmable Task Battery for research into automation bias/automation induced complacency. Annual Meeting of the Human Factors and Ergonomics Society, Chicago, IL, 1998.
33. M. Coovert, P. Craiger and D. Dorsey, Integrating fit-indices for structural equations modeling. 13th Annual Conference of the Society for Industrial and Organizational Psychology, Dallas, TX, 1998.
34. P. Craiger, M. Coovert, J. Beaubien and D. Banks. The Internet as A Research Tool: Challenges and Opportunities Symposium. 13th annual Conference of the Society for Industrial and Organizational Psychology, Dallas, TX, 1998.
35. M. Coovert, P. Craiger and D. Riddle, New statistical tools for modeling, analysisand evaluation Symposium. 12th Annual Conference of the Society for Industrial and Organizational Psychology, St Louis, MO, 1997.
36. P. Craiger, D. Goodman, R. Weiss and J. DeGroot, Mental models and pilot performance A cognitive science approach. 1997 Nebraska Academy of Sciences Meeting, Lincoln, NE, 1997.

37. P. Craiger, J. Weiss, A. Butler, D. Goodman, and J. Dutcher (1996) Navy quality of life: Validation of latent variable models for rank and station subgroups. Eleventh Annual Conference of the Society for Industrial and Organizational Psychology

38. G. Wilcove, P. Craiger and J. Dutcher, Quality of life in the Navy. 15th Biennial Applied Behavioral Sciences Symposium, 1995.

39. V. Collins, D. Koch, R. Reiter-Palmon and P. Craiger, Flexibility as a predictor of leadership activity. Annual Conference of the Midwest Psychological Association, 1995.

40. P. Craiger, R. Weiss, A. Butler, D. Goodman and J. Dutcher, Navy quality of life: Validation of latent variable models. 11th Annual Conference of the Society for Industrial and Organizational Psychology, 1995.

41. M. Coovert, P. Craiger and M. Teachout, Application of a neuro-fuzzy system to model the relationship between job experience and performance. Annual Conference of the Society for Multivariate Experimental Psychology, 1995.

42. P. Craiger, M. Coovertand M. Teachout, Fuzzy neural models in industrial psychology research In R Yager and L Zadeh (Chairs), Neural-Fuzzy Systems I Symposium conducted at the 11th Annual Meeting of the World Congress on Neural Networks, 1995.

43. P. Craiger, A heuristic procedure for mapping worker attributes to tasks In P Craiger (Chair), Innovative applications of computers in industrial/organizational psychology research . 102nd Annual Meeting of the American Psychological Association, Los Angeles, CA, 1994.

44. P. Craiger, J. Houston, J. Dutcher, C. Heller and D. Glaser, Gender differences in ship- and shore-based quality of life for Navy personnel . 102nd Annual Meeting of the American Psychological Association, Los Angeles, CA, 1994.

45. J. Dutcher and P. Craiger, Artificial intelligence in classification problems In P Craiger (Chair), Innovative applications of computers in industrial/organizational psychology research, Symposium conducted at the 102nd Annual Meeting of the Psychological Association, Los Angeles, CA, 1994.

46. J. Dutcher and P. Craiger, Human resources management: Organizations in transition, In P Craiger (Chair), Managing Change in the 21st Century Organization Paper accepted for the 102nd Annual Meeting of the American Psychological Association, Los Angeles, CA, 1994.

47. J. Houston and P. Craiger, Cultural diversity in the workplace: An integrated model, In P Craiger (Chair), Managing Change in the 21st Century Organization . 102nd Annual Meeting of the American Psychological Association, Los Angeles, CA, 1994.

48. E. Kerce and P. Craiger, Quality of life: An omnibus model In P Craiger (Chair), Managing Change in the 21st Century Organization Paper session presented at the 102nd Annual Meeting of the American Psychological Association, Los Angeles, CA, 1994.

49. P. Craiger and M. Coovert, Modeling dynamic social and psychological processes with fuzzy cognitive maps, . IEEE International Conference on Fuzzy Systems, Orlando, FL, 1994.

50. P. Craiger and M. Coovert, Discovering causal model implications with fuzzy cognitive maps: Help for the behavioral scientist, . World Congress on Neural Networks, San

Diego, CA, 1994.

51. P. Craiger, Fuzzy cognitive maps and causal modeling . 9th Annual Conference of the Society for Industrial and Organizational Psychology, Nashville, TN, 1994.
52. P. Craiger and J. Houston. A causal model of Navy quality of life. 1st Academy of Management Research Methods Division Conference on Causal Modeling, Purdue University, West Lafayette, IN, 1994.
53. J. Houston and P. Craiger, A causal model of fairness in the workplace,1st Academy of Management Research Methods Division Conference on Causal Modeling, Purdue University, West Lafayette, IN, 1994.
54. P. Craiger and M. Coovert, A fuzzy system for mapping worker attributes to tasks . 26th Annual Conference of the Society for Computers in Psychology, Washington, DC, 1993.
55. P. Craiger, M. Coovert and M. Teachout, A comparison of additive versus direct product solutions for multimethod-multirater job performance data In C Smith (Chair), The psychology of method variance Symposium conducted at the 8th Annual Conference of the Society for Industrial and Organizational Psychology, San Francisco, CA, 1993.
56. P. Craiger and M. Coovert, Modeling team performance: Objects and streams Paper presented at 100th Annual Meeting of the American Psychological Association, Washington, DC , 1992.
57. M. Coovert, P. Craiger and M. Teachout, A comparison of additive versus multiplicative models for multitrait-multimethod data. 7th Annual Conference of the Society for Industrial and Organizational Psychology, Montreal, Quebec, 1992.
58. L. Penner and P. Craiger, The "altruistic personality" . 99th Annual Meeting of the American Psychological Association, San Francisco, CA, 1991.
59. P. Craiger and M. Coovert, The relationship between job experience and ratings of performance In M Teachout (Chair), Understanding the work experience construct in personnel research and practice Symposium conducted at the 6th Annual Conference of the Society for Industrial and Organizational Psychology, St Louis, MO, 1991.
60. M. Coovert and P. Craiger, Determining the dimensionality of work experience and the prediction of job performance In M Teachout (Chair), Understanding the work experience construct in personnel research and practice Symposium conducted at the 6th Annual Conference of the Society for Industrial and Organizational Psychology, St Louis, MO, 1991.
61. P. Craiger and L. Penner, The willingness to help AIDS victims: An experimental Investigation . 37th Annual Meeting of the Southeastern Psychological Association, New Orleans, LA, 1991.

PROFESSIONAL ARTICLES

1. P. Craiger and B. Burnham, Computer security. The Industrial and Organizational Psychologist, 23, 155-168, 2001.
2. P. Craiger, Traveling in cyberspace: Psychology of software design: Usability evaluation The Industrial and Organizational Psychologist, 21, 134-145, 2000.

3. P. Craiger, Traveling in cyberspace: Psychology of software design, Part 1 The Industrial and Organizational Psychologist, 21, 113-122, 1999.
4. P. Craiger and R. Weiss, Traveling in cyberspace: Speech recognition systems The Industrial and Organizational Psychologist 36, 79-86, 1999.
5. P. Craiger and R. Weiss, Traveling in cyberspace: Video-mediated communications The Industrial and Organizational Psychologist, 35, 83-92, 1998.
6. P. Craiger and R. Weiss, Traveling in cyberspace, the final frontier: An interview with Donald Norman The Industrial and Organizational Psychologist, 35, pp 21-29, 1998.
7. P. Craiger, Weiss, RJ (January, 1998) Traveling in cyberspace: The evolution of SIOP on the web. The Industrial and Organizational Psychologist, 35, 13-15
8. P. Craiger and R. Weiss (October, 1997) Traveling in Cyberspace: Web-based instruction The Industrial and Organizational Psychologist, 35, 11-17
9. P. Craiger (January, 1997) Technology, organizations and work in the 20th century The Industrial and Organizational Psychologist, 36, 89-97
10. R. Weiss and P. Craiger (April, 1997) Traveling in cyberspace: Computer-based training The Industrial and Organizational Psychologist 34, 70-75
11. P. Craiger (October, 1996) Traveling in cyberspace: Computer mediated work The Industrial and Organizational Psychologist, 34, 14-18
12. P. Craiger and R. Weiss (July, 1996) Traveling in cyberspace: More Internet tools and services and Intranets The Industrial and Organizational Psychologist, 34, 16-23
13. P. Craiger and R. Weiss (April, 1996) Traveling in cyberspace: Internet tools and services The Industrial and Organizational Psychologist, 33, 13-17
14. P. Craiger (January, 1996) Traveling in cyberspace: Getting connected to the Internet and the World Wide Web The Industrial and Organizational Psychologist Pp 12-19
15. P. Craiger and R. Weiss (October, 1995) Traveling in cyberspace: The World Wide Web The Industrial and Organizational Psychologist, 33, pp 16-20
16. P. Craiger (July, 1995) Traveling in cyberspace: TIP on the World Wide Web The Industrial and Organizational Psychologist, 33, p 11

TECHNICAL REPORTS

1. P. Craiger, Structural Equation Models of Marine Corp Quality of Life US Army Scientific Services Program, Contract DAAH04-96-C-0086, 1999.
2. P. Craiger and R. Weiss, A comparison of mathematical models of the Navy Quality of Life Data US Army Scientific Services Program, DAL03-91-C-0034, TCN96217, 1997.
3. P. Craiger and M. Coovert, A model of the relationship between job experience and job sample test performance: Application of a neuro-fuzzy system (Report no F4162294P3620), Armstrong Laboratory, Brooks AFB, TX, 1994.
4. P. Craiger, R. Weiss, B. Butler and D. Goodman, Navy Quality of Life Predictive Model Project: Results of the second administration San Diego, CA: Navy Personnel Research

and Development Center, 1995.

5. Dutcher, JSand P. Craiger, Navy Quality of Life Predictive Model Project: Results of the first administration San Diego, CA: Navy Personnel Research and Development Center, 1994.
6. M. Coovert and P. Craiger, Data analysis summary: Job experience assessment (Report no 10/DI-A-5023) San Antonio, TX: Air Force Human Resources Laboratory, 1990.
7. M. Coovert and P. Craiger, A graphical representation of the AAWC, IDS, EWS and TIC positions with the VISTA programming tool (Contract DAAL03-86-D-0001) Orlando, FL: Naval Training Systems Center, 1992.
8. M. Coovert, J. Ford, P. Craiger, D. Sego, M. Quinones and J. Speer, Final report on research and development: Job experience and assessment (Report no 15/DI-S-30591) San Antonio, TX: Air Force Human Resources Laboratory, 1990.
9. M. Coovert, G. Campbell, P. Craiger, J. Cannon-Bowers and E. Salas, The conceptual application of Petri nets to the modeling of team performance Orlando, FL: Naval Training Systems Center, 1992.
10. C. Nelson, A. Kurtz, E. Gulitz, G. Hacker, M. Lee, P. Craiger, S. Roberts and A. Reno, The accuracy of behavioral surveys in predicting evacuation behavior: The Hurricane Elena study Tallahassee, FL: Florida Division of Emergency Management, 1988.

NEW COURSES DEVELOPED

1. CET 6xxx Intrusion Response Technologies (University of Central Florida)
2. CET 6xxx: Operating System and File System Forensics (University of Central Florida)
3. CET 4xxx: Information Security Processes (University of Central Florida)
4. CET 4885: Digital Investigative Technologies (University of Central Florida)
5. CET 3592: Linux Administration and Applications (University of Central Florida)
6. CET 4932: Current Topics in Computer Security (University of Central Florida)
7. CIST 4350: Technical Systems Administration (University of Nebraska @ Omaha)
8. CSCI 4380: Computer and Network Forensics (University of Nebraska @ Omaha)
9. CIST 4370: Security Administration (University of Nebraska @ Omaha)
10. CSCI 2980: Advanced Java Programming (University of Nebraska @ Omaha)
11. CSCI 2830: Java Programming (University of Nebraska @ Omaha)
12. CSCI 4360/8366: Computer Security (University of Nebraska @ Omaha)
13. CSCI 4260/8266: User Interface Design with Java (University of Nebraska @ Omaha)
14. CSCI 4250/8256: Human-Computer Interaction (University of Nebraska @ Omaha)

NEW PROGRAMS DEVELOPED

1. Master's of Science in Digital Forensics, 2005-07 University of Central Florida
2. Information Systems Technology Information Security Concentration, 2004-05, University of Central Florida
3. Information System Technology Concentration, College of Information Science and Technology, University of Nebraska @ Omaha, 2000-2002
4. Information Security Program, University of Nebraska @ Omaha,2001-2004.

PREVIOUS EMPLOYMENT

2000-2004 Associate Professor of Computer Science
College of Information Science and Technology
The Peter Kiewit Institute
University of Nebraska @ Omaha
Omaha, NE 68182

1996-1999 Assistant Professor of Computer Science
College of Information Science and Technology
The Peter Kiewit Institute
University of Nebraska @ Omaha
Omaha, NE 68182

1994-1996 Assistant Professor, Center for Management of Information Technology and Department of Psychology
University of Nebraska @ Omaha
Omaha, NE 68182

1999-2001 Senior Technical Scientist, 21st Century Systems
Responsibilities include human-factors contributions to distributed agent-enabled war fighting soft- ware; writing proposals for Department of Defense RFPs; interfacing with government agencies (Department of the Navy, DARPA, others)

PROFESSIONAL CERTIFICATIONS

1. Certified Information System Security Professional (CISSP), 2004
2. SANS GIAC Certified Computer Forensic Analyst (GCFA), 2004
3. American Society of Crime Labs/Laboratory Accreditation Board (ASCLD/LAB) Certified Inspector, 2004
4. SANS GIAC Certified Security Essentials (GSEC), 2003
5. EC-Council Certified Ethical Hacker (CEH), 2004

PROFESSIONAL AFFILIATIONS

1. Association for Computing Machinery (ACM) 1992-present

2. American Association of Forensic Scientists 2005-present
3. Digital Forensics Working Group 2002-present
4. International Federation of Information Professionals 9.11 Digital Forensics Group 2004-present
5. Anti-Phishing Working Group 2006-present

AWARDS AND PROFESSIONAL SERVICE

2007

1. Invited Speaker, Northwestern Law's annual Short Course for Prosecuting and Defense Attorneys\
2. Invited Speaker, Digital Forensics Working Group, Louisville, KY
3. Reviewer, Journal of Digital Forensics Practice

2006

1. Invited Speaker, State of Ohio Judicial ASTAR Program
2. Reviewer IFIP WG 11.9 2007 Conference
3. Reviewer Course Technology (2 textbooks)

2005

1. Reviewer, Handbook of Information Security
2. Reviewer, Course Technology (Textbook)
3. Reviewer IFIP WG 11.9 2006 Conference
4. Reviewer, International Journal of Human-Computer Studies 4

2004

1. NASA Faculty Research Associate
2. Reviewer, Handbook of Information Security
3. Reviewer IFIP WG 11.9 2005 Conference

2003

1. Reviewer, The Internet Encyclopedia
2. Reviewer, Journal of Information Sciences
3. NASA Faculty Research Associate

2002

1. NASA Faculty Research Associate
2. Course Technology Inc (Information Security publications)

2001

1. Invited Reviewer, National Science Foundation Information Technology Research (Computer-Human Interaction)
2. NASA Faculty Research Associate
3. Columnist for TIP, the official newsletter of the Society for Industrial and Organizational Psychology

2000

1. 2000 NASA Faculty Research Associate
2. Columnist for TIP, the official newsletter of the Society for Industrial and Organizational Psychology

1999

1. NASA Faculty Research Associate
2. Invited reviewer, National Defense Engineering and Science Fellowship Program, Cognitive and Behavioral Division
3. Reviewer, Decision Support Systems
4. Columnist for TIP, the official newsletter of the Society for Industrial and Organizational Psychology

1998

1. UNO Faculty Senate
2. Reviewer, Personnel Psychology
3. Reviewer, Journal of Applied Psychology

1997

1. 1997-00 UNO Faculty Senate
2. 1997-98 Reviewer, Personnel Psychology
3. 1996-98 Reviewer, Journal of Applied Psychology
4. Columnist for TIP, the official newsletter of the Society for Industrial and Organizational Psychology

1996

1. Reviewer, Journal of Applied Psychology
2. Voted Graduate Faculty Member
3. Reviewer for West Publishing Co
4. Columnist for TIP, the official newsletter of the Society for Industrial and Organizational Psychology

1995

1. Reviewer for the IEEE Transactions on Systems, Man, and Cybernetics
2. 1995-01 Columnist for TIP, the official newsletter of the Society for Industrial and Organizational Psychology

PERSONAL CERTIFICATIONS

2007

1. Dive Master, National Association of Underwater Instructors (NAUI) (in progress)
2. Full Cave Diver, National Association of Cave Divers (NACD)
3. Decompression Procedures, Technical Diving International (TDI)
4. Advanced Nitrox, Technical Diving International (TDI)

2006

1. Cavern Diver, Professional Association of Diving Instructors (PADI)
2. Rescue Diver, Professional Association of Diving Instructors (PADI)

2005

1. Advanced Open Water Diver, National Association of Underwater Instructors (NAUI)
2. Open Water Diver, Professional Association of Diving Instructors (PADI)

NABEEL YOUSEF, Ph.D.
University of Central Florida
Industrial Engineering and Management Systems
4000 Central Florida Blvd., Orlando, FL 32816
Office: 407-823 5104 • FAX: 407-823 3413
Email: nyousef@mail.ucf.edu

EDUCATION

- **Doctor of Philosophy in Industrial Engineering**
  University of Central Florida, College of Engineering, Orlando, FL, May 2006
  Focus Area: Supply Chain Management
  Dissertation: A Framework for Cost Modeling a Supply Chain
  Advisors: Dr. Jose Sepulveda and Dr. Luis Rabelo

- **Master of Science**
  Industrial Engineering and Management Systems
  University of Central Florida, Orlando, FL, December 2002
  Focus Area: Simulation Modeling and Analysis

- **Bachelor of Science in Physics**
  Yarmouk University, Irbid, Jordan 1986
  Focus Area: Physics.
  Other Supported Areas: Computer Science and Electronics

ACADEMIC HONORS AND AWARDS

- First Simulation Scholarship, University of Central Florida, Fall 2002
- Industrial Engineering and Management Systems Appreciation Plaque, April 2006

PROFESSIONAL EXPERIENCE

Visiting Assistant Professor, August 2006 to Present
University of Central Florida, Department of Engineering Technology

Appointed As: Director of Information Technology and Infrastructure for NSF e-Design Center at the University of Central Florida, September 2006

Coordinator for Computer Applications, August 2005 to August 2006
University of Central Florida, Department of Industrial Engineering and Management Systems, Orlando, FL

- Coordinated the installation and setup of the department Computer Application Lab, the Advanced Simulation Lab and the conference room
- Coordinated the purchase and installation of equipment in the National Science Foundation (NSF Center for e-design) at the University of Central Florida
- Coordinated the setup of equipment in the Rapid Prototyping Lab
- Participated in the installation and training of Robotel System and smart board in the Lockheed Martin Lab at the College of Engineering and Computer Science
- Organize computer operations within the department using quality control
- Plan for resource provision
- Manage the department network backbone and servers
- Manage software installation and plan for future use and licensing
- Coordinate and plan for future and long term computer changes (updates, upgrades, new equipment)
- Coordinate communication between the department and other support units within the campus
- Manage department labs and room use
- Manage and track department acquisitions

Keys Accomplishment:

- Saved the department $25k to $50k in annual expenditures
- Developed new processes for high performance and quality service
- Performed consistent problem solving in timely manner
- Developed various skills including professional communication

Adjunct faculty, Fall 2003 and Fall 2004
University of Central Florida, Industrial Engineering and Management Systems Department
Orlando, FL

- Taught Industrial Engineering Applications for Computers EIN 4118

Programmer Analyst, 2003 to August 2005
Department of Industrial Engineering and Management Systems, University of Central Florida, Orlando, FL

Network Administrator, 2001 to 2003
Department of Industrial Engineering and Management Systems, University of Central Florida, Orlando, FL

Programmer Analyst, 1999 to December 2000
Graphtech Inc., Charlotte, NC

- Configured networks, servers and desktops for organizations and small businesses.
- Managed the personal computer systems production unit

Programmer Analyst, 1998 to 1999
Computek Inc., Charlotte, NC

- Database programmer and administrator

- Supervisor of Production and Quality

Physics and Computer Instructor
Kuwait, 1986 to 1990; Jordan, 1992 to 1996; Saudi Arabia 1996 to 1998

- Developed a broad array of teaching skills and adjust them to meet the needs of students
- Challenged students and evaluated them honestly and fairly
- Helped students to develop skills such as communication and critical thinking

PUBLICATIONS

Refereed Journal Publications

Luis Rabelo, Don Ariely, J. Vila and **N. Yousef**. "A Comparison of Learning Schemes for Recommender Software Agents: A Case Study in Home Furniture". Industrial Journal of Technology Marketing, Vol. 1 No. 1, 2005, P 95-114

Refereed Conference Proceedings Publications

Paul Fishwick, Zach Ezzel, **Nabeel Yousef**, David Miranda, Haluk Akin, Luis Rabelo, and Jose Sepulveda. Ontology-Centered Integration of Project Management, Cost and Resource Modeling with Analysis, Simulation and Visualization: A Case Study of Space Port Operations. Proceedings of the 2007 Winter Simulation Conference, Washington DC, December 9-12

Y. Hosni, A. Saka, J. Selter, **N. Yousef**, and L. Morse. "Training Disaster Simulators – A technology that Needs Management"; 16th International Conference on Management of Technology, Miami Beach, FL May 13-17, 2007.

Derek Craig, Christopher Crawford, **Nabeel Yousef**, Jose Sepulveda. "Using RFID Technology to Improve Health Care Service in Emergency Room". Industry Engineering & Management Systems (IEMS) Annual Conference. Cocoa Beach, Florida, March 12-14, 2007. Proceeding 2007, P 586-596

Nabeel Yousef,Abeer Sharawi, Adam Dalton, Sergio Quijada, Serge Sala-Diakanda, Luis and Jose Sepulveda "A Distributed Simulation Approach for Modeling and Analyzing Systems of Systems". Proceedings of the 2006 Winter Simulation Conference, Monterey, CA December 3-6

Nabeel Yousef, and Jose Sepulveda. "The effect of Emerging Technologies on the need for a Flexible Classroom Layout and Design." IIE Annual Conference 2006 (IERC) Orlando, FL, May 20-24

Nabeel Yousef, Jose Sepulveda and Luis Rabelo. "A Framework for Cost Modeling a Supply Chain: Concepts Definitions and Relationships." IIE Annual Conference 2006 (IERC) Orlando, FL, May 20-24

Abeer Sharawi, Adam Dalton, **Nabeel Yousef**, Sergio Quijada, Serge Sala-Diakanda, Luis and

Jose Sepulveda. "Object Oriented Modeling Trends." IIE Annual Conference 2006 (IERC) Orlando, FL, May 20-24

Nabeel Yousef, Luis Rabelo and Jose Sepulveda. "Framework for Cost Modeling the Supply Chain Using ABC Costing". IFIP 5.7 Advances in Production Management Systems Conference. Rockville, MD, September 18-21, 2005

Nabeel Yousef, Luis Rabelo and Jose Sepulveda. "Cost Modeling the Supply Chain: Management Accounting Perspective". Industry Engineering & Management Systems (IEMS) Annual Conference. Cocoa Beach, Florida, March 14-16, 2005. Proceeding 2005, P 586-596

Nabeel Yousef, Ahmad Rahal and Renee J. Butler: "Using System Dynamics as an Educational Tool in Explaining the Supply Chain", Industry, Engineering, & Management Systems (IEMS) Annual Conference. CocoaBeach, Florida, March 15-17, 2004. Proceeding 2004, P 546-554

Nabeel Yousef, Ahmad Rahal and Luis Rabelo: "Study of the Inventory Oscillation Through the Supply Chain Using System Dynamics", Industry, Engineering, & Management Systems (IEMS) Annual Conference. CocoaBeach, Florida, March 15-17, 2004, Proceeding 2004, P 555-561

Nabeel Yousef, Jose Sepulveda, Hesham Mahgoub: "The Use of Simulation in Hot Mix Asphalt Trucking", IIE Annual Conference 2003 (IERC) Portland, Oregon May 17-21, 2003

Nabeel Yousef, Luis Rabelo, Joaquin Vila: "Personalization Using Software Agents Based on Fuzzy ARTMAP Neural Networks", IIE Annual Conference 2003 (IERC) Portland, Oregon, May 17-21, 2003

RESEARCH EXPERIENCE AND INTERESTS

- Current and Past Research Projects:
    - Redesigning the database for the office of Operational Excellence and Assessment Support, working as Project Leader: The objective of the project was to study and analyze processes used for programs assessments at the University of Central Florida and redesign the database needed to conduct the reviews for the results and plans for both academic and administrative programs and units. The project targeted the efficiency, quality and speed of retrieving information from the database. The project team used DOT NET to develop friendlier user interface that can be more efficient for faculty, chairs, deans and other administers.
    - Complete a trade study of existing commercial RTI solutions for vehicle and sensor fusion (PHASE 1), Lockheed Martin, working as CoPI: The project objective was to develop guidelines for interface requirements to LMCO provided models descriptions for vehicle, sensor and environment. Also to develop applicable test procedures and criteria to evaluate HLA-RTI's. This shall include developing measurable benchmarks and objectives. Time frame between December 2006 and March 2007.

- System Integration (e-Design Project Funded by NSF) working as CoPI: The project objective is to Design and Integrated Planning and Management (IPM) framework embedded in distributed simulation platform to evaluate cost throughout the design process. The framework can evaluate enterprise level strategies to reduce cost, improve systems operability, and reduce product development risks. The framework aims to integrate and leverage product design with software agents, information technologies (IT), interoperability, and human-centered Computing (HCC) in a Web-based secured environment. The project started in 2004 and will be going until December 2007.
- Traffic Study of North Gemini Boulevard and Greek Park Drive Intersection at the University of Central Florida (UCF) Campus (Transportation Project with the Department of Civil and Environmental Engineering and funded by UCf Parking and Transportation Services) Working as IT and lab consultant: The objective of the study is to determine whether there is a need for a traffic signal at that intersection or not. Project amount is $42k and the period of study and observation started March the 29th 2006 and will end in July 2006 Virtual Test Bed (Funded by NASA) working as IT consultant: The objective of the VTB project is to develop a new and unique collaborative computing environment where simulation models can be hosted and integrated in a seamless fashionn. This collaborative computing environment will be used to build a "Virtual" Spaceport. This project will work as a technology pipeline to research, develop, test and validate R&D efforts against real time operations without interfering with the actual operations or consuming the operational personnel's time.
- Dissertation Research: The objective of the research is to develop a framework that will integrate existing models to help in understanding and analyzing the cost through the supply chain. A framework for a cost model that can be used as a standard template in the supply chain cost management and optimization. The framework is able to track cost changes in a dynamic environment. Research framework aids in information sharing through organization and supply chain units.

- Specialized areas of interest include:
  - Applied areas of Supply Chain Management and Cost Accounting
  - Tools used in Supply Chain Cost Analysis and Decision Making such as Simulation Modeling and Analysis
  - Information Systems Applications and Integration
  - Information Technology, Computer Applications and Applied Database

ACADEMIC/TEACHING EXPERIENCE

- **Visiting Assistant Professor**, August 2006 to Present
  University of Central Florida, Department of Engineering Technology
  - Fall 2006: Taught IE Computer Application for Service Industry EIN 4545 and Statistics for Engineers STA 3032

- Spring 2007: Taught Applied Database I CET 4427 and Applied Database II CET 4429

- **Adjunct Professor**
  University of Central Florida, Industrial Engineering Department Orlando, FL, Fall 2003 and Fall 2004.
  - Taught Industrial Engineering Applications for Computers EIN 4118 to classes averaging 30 students.

- **Secondary Education Instructor**
  Sarawat, Saudi Arabia, 1996-1998
  - Taught Physics and Computer Applications for all levels
  - Supervised science student groups
- **Secondary Education Instructor**
  Jabal Altag High School, Jordan, 1992-1996
  - Taught Physics senior level
- **Secondary Education Instructor**
  Abu Huleifa High, Kuwait, 1986-1990
  - Taught Physics senior level
  - Supervised lab applications and experimentation

COURSES TAUGHT

At the University of Central Florida:

- Applied Database I CET 4427

This course is intended to prepare students for database systems applications and will provide students with an in-depth understanding of theory, operation and application of modern databases.

- Applied Database II CET 4429

This course is intended to prepare students for database systems applications and will provide students with an in-depth understanding of the development of enterprise modern database systems. The Dot Net Framework and SQL Server Developer Edition will be used as a tool for the application and implementation of the course material

- IE Application for Service Industry EIN 4545

The objective of the class is to address the application of industrial engineering principles to improve the quality and productivity of service industries such as restaurants, banks, hotels, health care, etc.

- Probability and Statistics for Engineers STA 3032

The primary purpose of this course is to provide students with a basic understanding of fundamental probability and statistical principles, the underlying assumptions, the procedures for implementing them, and how to interpret them. The course will cover data collection and presentation, descriptive statistics, basic elements of probability theory, sampling techniques and theory, statistical estimation, hypothesis testing and an introduction to regression. Some elements of the course will require the use of statistical software for data analysis. The emphasis will be on problem setup & solution

interpretation as well as using the tools in engineering applications.

- Industrial Engineering Application for Computers EIN 4118

The class addresses the use of computer application in problem solving for industrial engineers. The primary objective of this course is to familiarize the student with commercial software used in modeling problems found in managing production and operations of industrial, service, and government organizations

Teaching Evaluation

Quantitative scores always exceed 80% on scale of 100

Secondary education from 1986 to 1998

- A high school teacher for physics and related laboratory work

TEACHING INTERESTS

- Information Systems and Information Technology
- Computer Application
- Supply Chain Management (Logistics)
- Simulation and Modeling
- Decision Making

DEPARTMENTAL SERVICE

- Search Committee Chair (Office Assistant Position) for the Department of Industrial Engineering and Management Systems, June and August 2005
- Search Committee Member (Accountant Position) for the Department of Industrial Engineering and Management Systems, May 2005

PROFESSIONAL SERVICE

- Director of Information Technology - IEMS Annual Conference 2006,Cocoa Beach, March 12-15
- Director of Information Technology - IEMS Annual Conference 2005,Cocoa Beach, March 14-16
- Information Technology Coordinator - IAB Conference. Orlando, Florida, December 5th - 7th , 2004
- Director of Information Technology - IEMS Annual Conference 2004, Cocoa Beach, March 15-17 http://www.csustan.edu/market/petrosky/track.html#dm
- Session Chair - IEMS Annual Conference, Cocoa Beach, March 15-17 2004

- Information Technology Coordinator - IAMOT Annual Conference 2004 Washington DC http://www.iamot.org/
- Information Technology Coordinator - IEMS Annual Conference 2003, Cocoa Beach, March 12-15, 2003
- Reviewer, IIE Annual Conference 2003
- Information Technology Coordinator - IEMS Annual Conference 2002, Cocoa Beach, March 8-11

COMMUNITY SERVICE

- Judge Advisor for The First Robotics Website Competition (Florida state wide) 2006 www.usfirst.org
- Judging The First Robotics Website Competition (Florida state wide) 2004 and 2005 www.usfirst.org
- Judging the IEMS Student Research Poster and Website Competitions 2004
- Host committee of the IIE Annual Conference 2002, Orlando, Florida

WORKSHOPS ATTENDED

- Military Simulation Techniques and Technology, DIST Inc. December 2002
- HTML, New Horizons August of 2000
- FrontPage 2000, New Horizons August of 2000
- Access Database, New Horizons August of 2000
- Hardware and Software Engineering Workshop, CompTIA February 2000 (included A+ examination and certification)
- Visual Basic Non-Seeking Degree Class, August 2000

PROFESSIONAL AFFILIATIONS

- Institute of Industrial Engineers (IIE)
- Central Florida Simulation Users Group

Scott Shepard

Assistant Professor of Engineering Technology
University of Central Florida; (407) 823-4737; sshepard@mail.ucf.edu

EDUCATION

Massachusetts Institute of Technology 1988-1992
Department of Electrical Engineering and Computer Science
Ph.D. in Electrical Engineering under Jeff Shapiro *Optical Propagation and Detection Group*
Major: Area IV Electrodynamics; Minor: Area II Probabilistic Systems and Communications
***Dissertation Summary*:** "Phase of the Quantum Harmonic Oscillator" formulates a quantum theory of phase measurement resulting in dramatic refinements in ultra-precise optical phase measurements. The measurement corresponds to maximum-likelihood phase estimation and we obtain a local phase error which scales as $1/N^2$, where *N* is proportional to the optical power. This is a tremendous improvement over the $1/N$ performance of squeezed-state interferometers (which had surpassed the shot noise "limit" of $1/\sqrt{N}$).
Applications: Optical Telecommunications; Noise Reduction; Coherent Detectors; Raman Heterodyne Detectors; Q-Encryption; Interferometric Based Sensors; etc.

Vinton Hayes Fellowship for Research in Communications

GPA 5.0/5.0

Massachusetts Institute of Technology 1979-1980

Department of Electrical Engineering and Computer Science

M.S. in Electrical Engineering under Hermann Haus *Optics and Optical Devices Group*

***Thesis Summary*:** "An Integrated Optical Pulse Shaping Device" solves (to any prescribed accuracy) an entire class of nonlinear differential equations, such as those applicable to a set of nonlinearly-saturable evanescently-coupled lasing and lossy optical waveguides. In addition to the desired pulse-height standardization we demonstrated a novel mechanism for pulse-width compression.

Applications: all-optical pulse regenerators; optical logic devices; add/drops; sensors.

Bell Laboratories One Year on Campus Fellowship

Kansas State University 1975-1979

B.S. in Physics

B.S. in Electrical Engineering

Conceived and demonstrated the world's first fiberoptic interferometer as part of an independent research project in the honors program. Suggested applications for piezoelectrically stretching one of the fiber interferometer arms (a technique still in use today). Analyzed the application of the device as a strain gauge and an optical A/D converter. Four undergraduate research projects (funded by four different professor's research grants).

ACADEMIC HONORS include:

Eta Kappa Nu, Tau Beta Pi, Sigma Pi Sigma, Phi Kappa Phi, Sigma Xi, Dean's List, Outstanding Student in Science and Engineering Fellowship, Vinton Hayes Fellowship, etc.

ADDITIONAL RESEARCH EXPERIENCE

University of Central Florida 2005-present

Assistant Professor of Engineering Technology – Photonics

Ultra low-noise optical detectors. Optical fiber amplifiers. Quantum Encryption. Fiber-optic based sensors. Low-noise frequency standards. Regenerators. Remote laboratories.

Kansas State University 2001-2005

Associate Professor of Engineering Technology

Optical and wireless sensors and systems. Optical fiber amplifiers. PID controllers. Practical detection of impurities. Reacquisition of lock, in communication and control loops.

Distance learning program and course development. Assessment reform projects.

Oklahoma State University 1998-2001

Associate Professor of Electrical and Computer Engineering

Telecommunications; detection reality and measurement theory; applied optics; wireless propagation; optical amplifiers; dense wavelength division multiplexing systems/devices.

Key Member and Professor of Distance Learning in a
Master of Science in Telecommunications Management (MSTM) interdisciplinary program.

Baylor University 1993-1997

Assistant Professor of Physics (also *Visiting Assistant Professor of Physics* 1997-1999)

Microwave and optical detection and propagation; quantum optics; estimation theory; encryption and ultra-precision measurements.

Massachusetts Institute of Technology 1988-1992
Research Assistant (Research Laboratory of Electronics)
Experimental generation and homodyne detection of optical squeezed-states via nonlinear processes such as four-wave mixing and parametric amplification. Ultra-high vacuum system design and installation. Operation and tuning of high intensity ion (and dye) lasers. Lock-in amplifier stabilization of optical parametric amplifier cavities. Piezoelectric based devices.

Massachusetts Institute of Technology 1986-1988
Research Scientist (High Voltage Research Laboratory)
Experimental field mapping of high voltage induced charge injection and migration (detected via nonlinear polarization rotation due to the dc Kerr effect). Synchronization of pulsed dye lasers to the triggering of 100Mvolt Marx generators. Transformer oil test cell construction…

AT&T Bell Laboratories 1979-1986
Member of the Technical Staff (Transmission Systems Division)
Experimental and theoretical work in microwave and optical telecommunication systems and subsystems. Various firsts in microwave digital radio: adaptive equalization; multipath fade simulation; receiver system design; carrier phase recovery and timing recovery. Various firsts in other areas: random process simulation; propagation modeling (microwave and optical); electrooptic A/D conversion; integrated optical devices; encryption; classified projects; etc.

Kansas State University 1977-1979
Four Undergraduate Research Assistantships (Dept.s. of EE; Nuclear Eng.; and Physics) Satellite telecommunication simulations; guard ring electrode simulations for medical applications; Fresnel lens concentrated photovoltaic system construction and evaluation; focusing of electrostatic lenses at a Van DeGraff particle accelerator.

SAMPLE OF PUBLICATIONS

S. Shepard, "On the Fuzzy Simultaneous Measurement of Two Polarization Vector Components," Applied Optics, 2006.

S. Shepard, "The Incorporation of Extracurricular Innovations into Engineering Technology Laboratory Components," ASEE Proceedings, New York, NY, 2006.

S. Shepard, "Entangled Photon Experiments for Engineering Technology," ASEE Proceedings, Honolulu, HI (abstract and paper draft accepted, 2006).

S. Shepard, "A Fuzzy Simultaneous Measurement of Two Optical Polarization Components," Proceedings of the 11th International Photon Correlation and Scattering Conference, Amsterdam, 2004.

S. Shepard, "A Seven Point Paradigm for Motivation Within Undergraduate Research and Laboratory Projects," Midwest ASEE Conference Proceedings, Pittsburg, KS, 2004.

S. Shepard and S. Bauchamp, "Fiber Versus Free-Space Losses at Infrared," winner of the 1st Place Outstanding Paper Award, Midwest ASEE Conference Proceedings, Rolla, MO, 2003.

S. Shepard, “A Noiseless Amplifier Paradox,” Journal of Optics B: Quantum and Semiclassical Optics, v 4, p S245-S252, 2002.

S. Shepard, “A Fuzzy Simultaneous Measurement of Two Spin Vector Components,” Proceedings of the 7th International Conference on Squeezed States and Uncertainty Relations, Boston, 2001.

S. Shepard, “Signal-Spontaneous Noise in Optical Fiber Amplifiers,” Proceedings of the 7th International Conference on Squeezed States and Uncertainty Relations, Boston, 2001.

S. Shepard, “Reacquisition Hysterisis Induced Outages During Multipath Fading,” IEEE 43rd Midwest Symposium on Circuits and Systems, v 2, p 548-549, 2000.

S. Shepard, “Towards an All-Optical Pulse Regenerator,” IEEE 43rd Midwest Symposium on Circuits and Systems, v 42, p 276-279, 2000.

G. Du, S. Shepard and A. Wright, “Reduction of Signal-Spontaneous Noise via Offset Filtering,” IEEE 43rd Midwest Symposium on Circuits and Systems, v 42, p 270-276, 2000.

S. Shepard, “A Quantum Theory of Angle,” Fundamental Problems in Quantum Theory, v 755, p 812-822, 1995.

S. Shepard, “Phase of the Quantum Harmonic Oscillator with Applications to Optical Polarization,” NASA CP 3197 Workshop on Harmonic Oscillators, p 109-116, 1993

J. H. Shapiro and S. Shepard, “Quantum Phase – a System Theory Perspective,” Physical Review A, v 34, p 1873-1882, 1991.

J. H. Shapiro, S. Shepard and N. C. Wong, “Ultimate Quantum Limits on Phase Measurements,” Physical Review Letters, v 67, p 398-411, 1990.

G. Fenderson, S. Shepard and C. A. Siller, Jr. “Adaptive Transversal Equalization of Multipath Propagation for 16-QAM 90-Mb/s Digital Radio” Bell System Technical Journal, v 63, p 1447-1463, 1984.

DR. TARIG A. ALI
Assistant Professor, Department of Engineering Technology
College of Engineering and Computer science
University of Central Florida (UCF)
PO Box 162450, Orlando, FL 32816-2450
Tel: (407) 823-0741, Fax: (407) 823-4746, E-mail: taali@ mail.ucf.edu.

Education

- Ph.D. in Geospatial Science and Surveying Engineering, Dept. of Civil and Environmental Engineering and Geodetic Science, the Ohio State University, 2003.
- M.S. in Geospatial Science and Surveying Engineering, Dept. of Civil and Environmental Engineering and Geodetic Science, the Ohio State University, 1999.
- B.S. (Honors) in Civil Engineering, University of Khartoum, 1993.

RESAERCH INTEREST

GIS/LIS, GEOMATICS, GEOSPATIAL TECHNOLOGY, GIS DATA STRUCTURES, MOBILE AND INTERNET-BASED GIS APPLICATIONS, LIDAR MAPPING, WIDE-AREA GPS NETWORKS, COASTAL GIS, APPLICATIONS OF GIS/GPS/REMOTE SENSING (OPTICAL/MICROWAVE), APPLICATIONS OF GIS IN SOCIAL AND ENVIRONMENTAL SCIENCES.

RESEARCH PROJECTS

SPATIAL MODELING AND ANALYSIS OF THE GRAY FOSSILS. FUNDED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION. (2004-2006, CO-INVESTIGATOR):

The main goal of this project was to reconstruct the paleontological environment (paleoenvironment) at the Gray Fossil site TN. Spatial analysis and modeling have been used to study the correlation between some key variables to help reconstruct the paleoenvironment at the site. A Geographic Information System (GIS) was developed for the site to help with the efficient storage, retrieval, manipulation, and analysis of fossil data. This is essential in studying the interrelationships between the fossils of the different species found at the site.

Study of the Spatio-temporal Variation of the Level of the Atmospheric Water Vapor using ground-based GPS and GIS. Funded by East Tennessee State University. (2004-2006, Principal Investigator):

This research studied new techniques to robustly convert wet tropospheric delays into equivalent estimates of Water Vapor (WV). The resulted locations and WV measurements for the points in the study area have been analyzed using GIS. This research enabled not only the study of the spatio-temporal variation of the level of atmospheric WV, but provided a measurement system of atmospheric WV in the study area using only dual frequency ground-based GPS measurements.

Digitalization of Coastal Management and Decision Making Supported by Multi-Dimensional Geospatial Information and Analysis. Funded by NSF through the Digital Government Program. (2001-2003, Research Associate):

In this research we have developed the first spatio-temporal data model for inter-governmental agency operations able to take the dynamic nature of coastlines into account. Highly efficient, high-resolution space and airborne remotely sensed measurements and modeling and forecasting capability have supplied the spatial information that are used by government agencies at all levels in a coordinated fashion for coastal management and decision making. If successfully implemented, the project will significantly enhance the capability for handling spatio-temporal coastal databases, build a fundamental basis of coastal geospatial information for inter-governmental agency operations, and provide innovative tools for all level governmental agencies to increase efficiency and reduce operational costs. The research project has been carried out primarily in the Lake Erie coastal area and transferred to the second pilot site in Tampa bay area

Development of New GIS Quality Metrics for Linear Features. Funded by NSF through the Digital Government Program. (2002-2003, Research Associate):

The objective of this research was to provide a cost-efficient way to estimate the positional and attribute quality of linear features in GIS and Digital Mapping environment in order to enable the maintenance of appropriate levels of quality in the production of digital nautical charts and geo-spatial databases. The goals of this project were (1) development of appropriate metrics for the evaluation of the positional quality of linear features, (2) exploration of appropriate associated metrics to evaluate attribute accuracy, completeness, and logical consistency, and (3) development and implementation of a cost-efficient solution for the highly automated evaluation of positional accuracy of linear features.

Modeling Nutrient-enriched Sediment Transport during Coastal Erosion Processes. Funded by the Lake Erie Commission through a Lake Erie Protection Fund (1999-2001, Research Associate):

In this project a new approach to characterize and monitor the transport of nutrient-enriched sediments during coastal erosion processes was developed. The project site has been selected in Lake Erie coastal areas where farming using heavy phosphorus based fertilizer is practiced and severe coastal erosion has been taking place. The information of land use/farming and phosphorus distribution on the land were managed in a GIS. A new innovative model that quantitatively models soil transport in the coastal area during erosion processes was developed in which soil with a varying concentration of phosphorus and other agrochemicals was divided into triangular patches using TIN model. The soil transport and coastline changes caused by erosion processes were monitored by periodic high resolution satellite imagery (0.82 meter) and airborne images (centimeters) and used to calibrate the soil/contaminated sediment loss model. The discharge of nutrient-enriched sediments loaded into the lake has then been estimated through the new model. This model can be used as a fundamental basis for water quality management and coastal protection.

Publications

Ali, T. 2007, Conceptual Design of a Collaborative Web-based GIS for Coastal Land Use Planning, ASCE Journal of Planning and Development, in review.

Ali, T. 2007, Development of a New Geomatics Program at the University of Central Florida, Journal of Surveying and Land Information Science, in review.

Ali, T**. 2006, Development of a New System for Evaluating the Positional Quality of Digital Shoreline Features, the proceedings of the American Congress on Surveying and Mapping (ACSM) Conference, Orlando, Florida, U.S.A., April 24-26.**

Ali, T**. and J. Nave 2005, Developing a GIS Database for the Gray Fossil Site, Tennessee, Based on Modern Surveying, Journal of Surveying and Land Information Science, 65(4), pp. 259-264.**

Ali, T**., J. Nave, and M. Clark 2005, A new Bachelor Degree Curriculum at East Tennessee State University, Journal of Surveying and Land Information Science, 65(3), pp. 195-200.**

Ramirez, R. and T. Ali **2005, Development of Quality Metrics for Linear Features, Journal of Surveying and Land Information Science, 65(2), pp. 105-110.**

Niu, X., R. Ma, T. Ali**, and R. Li 2005, Integration of Mobile GIS and Wireless Technology for Coastal Management and Decision Making, Journal of Photogrammetric Engineering and Remote Sensing, 71(4), pp. 453-459.**

Ali, T**. 2005, Study of the Correlation between the Mapped Shoreline-Change and Shoreline-Curvature, the proceedings of the American Congress on Surveying and Mapping (ACSM) Conference, Las Vegas Nevada, U.S.A., March 18-23.**

Niu, X., R. Ma, **T. Ali**, A. Srivastava, and R. Li 2004, On-site Coastal Decision Making with Wireless Mobile GIS, International Archives of Photogrammetry and Remote Sensing, Vol. 35(B2) "*Vol. XXXV(B2)*", pp. 1-6.

Ali, T. 2004, Analysis of the Relationship between Shoreline-Change and Shoreline-Curvature Based on the Geometric Representation of Shoreline in the Geographic Database, Journal of Geographic Information and Decision Analysis, 8(1), pp. 110-133

Ali, T., R. Ma, N. Xutong, V. Velissarou, K. Cheng, C. Kuo, X. Xu, and R. Li 2003, Spatio-Temporal Decision Making System for Coastal Change Monitoring and Management, Proceedings of the NSF National Conference for Digital Government Research, May 18-22, Boston MA, pp. 313-317.

Xutong, N., **T. Ali**, R. Ma, A. Elaksher and R. Li 2003, Implementation of a Coastal Decision Making System using Internet and Wireless Technologies, Proceedings of the NSF National Conference for Digital Government Research, May 18-22, Boston MA, pp. 275-288.

Al-Ruzouq, R., **T. Ali**, R. Ma, and R. Li 2002, Digitalization of Coastal Management and Decision Making, Proceedings of the NSF National Conference for Digital Government Research, May 20-22, Los Angeles, CA, pp. 391-399.

Ali, T. 2004, On the Selection of Appropriate Interpolation Method for Creating Coastal Terrain Models from LIDAR Data, Proceedings of the American Congress on Surveying and Mapping (ACSM) Conference 2004, Nashville TN, U.S.A., April 16-21.

Ali, T. and J. R. Ramirez 2003, Metrics Development for Measuring Positional Accuracy of Spatial Data, Proceedings of the 21st International Cartographic Association Conference, CD media, Durban, South Africa.

Ali, T., R. Li, N. Xutong, R. Ma and A. Elaksher 2003, Development of a Web-based Mobile Spatial System for On-site Decision Making, Proceedings of the American Society for Photogrammetry and Remote Sensing (ASPRS) Conference, May 5- 9, Anchorage, Alaska, USA.

Ramirez, J. R. and **T. Ali** 2003, Development of Quality Metric System to Measure Positional Accuracy of Spatial Data, Proceedings of the 3rd International Cartographic Association Symposium on Digital Earth, September 21- 25, Brno, Czech Republic.

Ali, T., R. Ma and R. Li 2001, Assessment of the Variability of Phosphorus Intensity and Sediment Supply Profiles with Topography in a Lake Erie Coastal Area, Proceedings of the 4th International Symposium on Computer Mapping and GIS for Coastal Zone Management, June 18 - 20, Halifax, Nova Scotia, Canada.

Li, R., R. Ma, **T. Ali**, and Y. Felus 2001, Coastline Mapping and Change Detection Using One- Meter Resolution Satellite Imagery, Project Report submitted to Sea Grant/NOAA, 107p.

Li, R., **T. Ali**, and R. Ma 2001, Modeling Nutrient-Enriched Sediment Transport During Coastal Erosion Processes, Project Report submitted to Lake Erie Commission, 91 p.

Ali, T. and R. Li 2000, Spatio-temporal modeling of soil erosion and contaminated sediment Transport in Lake Erie coastal area, Proceedings of the American Society for Photogrammetry and Remote Sensing (ASPRS) Conference, Washington D.C., USA.

Conference Presenations

Ali, T**. 2006, Development of a New System for Evaluating the Positional Quality of Digital Shoreline Features, the American Congress on Surveying and Mapping (ACSM) Conference, Orlando, Florida, U.S.A., April 24-26.**

Ali, T. 2005, Study of the Correlation between the Mapped Shoreline-Change and Shoreline-Curvature, the American Congress on Surveying and Mapping (ACSM) Conference, Las Vegas NV, March 18-23.

Ali, T. 2004, On the Selection of Appropriate Interpolation Method for Creating Coastal Terrain Models from LIDAR Data, the American Congress on Surveying and Mapping (ACSM) Conference, Nashville TN, U.S.A., April 16-21.

Xutong, N., **T. Ali**, R. Ma, A. Elaksher and R. Li 2003, Implementation of a Coastal Decision Making System using Internet and Wireless Technologies, the NSF National Conference for Digital Government Research, May 18-22, Boston MA.

Ali, T., R. Li, N. Xutong, R. Ma and A. Alaksher 2003, Development of a Web-based Mobile Spatial System for On-site Decision Making, the American Society for Photogrammetry and Remote Sensing (ASPRS) Conference, May 5- 9, Anchorage, Alaska, USA.

Ali, T. and J. R. Ramirez 2002, Development of Metrics for Linear Quality Evaluation of Geo-Spatial Data, the North American Cartographic Information Society Conference (NACIS XXII), Columbus, Ohio, USA.

Al-Ruzouq, R., R. Ma, **T. Ali**, and R. Li 2002, Digitalization of Coastal Management and Decision Making, System Demonstration, the NSF National Conference for Digital Government Research, May 20-22, Los Angeles, CA, pp. 391-394.

Ali, T., R. Ma and R. Li 2001, Assessment of the Variability of Phosphorus Intensity and Sediment Supply Profiles with Topography in a Lake Erie Coastal Area, the 4th International Symposium on Computer Mapping and GIS for Coastal Zone Management, June 18 - 20, Halifax, Nova Scotia, Canada

Ali, T. and R. Li 2000, Spatio-temporal modeling of soil erosion and contaminated sediment Transport in Lake Erie coastal area, the American Society for Photogrammetry and Remote Sensing (ASPRS) Conference, Washington D.C., USA.

Invited Presentations

Ali, T. 2004, Analysis of the Relationship between Shoreline-Change and Shoreline-Curvature Based on the Geometric Representation of Shoreline in the Geographic Database, the American Shore and Beach Preservation Association Conference, New Orleans, Louisiana, U.S.A., September 14, 2004.

Ali, T. and R. Li 2002, Multi-dimensional Geo-spatial Information and Analysis, NOAA Great Lakes Environmental Research Laboratories, Ann Arbor, Michigan, U.S.A., July 9, 2002.

professional experience

Assistant professor, Dept. of Engineering Technology, University of Central Florida (UCF), 8/2006 – present Orlando FL

Working on the development of the curricula for two new degree programs in Engineering Technology at UCF with concentrations in GIS and Geomatics.

Assistant professor, Dept. of Technology and Geomatics, East Tennessee State University, Johnson City TN 8/2003 – 7/2006

Preparing and delivering courses to graduate and undergraduate students in GIS, Geomatics, cartography, GPS, and digital imagery processing. Involved in the development of a new curriculum for the surveying and mapping science program.

Research Associate, Dept. of Civil & Env. Eng., The Ohio State Univ., Columbus OH 10/00 - 7/2003

Designed an analysis methodology and a GIS Web-based system for assessing future coastal erosion potential. Developed spatial metrics for automated shoreline quality assessment. Developed an Arc/Info GIS "Shoreline Quality System" to perform shoreline quality assessment. Project work in association with the GIS and Mapping Lab at OSU, developing GIS techniques and linking GIS and various types of models.

Research Fellow, the NOAA Great Lakes Environmental Research Labs. (GLERL), Ann Arbor MI 6/ 00 - 9/00

Involved in modeling sediment re-suspension and transport dynamics in southern Lake Michigan as part of the episodic events research program at the GLERL labs. Worked on animating the spatio-temporal scenarios of the movement of the suspended sediments in the southern part of Lake Michigan using the Interactive Data Language (IDL).

Graduate Research and Teaching Associate, Dept. of Civil & Env. Eng., The Ohio State Univ., Columbus OH 8/97 - 5/00

Performed GIS modeling using spatio-temporal approach to monitor soil erosion and contaminated sediment transport in Lake Erie southern coast. Implemented Arc/Info for data processing, change detection, and shoreline modeling. Helped in teaching various courses at the undergraduate and the graduate levels in the geodetic science and surveying program at OSU.

COMPUTER Skills

- Platforms and Operating Systems: UNIX, PC's & Workstations, Windows NT, Windows 2000 and Windows XP.
- Programming Languages: AML, AVENUE, Visual Basic, C++, and HTML.
- GIS and Mapping-related Software: Arc/View, Arc/Info, ArcIMS, ArcGIS, ArcSDE, ERDAS Imagine, Map/Info, and Trimble GPSurvey software.
- Application Software: MS Access, MS Excel, MS Word, MS Power Point, Adobe PhotoShop, Mat-Lab, MathCAD, and SQL.

AWARDS and Honors

- The 2006 ESRI Award for Best Scientific Paper in GIS, 3rd Place. *This award is presented annually to the best scientific paper in GIS published in the Photogrammetric Engineering and Remote Sensing Journal of the American Society for Photogrammetric and Remote Sensing (ASPRS).*
- The 2005 Faculty Excellence Award for Outstanding New Faculty, by the College of Business and Technology, East Tennessee State University.
- The 2004 Murrough P. O'Brien Educational Award, by the American Shore & Beach Preservation Association (ASBPA). *This award was presented to me for furthering the state of the coastal science through my PhD research.*
- The 2003 Duane C. Brown Jr. Award, by the Ohio State University. *The department presents this award annually to the PhD-student graduating top in his/her class.*
- The 2003 Student Research Paper Award, by the Ohio State University.
- The 2003 Student Research Development Fellowship, by the Ohio State University.
- The 2001 Student Research Paper Award, by the Ohio State University.
- NOAA Research Fellowship, Great Lakes Environmental Research Lab, Ann Arbor MI, June 2000.
- The 1999 Student Research Paper Award, by the Ohio State University.

PROFESSIONAL AFFILIATION

- Member of the Cartography and Geographic Information Society (CaGIS).
- Member of the American Society for Photogrammetry and Remote Sensing (ASPRS).
- Associate Member, Florida Surveying and Mapping Society (FSMS)
- Member of the American Association for Geodetic Surveying.
- Member of the American Shore & Beach Preservation Association (ASBPA)
- Member of the Board of Reviewers, International Journal of Modern Engineering.
- Reviewer, Journal of Engineering Technology.
- Reviewer, ASCE Journal of Surveying Engineering.

Graduate STUDENTS supervison

- Graduate students supervised:
  - Charlynn Buchanan, MS 2006 - Engineering Technology, East Tennessee State University.
  - Shannon Williamson, MS "expected to finish in 2008" - Engineering Technology, East Tennessee State University.

NABEEL YOUSEF, Ph.D.
University of Central Florida
Industrial Engineering and Management Systems
4000 Central Florida Blvd., Orlando, FL 32816
Office: 407-823 5104 • FAX: 407-823 3413
Email: nyousef@mail.ucf.edu

EDUCATION

- **Doctor of Philosophy in Industrial Engineering**
  University of Central Florida, College of Engineering, Orlando, FL, May 2006
  Focus Area: Supply Chain Management
  Dissertation: A Framework for Cost Modeling a Supply Chain
  Advisors: Dr. Jose Sepulveda and Dr. Luis Rabelo

- **Master of Science**
  Industrial Engineering and Management Systems
  University of Central Florida, Orlando, FL, December 2002
  Focus Area: Simulation Modeling and Analysis

- **Bachelor of Science in Physics**
  Yarmouk University, Irbid, Jordan 1986
  Focus Area: Physics.
  Other Supported Areas: Computer Science and Electronics

ACADEMIC HONORS AND AWARDS

- First Simulation Scholarship, University of Central Florida, Fall 2002
- Industrial Engineering and Management Systems Appreciation Plaque, April 2006

PROFESSIONAL EXPERIENCE

Visiting Assistant Professor, August 2006 to Present
University of Central Florida, Department of Engineering Technology

Appointed As: Director of Information Technology and Infrastructure for NSF e-Design Center at the University of Central Florida, September 2006

Coordinator for Computer Applications, August 2005 to August 2006
University of Central Florida, Department of Industrial Engineering and Management Systems, Orlando, FL

- Coordinated the installation and setup of the department Computer Application Lab, the Advanced Simulation Lab and the conference room
- Coordinated the purchase and installation of equipment in the National Science Foundation (NSF Center for e-design) at the University of Central Florida
- Coordinated the setup of equipment in the Rapid Prototyping Lab
- Participated in the installation and training of Robotel System and smart board in the Lockheed Martin Lab at the College of Engineering and Computer Science
- Organize computer operations within the department using quality control
- Plan for resource provision
- Manage the department network backbone and servers
- Manage software installation and plan for future use and licensing
- Coordinate and plan for future and long term computer changes (updates, upgrades, new equipment)
- Coordinate communication between the department and other support units within the campus
- Manage department labs and room use
- Manage and track department acquisitions

Keys Accomplishment:

- Saved the department $25k to $50k in annual expenditures
- Developed new processes for high performance and quality service
- Performed consistent problem solving in timely manner
- Developed various skills including professional communication

Adjunct faculty, Fall 2003 and Fall 2004
University of Central Florida, Industrial Engineering and Management Systems Department
Orlando, FL

- Taught Industrial Engineering Applications for Computers EIN 4118

Programmer Analyst, 2003 to August 2005
Department of Industrial Engineering and Management Systems, University of Central Florida, Orlando, FL

Network Administrator, 2001 to 2003
Department of Industrial Engineering and Management Systems, University of Central Florida, Orlando, FL

Programmer Analyst, 1999 to December 2000
Graphtech Inc., Charlotte, NC

- Configured networks, servers and desktops for organizations and small businesses.
- Managed the personal computer systems production unit

Programmer Analyst, 1998 to 1999
Computek Inc., Charlotte, NC

- Database programmer and administrator

- Supervisor of Production and Quality

Physics and Computer Instructor
Kuwait, 1986 to 1990; Jordan, 1992 to 1996; Saudi Arabia 1996 to 1998

- Developed a broad array of teaching skills and adjust them to meet the needs of students
- Challenged students and evaluated them honestly and fairly
- Helped students to develop skills such as communication and critical thinking

PUBLICATIONS

Refereed Journal Publications

Luis Rabelo, Don Ariely, J. Vila and **N. Yousef**. "A Comparison of Learning Schemes for Recommender Software Agents: A Case Study in Home Furniture". Industrial Journal of Technology Marketing, Vol. 1 No. 1, 2005, P 95-114

Refereed Conference Proceedings Publications

Paul Fishwick, Zach Ezzel, **Nabeel Yousef**, David Miranda, Haluk Akin, Luis Rabelo, and Jose Sepulveda. Ontology-Centered Integration of Project Management, Cost and Resource Modeling with Analysis, Simulation and Visualization: A Case Study of Space Port Operations. Proceedings of the 2007 Winter Simulation Conference, Washington DC, December 9-12

Y. Hosni, A. Saka, J. Selter, **N. Yousef**, and L. Morse. "Training Disaster Simulators – A technology that Needs Management"; 16th International Conference on Management of Technology, Miami Beach, FL May 13-17, 2007.

Derek Craig, Christopher Crawford, **Nabeel Yousef**, Jose Sepulveda. "Using RFID Technology to Improve Health Care Service in Emergency Room". Industry Engineering & Management Systems (IEMS) Annual Conference. Cocoa Beach, Florida, March 12-14, 2007. Proceeding 2007, P 586-596

Nabeel Yousef,Abeer Sharawi, Adam Dalton, Sergio Quijada, Serge Sala-Diakanda, Luis and Jose Sepulveda "A Distributed Simulation Approach for Modeling and Analyzing Systems of Systems". Proceedings of the 2006 Winter Simulation Conference, Monterey, CA December 3-6

Nabeel Yousef, and Jose Sepulveda. "The effect of Emerging Technologies on the need for a Flexible Classroom Layout and Design." IIE Annual Conference 2006 (IERC) Orlando, FL, May 20-24

Nabeel Yousef, Jose Sepulveda and Luis Rabelo. "A Framework for Cost Modeling a Supply Chain: Concepts Definitions and Relationships." IIE Annual Conference 2006 (IERC) Orlando, FL, May 20-24

Abeer Sharawi, Adam Dalton, **Nabeel Yousef**, Sergio Quijada, Serge Sala-Diakanda, Luis and

Jose Sepulveda. "Object Oriented Modeling Trends." IIE Annual Conference 2006 (IERC) Orlando, FL, May 20-24

Nabeel Yousef, Luis Rabelo and Jose Sepulveda. "Framework for Cost Modeling the Supply Chain Using ABC Costing". IFIP 5.7 Advances in Production Management Systems Conference. Rockville, MD, September 18-21, 2005

Nabeel Yousef, Luis Rabelo and Jose Sepulveda. "Cost Modeling the Supply Chain: Management Accounting Perspective". Industry Engineering & Management Systems (IEMS) Annual Conference. Cocoa Beach, Florida, March 14-16, 2005. Proceeding 2005, P 586-596

Nabeel Yousef, Ahmad Rahal and Renee J. Butler: "Using System Dynamics as an Educational Tool in Explaining the Supply Chain", Industry, Engineering, & Management Systems (IEMS) Annual Conference. CocoaBeach, Florida, March 15-17, 2004. Proceeding 2004, P 546-554

Nabeel Yousef, Ahmad Rahal and Luis Rabelo: "Study of the Inventory Oscillation Through the Supply Chain Using System Dynamics", Industry, Engineering, & Management Systems (IEMS) Annual Conference. CocoaBeach, Florida, March 15-17, 2004, Proceeding 2004, P 555-561

Nabeel Yousef, Jose Sepulveda, Hesham Mahgoub: "The Use of Simulation in Hot Mix Asphalt Trucking", IIE Annual Conference 2003 (IERC) Portland, Oregon May 17-21, 2003

Nabeel Yousef, Luis Rabelo, Joaquin Vila: "Personalization Using Software Agents Based on Fuzzy ARTMAP Neural Networks", IIE Annual Conference 2003 (IERC) Portland, Oregon, May 17-21, 2003

RESEARCH EXPERIENCE AND INTERESTS

- Current and Past Research Projects:
    - Redesigning the database for the office of Operational Excellence and Assessment Support, working as Project Leader: The objective of the project was to study and analyze processes used for programs assessments at the University of Central Florida and redesign the database needed to conduct the reviews for the results and plans for both academic and administrative programs and units. The project targeted the efficiency, quality and speed of retrieving information from the database. The project team used DOT NET to develop friendlier user interface that can be more efficient for faculty, chairs, deans and other administers.
    - Complete a trade study of existing commercial RTI solutions for vehicle and sensor fusion (PHASE 1), Lockheed Martin, working as CoPI: The project objective was to develop guidelines for interface requirements to LMCO provided models descriptions for vehicle, sensor and environment. Also to develop applicable test procedures and criteria to evaluate HLA-RTI's. This shall include developing measurable benchmarks and objectives. Time frame between December 2006 and March 2007.

- System Integration (e-Design Project Funded by NSF) working as CoPI: The project objective is to Design and Integrated Planning and Management (IPM) framework embedded in distributed simulation platform to evaluate cost throughout the design process. The framework can evaluate enterprise level strategies to reduce cost, improve systems operability, and reduce product development risks. The framework aims to integrate and leverage product design with software agents, information technologies (IT), interoperability, and human-centered Computing (HCC) in a Web-based secured environment. The project started in 2004 and will be going until December 2007.
- Traffic Study of North Gemini Boulevard and Greek Park Drive Intersection at the University of Central Florida (UCF) Campus (Transportation Project with the Department of Civil and Environmental Engineering and funded by UCf Parking and Transportation Services) Working as IT and lab consultant: The objective of the study is to determine whether there is a need for a traffic signal at that intersection or not. Project amount is $42k and the period of study and observation started March the 29th 2006 and will end in July 2006
- Virtual Test Bed (Funded by NASA) working as IT consultant: The objective of the VTB project is to develop a new and unique collaborative computing environment where simulation models can be hosted and integrated in a seamless fashion. This collaborative computing environment will be used to build a "Virtual" Spaceport. This project will work as a technology pipeline to research, develop, test and validate R&D efforts against real time operations without interfering with the actual operations or consuming the operational personnel's time.
- Dissertation Research: The objective of the research is to develop a framework that will integrate existing models to help in understanding and analyzing the cost through the supply chain. A framework for a cost model that can be used as a standard template in the supply chain cost management and optimization. The framework is able to track cost changes in a dynamic environment. Research framework aids in information sharing through organization and supply chain units.

- Specialized areas of interest include:
  - Applied areas of Supply Chain Management and Cost Accounting
  - Tools used in Supply Chain Cost Analysis and Decision Making such as Simulation Modeling and Analysis
  - Information Systems Applications and Integration
  - Information Technology, Computer Applications and Applied Database

ACADEMIC/TEACHING EXPERIENCE

- **Visiting Assistant Professor**, August 2006 to Present
  University of Central Florida, Department of Engineering Technology
  - Fall 2006: Taught IE Computer Application for Service Industry EIN 4545 and Statistics for Engineers STA 3032

- Spring 2007: Taught Applied Database I CET 4427 and Applied Database II CET 4429

- **Adjunct Professor**
  University of Central Florida, Industrial Engineering Department Orlando, FL, Fall 2003 and Fall 2004.
  - Taught Industrial Engineering Applications for Computers EIN 4118 to classes averaging 30 students.

- **Secondary Education Instructor**
  Sarawat, Saudi Arabia, 1996-1998
  - Taught Physics and Computer Applications for all levels
  - Supervised science student groups
- **Secondary Education Instructor**
  Jabal Altag High School, Jordan, 1992-1996
  - Taught Physics senior level
- **Secondary Education Instructor**
  Abu Huleifa High, Kuwait, 1986-1990
  - Taught Physics senior level
  - Supervised lab applications and experimentation

COURSES TAUGHT

At the University of Central Florida:

- Applied Database I CET 4427

This course is intended to prepare students for database systems applications and will provide students with an in-depth understanding of theory, operation and application of modern databases.

- Applied Database II CET 4429

This course is intended to prepare students for database systems applications and will provide students with an in-depth understanding of the development of enterprise modern database systems. The Dot Net Framework and SQL Server Developer Edition will be used as a tool for the application and implementation of the course material

- IE Application for Service Industry EIN 4545

The objective of the class is to address the application of industrial engineering principles to improve the quality and productivity of service industries such as restaurants, banks, hotels, health care, etc.

- Probability and Statistics for Engineers STA 3032

The primary purpose of this course is to provide students with a basic understanding of fundamental probability and statistical principles, the underlying assumptions, the procedures for implementing them, and how to interpret them. The course will cover data collection and presentation, descriptive statistics, basic elements of probability theory, sampling techniques and theory, statistical estimation, hypothesis testing and an introduction to regression. Some elements of the course will require the use of statistical software for data analysis. The emphasis will be on problem setup & solution

interpretation as well as using the tools in engineering applications.

- Industrial Engineering Application for Computers EIN 4118

The class addresses the use of computer application in problem solving for industrial engineers. The primary objective of this course is to familiarize the student with commercial software used in modeling problems found in managing production and operations of industrial, service, and government organizations

Teaching Evaluation

Quantitative scores always exceed 80% on scale of 100

Secondary education from 1986 to 1998

- A high school teacher for physics and related laboratory work

TEACHING INTERESTS

- Information Systems and Information Technology
- Computer Application
- Supply Chain Management (Logistics)
- Simulation and Modeling
- Decision Making

DEPARTMENTAL SERVICE

- Search Committee Chair (Office Assistant Position) for the Department of Industrial Engineering and Management Systems, June and August 2005
- Search Committee Member (Accountant Position) for the Department of Industrial Engineering and Management Systems, May 2005

PROFESSIONAL SERVICE

- Director of Information Technology - IEMS Annual Conference 2006,Cocoa Beach, March 12-15
- Director of Information Technology - IEMS Annual Conference 2005,Cocoa Beach, March 14-16
- Information Technology Coordinator - IAB Conference. Orlando, Florida, December 5th - 7th , 2004
- Director of Information Technology - IEMS Annual Conference 2004, Cocoa Beach, March 15-17 http://www.csustan.edu/market/petrosky/track.html#dm
- Session Chair - IEMS Annual Conference, Cocoa Beach, March 15-17 2004

- Information Technology Coordinator - IAMOT Annual Conference 2004 Washington DC http://www.iamot.org/
- Information Technology Coordinator - IEMS Annual Conference 2003, Cocoa Beach, March 12-15, 2003
- Reviewer, IIE Annual Conference 2003
- Information Technology Coordinator - IEMS Annual Conference 2002, Cocoa Beach, March 8-11

COMMUNITY SERVICE

- Judge Advisor for The First Robotics Website Competition (Florida state wide) 2006 www.usfirst.org
- Judging The First Robotics Website Competition (Florida state wide) 2004 and 2005 www.usfirst.org
- Judging the IEMS Student Research Poster and Website Competitions 2004
- Host committee of the IIE Annual Conference 2002, Orlando, Florida

WORKSHOPS ATTENDED

- Military Simulation Techniques and Technology, DIST Inc. December 2002
- HTML, New Horizons August of 2000
- FrontPage 2000, New Horizons August of 2000
- Access Database, New Horizons August of 2000
- Hardware and Software Engineering Workshop, CompTIA February 2000 (included A+ examination and certification)
- Visual Basic Non-Seeking Degree Class, August 2000

PROFESSIONAL AFFILIATIONS

- Institute of Industrial Engineers (IIE)
- Central Florida Simulation Users Group

CURRICULUM VITAE

NEBIL Y. MISCONI

WORK ADDRESS University of Central Florida (UCF)
Department of Engineering Technology
College of Engineering, Rm. #218
Orlando, FL 32826
(407) 823-4751
Also

UCF-Brevard Campus
Astronaut Memorial Foundation
Center for Space Education
Kennedy Space Center
Internet, e-mail Address: nmisconi@mail.ucf.edu

Home Address: 1818 Fox Bay Dr.
Melbourne, FL 32934
(321) 255-3649

Preparation date: January 23, 2007

PERSONAL:

Date of Birth: December 8, 1939
Citizenship: US (Christian, Catholic)
Married: Divorced from Irene T. Donohue, Son Michael (graduated from University of Florida, May, 1999)

EDUCATION

Ph.D. Astronomy and Space Science, September, 1975,
State University of New York at Albany

Thesis Title: Solar Flare Effects on the Zodiacal Light.

B.S. Astronomy, June 1965, University of Istanbul, Turkey

PROFESSIONAL HISTORY

1999-present Professor (Joint): University of Central Florida's **(1)** Department of Engineering Technology; **(2)** Department of Materials Mechanical and Aerospace Engineering; **(3)** Department of Physics; **(4)** faculty member of the Florida Space Institute (FSI) at UCF; **(5)** Prof. at Center for Space Education, Kennedy Space Center (KSC).

1995-1999 Professor, Department of Engineering Technology, University of Central Florida

1994-1995 Visiting Professor, Department of Mechanical & Aerospace Engineering, UCF

1990-1994 Research Professor and Director, Center for Geo-Space Environmental Research **(CGSER)**, Florida Tech

1989 - 1990 Research Professor, Florida Institute of Technology

1987 - 1989 Associate Director, Space Astronomy Laboratory, University of Florida, Gainesville

1980 - 1989 Associate Research Professor, Space Astronomy Laboratory, University of Florida, Gainesville

9/78 - 3/80 Visiting Scientist, Goddard Space Flight Center **(GSFC).**

1978 - 1980 Research Associate, Space Astronomy Laboratory, State University of New York at Albany.

1975 - 1977 Post Doctoral Research Associate, Space Astronomy Laboratory, State University of New York at Albany.

1970 - 1975 Graduate Research Assistant, Dudley Observatory And State University of New York at Albany

PROFESSIONAL MEMBERSHIPS

INTERNATIONAL ASTRONOMICAL UNION
Commissions 21 (Light of the Night Sky) and 22 (Meteors and Interplanetary Dust),
ASEE
American Astronomical Society (AAS)
Fellow of The Royal Astronomical Society (F.R.A.S.)
Sigma XI (The Scientific Research Society of North America)
Sigma Pi Sigma

*** It should be noted here that membership in the International Astronomical Union is a great honor. Of approximately 6000 to 7000 US astronomers, only 500 t0 600 are selected to represent the US in this international body.**

Important Accomplishments In My Research

IN THE THEORETICAL FIELD

Among many other theoretical papers that I have published, I bring attention to a recent single paper published in a refereed journal **in 1999** with Dr. W. X. Wang titled: " Quasi-Analytical Solutions for Apsidal Motion in the Three-Body Problem: Sun-minor planet-Jupiter," in the Journal Earth **Planets and Space (Vol. 51, No. 11, pages** 1181-1194), by the Terra Scientific Publishing Company (TERRAPUB). This paper tackled a very difficult area in Celestial Mechanics, and that is to find solutions for the Three-Body problem, **where no analytical solutions exist**, or doubtfully will ever exist, thus the term Quasi-Analytical Solutions is mentioned in the title. These quasi-analytical solutions represent a quantum jump in Celestial Mechanics, and can be used to treat problems for double and triple star systems This paper attracted a lot of attention from readers and I have received many requests for reprints and other questions and comments (please see copy of this paper in the folder).

Another paper I published in 1996 was in the refereed **Laser and Particle Beams Journal titled: "A new Technique for Levitating Solid Particles Using a Proton Beam."** This paper contains a new theoretical and experimental technique of using a proton beam instead of photons in a laser beam to levitate particles. The significance of that is that highly irregular real interplanetary particles collected in the Earth's upper atmosphere by NASA can now be levitated in a proton beam where they could not have by laser beams (since they would melt by laser light absorption). Thus this new technique would enable scientists to study the dynamics of interplanetary dust particles without interference by Earth's gravity.

In 1995, I published with L. Pettera the first theoretical paper **to explain observational evidence of the existence of dust rings around the Sun.** The paper establishes theoretical grounds on why such dust rings can exist in the harsh environment near the Sun using the dynamics increased ion drag on the dust. This paper was refereed and published in the Planetary and Space Science Journal and titled: "On the Possibility of Solar Dust Ring Formation due to Increased ion Drag from Coronal Mass Ejections on Circumsolar Dust," Planetary and Space science, Vol. 43, No. 7, 895-903.

In 1993, I published **the only review paper that exists in the literature** on the subject of the spin of Cosmic Dust, which covered all the theoretical mechanisms that were suggested in the literature along with the one's that I suggested. It is considered to be the sole reference in this field. This paper was

refereed and published in the prestigious Journal of Geophysical Research. This paper is titled: "The Spin of Cosmic Dust: Rotational Bursting of Circumsolar Dust in the F-Corona," JGR, Vol. 98, No. A11, pages 18,951-18961.

In the Observational Field

1. I was the initiator and director of the first maiden spaceflight of the **Space Florida Authority (SFA)** by conducting the first suborbital rocket launch in Mexico in its history. The launch took place at the State of Nayarit in Mexico near the Pacific Ocean where the rocket carried a telescope to observe the total solar eclipse on July 11, 1991. I conducted a party of approximately thirty people composed of scientists, engineers, students, and media personnel.

2. I conducted along with Drs. Keith Ratcliff (SUNY at Albany), Stephen Paddack (Goddard Spaceflight Center, NASA), and John Oliver (Prof. at the University of Florida) the second laser-particle levitation experiment in the world after the first by Dr. Arthur Ashkin of Bell Labs in New Jersey. We succeeded in levitating spherical and slightly irregular pure silica particles of 20 to 40 microns in size using laser light pressure to overcome gravity. Then we measured its light scattering characteristics, and compared to Mie Scattering theory, **a first in the field of optics**. The experiment apparatus is currently at UCF.

3. Directed and Launched, with participation of students from UCF and high school the **first space-hardware (a telescope) ever by UCF (to my knowledge)** via a suborbital rocket to an altitude of 50 miles above Earth and observed stars from NASA's Wallops Island Flight Facility on May 26, 1995.

4. In 1990, I published a refereed paper in the **prestigious Applied Optics Journal,** which contained the -first ever- light scattering measurements from a laser-levitated spherical particle. The measurements were compared to the Mie Theory and found excellent agreement.

Misconi, N.Y., Oliver, J. P., Ratcliff, K. F., Rusk, E. T., and Wang, Wan-Xian, (1990), "Light Scattering by Laser Levitated Particles", *Applied Optics, 29, No. 15, 2276-2281.*

SOME PREVIOUS RESEARCH RESPONSIBILITIES

- Formerly **Co-Principal Investigator** of a feasibility study of **"The Radiation-induced Rotation of Cosmic Dust", at NASA Goddard Space Flight Center, Laser Laboratory**

Division. This experiment was designed to assess the possibility that irregular particles with the characteristics of small interplanetary particles can be stably levitated, trapped and by a pair of anti-parallel laser beams.

- Formerly **Co-Investigator** on the Zodiacal Light/Background Starlight experiment in the joint **NASA/ESA Solar Polar (Out-of-Ecliptic) Mission (ISPM).** This experiment was scheduled for flight on the NASA spacecraft, which was canceled.

- Formerly **Scientific Collaborator on NASA Grant NSG 7093** titled, "Interplanetary Dust: Optical and Physical Properties and Dynamics." Emphasis here is on dust dynamics and on the use of zodiacal light observations to determine the location of the symmetry plane(s) of interplanetary dust.

- Formerly **Scientific Collaborator on the Shuttle-Induced Atmosphere experiment**, a telescope aboard the shuttle Columbia which was launched in March 1982. Data was obtained on light pollution above the bay of the shuttle and its suitability for astronomical observations. Also data on the location of interplanetary dust at small angular distances from the sun.

- Formerly **Principal Investigator on NSF Grant #AST-82-06152** for a period of two years starting Dec. 1, 1982 entitled, "Can Cometary Dust Perturbed by the Inner Planets Explain the Observed Distribution of Interplanetary Dust?"

- Formerly **Principal Investigator on AFOSR Grant #84-0212** titled, "The Interaction of Small Particles with Laser Beams: Application for the Defense of Satellites," **which involved building a laser-particle dynamics laboratory to study the interaction of radiation with cosmic particles in a simulated space environment.**

- Formerly **Co-Investigator on AFOSR Grant-86-0161** titled, "The Infrared Sky Background Radiation." This involves theoretical and observational analysis of the F-Corona and zodiacal light in general, for a period of three years beginning 1 May, 1986.

- Formerly **Principal Investigator on AFOSR Contract No. F49620-85-c-0117 DEF** titled, "The Interaction of Small Particles with Laser Beams: Application for the Defense of Satellites," for a period beginning 9 July, 1985 and ending Feb, 1989.

- **Co-Investigator on the NASA Team of the NASA/ESA SOHO (Solar Heliospheric Observatory) spacecraft, launched in 1995** to study the Sun and the Corona using Coronagraphs to be built by NRL (Naval Research Laboratory), Max-Planck Institute fur Aeronomie (FRG), and Laboratoire d'Astronomie Spatiale (FRANCE).

- Formerly **Principal Investigator of NSF Grant** titled "Coronal Mass Ejections and the Rotational Bursting of F-Coronal Dust," a three year theoretical study of the interaction of solar plasma with interplanetary dust. Total funds $143,874, two years at FIT and **renewal one year at UCF for $44,852 and conducted at the MMAE** department.

- **Principal Investigator of two Super-Loki suborbital rocket experiment** to photograph lightning from stratospheric clouds in the Earth's atmosphere. Two free launches by

NASA's Wallops Island Flight Facility. The two payloads were **built by students at the ENT department via $32,000 grant from UCF's Student Government**.

OTHER PROFESSIONAL ACTIVITIES

Proposal Reviewer: **- NSF, NASA, TRDA (numerous)**
- NASA Space-Grant Consortium of Florida Universities
- U.S. Civilian Research & Development Foundation (CRDF) for the Independent States of the Former Soviet Union
-UCF, College of Engineering in-house proposals, (approximately 10 proposals per year)

Journal Referee: **Astrophysical Journal**
Astronomy and Astrophysics
Planetary and Space Science
Space Science Reviews
AIAA Journal
Journal of Vibration and Control

Conference Papers: **Numerous**

Membership of Committees At UCF: **Research Committee at the College of Engineering**
Research Award Selection Committee

ACADEMIC ADVISEMENT

Chairman: Dr. E.T. Rusk, Doctoral Thesis Committee.

Advised: Dr. R. Schaefer on his Doctoral Dissertation
Dr. G. Toller on his Doctoral Dissertation

Directed: Mr. Jan Arpi of the Swedish Royal Institute of Technology on his Masters Thesis.

Instructed: **Independent study research courses for M.S. Degree to:**

Dr. L. Whitlock
Mr. T. Roth
Mr. M. Perentti

Courses Taught

1984 and 1987 Twice taught a high level Graduate Course entitled **"Physics of the Interplanetary Medium"** at the Department of Astronomy, University of Florida.

Taught and advised numerous students at SUNY at Albany and the University of Florida and **was advising 3**

graduate students for Ph.D. at the Space Astronomy Laboratory before moving to FIT:
Mr. S. Yu
Mrs. S. wang
Mr. s. Minn

Sample of courses Taught

EAS 3530 Space Systems course
EAS 4505 Orbital Mechanics
ETG 3541 Applied Mechanics
ETM 3930 Space Systems Technology
ETM 4220 Applied Energy Systems
ETI 3561 Computer Applications
ETI 2110 Industrial Quality Control
AST 2930H Introduction to Astronomy

Invited Papers:

Montreal International Astronomical Union (IAU)
General Assembly Meeting Commission 21, 1979

Baltimore IAU General Assembly Meeting
Commission 21, 1988
Gainesville, Florida IAU, Commission 21
Interplanetary Dust, August, **1996**

Cambridge, England IAU General Assembly
Commission 21, **2000**
Declined for lack of travel funds at ENT

Invited Colloquiums and Paper Presentations to name a few:

Invited Paper presented at IAU Symposium No. 90, Ottawa, Canada.
Invited presentations at the High Altitude Observatory, Boulder, CO, 1987
Invited presentation at the Space Environment Laboratory, Boulder, CO, 1990
Numerous American Astronomical Society (AAS) paper presentations
Numerous Colloquiums at various Universities

Activities at Conferences:

Aside from the above I attended and presented research and review papers, to note among them:
- Presented paper at NASA Principal Investigators meeting at Goddard Spaceflight Center in 1988.

- Presented paper at **DOD/SDI** conference at Albuquerque, New Mexico (1986).

International Space Station Workshop:

- Attended International Space Station Workshop at the Desert Research Institute in Las Vegas, May, 1993, concerning the Gas-Grain Simulation Facility (GGSF) **and chaired two sessions in that workshop, and was participant on the panel discussion.**

Space Symposium: Attended the **Florida Space Symposium** sponsored by the Space Research Institute **(SRI),** at Florida Institute of Technology (FIT), held in Cocoa Beach, FL, in November, 1989. **I chaired session on space Orbital Debris, and participated in the panel discussion.** -

Invited Presentation : Presentation made by Nebil Y. Misconi at the American Geophysical Meeting, San Francisco, December 13-17, 2004. Title "Coronal Mass Ejections, Ion Drag, and Rotational Bursting of the Dust," American Geophysical Union 2004 Fall Meeting, 13-17 December, 2004, San Francisco, California, Supplement Vol. 85, No. 47, 23 November, 2004 , F1511

International Symposia: Presented papers at the following international symposia:

- Two papers presented at the **International Astronomical Union Symposium No. 90: Solid Particles in the Solar System** (I. Halliday and B. McIntosh, Eds.), held at Montreal, Canada, 1980.

- One paper at **the International conference on Cometary Exploration**, Budapest, Hungary, 1983.

- Presented 3 papers at **IAU Symposium "Properties and Interactions of Interplanetary Dust,"** (R.H. Giese and Ph.L. Lamy, Eds.), held at Marselies, France, 1985.
One paper presented at international Symposium **"Asteroids, Comets, Meteors II",** 3-6 June 1985, Uppsala, Sweden.

Honorary Dinner: The **Spaceport Florida Authority** held a dinner in my honor at Holiday Inn, Cocoa Beach, FL, attended by the Honorable Jim Bachus (Congressman from Florida at the time). This dinner was to celebrate my conducting of the Authority's first maiden rocket launch at the **State of Nayarit, Mexico, to observe the total solar eclipse on July 11, 1991.**

Reports:

- "A Pictorial Atlas of Low Latitude 5577Å and 6300Å Airglow Line Emission", **Dudley Observatory Report No. 5, 1973.**

- "Interplanetary Dust Dynamics," a Report Submitted to **AFOSR (Air Force Office of Scientific Research), February 8, 1989.**

- "Studies of Laser/Nuclear Thermal-Hardened Body Armor," Technical Report, Natick /TR-92/030, Submitted to **US Army Natick Research , Development and Engineering Center**, Natick Massachusetts 01760-5000, August, 1992

Book Review:

- **"Energy" by Gordon J. Aubbrecht II, Prentice Hall, in progress August, 2001**

- Reviewed **3 volumes** on the design and operation of the **"Gas-Grain Simulation Facility (GGSF)**," a facility to be added to the International Space Station. The 3 volumes were written by engineers at TRW Corporation and presented to NASA.

Current Research Activities:

Misconi acquired an agreement with **NASA's Wallops Island Flight Facility (WIFF),** for two (and a verbal agreement for a third launch) free suborbital rocket launches of **"Super Loki"** type suborbital rockets. This is an estimated 150 K contribution from the NASA facility. He then conducted a drive to secure funding for these payloads, which came from UCF's Student Government for 9 K and 5 K from the Florida Space Institute (FSI). The **14 K** funding enabled us to purchase 4 SONY miniature color TV cameras that each one would fit inside a 1.7 inches diameter upper stage called DART. We are presently acquiring a video transmitter, space-worthy battery power, and other miscellaneous electronic systems. The two rocket payloads are currently under design, construction, and testing by students of the Engineering Technology department at UCF under my supervision along with assistance from two faculty members at the same department (Drs. P. Weinseir, and A. Rahrooh). The students are members of an organization called "American Society of Engineering Technology **(ASET)** inside our department. The payload parachute will be deployed from approximately 40 miles above Earth, and then will plunge into lightning generating storm in the Earth's stratosphere relay video pictures of lightning from 40 miles and *in situ* , to Wallops Island receiving dishes. The payload then will plunge in the Atlantic waters approximately 22 miles off the shores of the facility. No need for payload recovery, since the data is already acquired. The pictures of stratospheric lightning taken with different filters would valuable information for atmospheric physicists on the strong air ionization and the possibility of triggering mechanisms for lightning in the lower atmosphere. Upon successful completion of these launches, we anticipate a continued research program

more sophisticated payloads, since they are relatively inexpensive compared to other standard space observations. The total of funding from UCF Student Government so far was $32,000.

An abstract summarizing this project was published in **"NASA Kennedy Space Center, Partners in Education and Research Conference, Supplemental Conference Materials,"** which was held in October 6-8, 1998, Cocoa Beach, Florida.

Faculty Adviser: I have recently been asked and accepted of becoming the faculty adviser for a newly formed rocket club at the department of Mechanical Material & aerospace at UCF. The students at this club will design and construct experimental high altitude rockets

Space Shuttle Redesign Project: Supervised 4 students on senior design project that suggests a redesign of the space shuttle so as to accommodate approximately 18 space tourists passengers after the space shuttle is finished with its mission. This is estimated to take place after the year 2010. This concept is designed to generate millions of dollars to help NASA increase its scientific funds. A national lottery is also suggested to generate lucky passengers and provide the revenue needed. This project was chronicled by UCF's reporting team along with an article planned to appear in the Orlando Sentinel newspaper, and story coverage by NBC's channel 2 (WESH TV) in Central Florida. Subsequently, an article appeared in "Space News," a weekly newspaper at Washington DC which is read by the national space community. Dr. Misconi received a phone call from Dr. Buzz Aldrin (the second astronaut to walk on the Moon praising the project and offering collaborations in the future. Since then Dr. Misconi had several phone conversations with Dr. Buzz Aldrin, who offered to provide letters of support for funding agencies that we would seek to continue this project (see section on conversations with Dr. Buzz Aldrin).

Current Teaching Activities:
A Space Technology Program at the Engineering Technology Department: A program in Space Science Technology is already established with myself as the coordinator. This program will have 11 courses being developed to enhance space education in this department.

1. Research grants acquired or proposal submitted since employment at UCF

Proposals Submitted at UCF

Since I joined UCF in 1995, I have submitted **15 proposals** to various funding agencies, which are listed below:

1. Title: **"Coronal Mass Ejections and the Rotational Bursting of F-coronal Dust"**

N.Y. Misconi (PI) FIT
2 Graduate Students

Period of Performance: May 1, 1995 to April 30, 1996

Funded Amount: **$44,852**

Funding Agency: NSF, Solar Terrestrial Program

STATUS: FUNDED

2. Title : "**A Joint Program of Space Education and Establishing Launch Capability in Suborbital Rocketry at UCF"**

Larry Chew (PI)
N.Y. Misconi (Co-PI), and 4 Graduate student

Period of Performance: August 1, 1995 to December 31, 1996

Funded Amount: **$99,651**

Funding Agency: Technological Research & Development Authority (TRDA)

Status: ***Funded***

3. Title: "**To Study the Rotation of Satellites due to Solar Radiation and Solar wind for the GEOS Series of Satellites in the Geostationary Ring"**

N.Y. Misconi (PI)

Period of Performance: October 1, 1996 to October 31, 1997

Funded Amount: **$3,600**

Funding Agency: NASA's Goddard Spaceflight Center (GSFC)

Status: ***Funded***

4. Title: "**Characterization of the Solar Ultraviolet Radiation and Aerosol Environment of Mars"**

N.Y. Misconi (PI)
Vernon L. Mangold Sr. (Project Manager)

Period of Performance: February 1, 1997 to January 31, 1998

Requested Funding Amount: **$402,912**

Funding Agency: NASA's Mars Pathfinder and Mars'96 Lander Science Opportunities

Status: *Declined*

5. Title: **"Maintaining and Improving Kennedy Space Center Support for Spacecraft Programs through the Preservation of Corporate Memory"**

Roger Johnson (PI)
N.Y. Misconi (Co-PI)
Linwood Jones (Co-PI)
Larry Chew (Co-PI)
Period of Performance: November 1, 1997 to April 30, 1998
Requested Funding Amount: **$65,137**

Funding Agency: Florida Space Grant Consortium

Status: *Declined*

6. Title: **"Spacecraft Course Development"**

Roger Johnson (PI)
N.Y. Misconi (Co-PI)
And others

Period of Performance: November 1, 1997 to April 30, 1998

Requested Funding Amount: **$69,809**

Funding Agency: Florida Space Grant Consortium

Status: *Declined*

7. Title: **To Launch Two Payloads on Super-Loki Suborbital Rocket by NASA's Wallops Island Flight Facility to Acquire Video Pictures of Lightning In the Earth's Stratosphere**

N.Y. Misconi (PI)
ASET Students
Period of Performance: 1998 to present

Funded Amount: **$34,000**

Funding Agency: UCF's Student Government

Status: ***Funded***

***8. Title*:** Similar to (4)
N.Y. Misconi (PI)
ASET Students

Period of Performance: 1998 to present

Funded Amount: **$150,000**

Funding Agency: NASA's Wallops Island Flight Facility
Status: ***Funded***

9. Title: **Construction of a Test Radio Array for Interplanetary Scintillation Observations (IPS)**

Requested Funding Amount: **$94,487**

Funding Agency: NSF, Solar Terrestrial Program
Status: *Declined*
*Reasons given for declining were primarily due to the radio frequency chosen (327 MHz). A resubmission was made for an operating frequency of the radio array at 73.4 MHz.

10. Title **A Viper Class III Sounding Rocket Experiment to Observe Atmospheric Extinction by Aerosols**

Requested Funding Amount: **$178,579**

Funding Agency: NASA, Innovative Research Program
Status: *Declined*
*Received high marks but the reason given in the declining letter is that an unexpected 600 proposals were submitted leading to over-subscription by more than a factor of 30/1.

11. Title : **Construction of Three Payloads for Super Loki Rocket Launch to Determine the Aerosol Distribution in the Earth's Atmosphere**

N.Y. Misconi (PI)
F. Giovane (Consultant)
1 Graduate Student

Period of Performance: October 1, 1995 to September 30, 1996

Funded Amount: **$50, 602**

Funding Agency: NASA, Code y, Mission to Planet Earth
Status: *Declined*

12. Title: **Construction of a Test Radio Array for Interplanetary Scintillation Observations (IPS)**
N.Y. Misconi (PI)
M. Thursby (Co-PI)
2 Graduate Student

Period of Performance: October 1, 1995 to September 30, 1996

Requested Funding Amount: **$94,487**

Funding Agency: Air Force Office Of Scientific Research (AFOSR)
Status: *Declined*

13. Title: **Experimental Investigation of Rotational Bursting of F-Coronal Dust Interacting with Coronal Mass Ejections**

N.Y. Misconi (PI)
2 Graduate Student

Period of Performance: April 1, 1996 to March 31, 1999 (three years)

Requested Funding Amount: **$145,717**

Funding Agency: NSF, Solar Terrestrial Program

Revision and resubmission of :

14. Title: **Construction of a Test Radio Array for Interplanetary Scintillation Observations (IPS)**

Requested Funding Amount: **$94,487**

Funding Agency: NSF, Solar Terrestrial Program

Status: *Declined*

15. Title: **" Acquisition of Data on the Columnar Dust Load of the Martian Atmosphere During Nightime."**

N.Y. Misconi (PI)
Nadine Barlow (Co-I)

Period of Performance: May 8, 2000 to May 7, 2004 (four years)

Requested Funding Amount: **$377,532**
Funding Agency: NASA Office of Life and Microgravity Sciences and Applications and Office of Space Flight

Status: Recommended for resubmission for Participating Scientist Opportunity

16. Title **An in-house proposal to Establish the "Florida Space Center"**

This proposal was submitted in June of 1996 in response to a UCF announcement of opportunity

to establish centers of excellence and to make the winners as directors of these centers. The proposal was declined, however I was urged to join the group of Dr. Ronald Philips who was chosen to be the Director of the Florida Space Institute (FSI), and help him achieve the mission of this institute. I did so, and became a member of the faculty of FSI and participated in teaching courses in this Institute and other variety of activities as mentioned by Dr. Philips in his support letter included in this folder. Similar statements were made by Dr. Louis Chow (Professor, and Former Chair of the MMAE Department) in his support letter which is included in this folder.

SUMMARY OF Funded Research at UCF AND TOTAL AMOUNT

1. 1995: **Principal Investigator** for **$44,852** from NSF, which was administered by MMAE department even though I was in the ENT department. The grant was titled: "Coronal Mass Ejections and the Rotational Bursting of F-Coronal Dust."

2. 1996: **Co-Principal Investigator** for **$99,651** from the Technological Research & Development Authority (TRDA), a Florida funding agency, as a Co-Investigator with Dr. L. Chew (MMAE dept.) and Dr. M. Belkerdid (EEC dept.).

3. 1996: **Principal Investigator** for **$3,600** from NASA's Goddard Spaceflight Center (GSFC), to study the rotation of satellites due to solar radiation and solar wind for the GEOS series of satellites in the geostationary ring.

4. 1998-2001: **Principal Investigator** for **$34,000** from UCF's Student Government and FSI for the current rocket project with ASET.

5. 1998-2001: **Principal Investigator** for **$150,000:** two free (at no cost to UCF) rocket launches obtained from NASA's Wallops Island Flight Facility.

Total:	**$332,103**

Proposal submission this Year

Proposal Submitted to UCF/UF FSRI of Fall 2003

A proposal was submitted to the UCF/UF FSRI announcemnt titled, " Acquisition of Data on the Columnar Dust Load of the Martian Atmosphere During Nightime." Principal Investigator N.Y. Misconi, and a team from UCF, UF, and NRL; Dr. Al Ducharme (UCF), Dr. Brian Scarlett (UF), and Dr. Frank Giovane (NRL). The total funding request was for **$157,989.**

The proposal was unfortunately declined and it was one of 32 proposals, which only 7 were funded.

PREVIOUS FUNDING HISTORY

Research Grant/Contract	**Period**	**Total Amount**
1- (Scientific Collaborator)		
NASA Contract Nas8-24865	Jan 1969-Oct 1973	
and NAS8-30251	Oct 1973-Jan 1976	
SKYLAB Experiment SO73, SL-2		
"Gegenschein/Zodiacal Light Experiment"		
NASA, Goddard Spaceflight Center (GSFC)		
2- (Scientific Collaborator)		
NASA NSG 8040	Apr 1976-Apr 1980	$141,000
SKYLAB Experiment SO73		
"Gegenschein/Zodiacal Light Experiment Data Analysis"		
3- (Scientific Collaborator)		
NASA NAS27963	Oct 1973-June 1978	$380,000
Pioneer 10 and 11		
"Imaging Photopolarimetry		
Experiment/Zodiacal Light"		
Jet Propulsion Laboratory (JPL)		
4- (**Principal Investigator**)		
NASA NASG- 7501	Aug 1978-Aug 1979	$39,600
"The Radiation-Induced		
Rotation of Small Celestial		
Bodies: A Feasibility Study"		
NASA, Headquarters		
5- (Co-Investigator)		
JPL Contract No. 955137	June 1978-June 1979	$128,200
"Zodiacal Light/Background		
Starlight Experiment(ZLE)",		
International Solar Polar		
Mission (ISPM)		
Jet Propulsion Laboratory		
6- (**Co-Investigator**)		
JPL Contract No. 955430	June 1979-May 1981	$259,260
"Zodiacal Light/Background		
Starlight Experiment(ZLE)",		
International Solar Polar		
Mission (ISPM)		
Jet Propulsion Laboratory		
7- (Scientific Collaborator)		

NASA Grant NSG 7093 1975-1981 $280,000
"Interplanetary Dust: Optical
and physical Properties and Dynamics".
NASA, Comets, Asteroids, and Interplanetary Dust Program

8- (Scientific Collaborator)
NASA Contract NAS 5-24456 Mar 1978-Sept 1980 $407,900
"Shuttle Induced Atmosphere
Experiment" STS 3 March, 1982
NASA, Space Shuttle Program

9- (Principal Investigator)
NSF # AST-82-06152 1982-1984 (24 months) $89,900
"Can Cometary Dust Perturbed
by the Inner Planets Explain the
Observed Distribution
of Interplanetary Dust?"
NSF, Astornomy and Planetary Science Division

10- (Principal Investigator)
AFOSR Grant #84-0212 7/15/84 - 11/15/85 $147,471
"The Interaction of Small
Particles with laser beams: Application for the Defense of Satellites".
Air Force Office of Scientific Research (AFOSR)

11- (Principal Investigator)
AFOSR Contract No. 7/9/85 - 2/8/89 $453,020
F49620-85-c-0117 DEF
"The Interaction of Small
Particles with laser beams:
Application for the Defense
of Satellites".
Air Force Office of Scientific Research (AFOSR)

12- (Co-Investigator)
Grumman Corp. (Co-I) 8/1/87 - 12/31/87 $40,000
"Celestial Background Radiation"
IRAD, Grumman Corp.

13- (Co-I, later Acting PI) 5/1/86 - 4/30/89 $505,146
AFOSR Grant-86-0161
"The Infrared Sky Background
Radiation".
Air Force Office of Scientific Research (AFOSR)

14- (Co-Investigator)
Naval Research Laboratory Oct, 1988 to 1995 launch $5,000
(NRL) Subcontract* to Misconi

"A Wide-Field White Light and
Spectrometric Coronagraph for SOHO".

15- (Principal Investigator) 5/1/89 - 5/1/90 $20,000
"Design of a Tunable
Photopolarimeter For
Use on Spacecraft"
Technological Research and Development Authority (TRDA), Florida

16- (Co-Investigator) 5/1/89 - 5/1/90 $30,000
"Radiation Pressure and
Formation of the Planets"
TRDA

17- (Principal Investigator) 7/1/90 - 6/30/91 $36,955
"Development of Sunlight Reflecting Coating"
Florida Solar Energy Center (FSEC)

18- (Principal Investigator) 1/15/91 - 12/31/91 $15,000
"Radiation-Induced Rotation
of Small Celestial Bodies"

NASA, GSFC, Comets, Asteroids, and Dust Program

19- (Principal Investigator) 1/15/91 - 9/1/91 $25,359
"Studies of a Laser/Nuclear Thermal Hardened Body"
U.S Army Natick Research and Development Center Natick, MA

20- (Principal Investigator) 1/15/91 - 1/15/92 $57,865
"Dynamics of Plasma-Dust
Interactions in the F-Corona
and Interplanetary Shock Waves"
NSF, Solar Terrestrial Program

21- (Principal Investigator) 3/15/91 - 10/1/91 $123,364
"A Viper-Class Sounding Rocket
Experiment to Observe the
July 11. 1991 Total Solar Eclipse"

TRDA

22- (Principal Investigator)
"Vibration Tests on the 10/15/91 - 2/1/92 $12,054
Spare Flight Unit of the
July 11, 1991 Total
Solar Eclipse Experiment"

TRDA

23- (Principal Investigator)

"To Construct a 36,800 M^2 Radio Telescope Array to Observe Interplanetary Scintillation (IPS) of Radio Sources Arising from Solar Activity in Florida" 12/1/90 - 7/1/91 $5,000

National Oceanic and Atmospheric Administration (NOAA), Space Environment Laboratory, Boulder, CO

24.*Title:* "Dynamics of Plasma-Dust Interactions in the F-Corona and Interplanetary Shock Waves"

N.Y. Misconi (PI) FIT
Wan-Xian Wang (Co-PI) ISST*
M. Dryer (Consultant) NOAA
Laura Pettera (Graduate Student, FIT Computer Science Dept.)

Period of Performance: January 15, 1991 to June 30, 1993

Funded Amount: **$120,000**

Funding Agency: **NSF, SOLAR TERRESTRIAL PROGRAM**

* Institute For Space Science and Technology, Gainesville, Florida

Project Summary

With this proposal we sought to determine the essential properties of the force field in the F-corona and their effect on the dynamics of dust particles which includes: ion drag and coulomb drag from the solar wind plasma, sudden orbital changes during coronal mass ejections, interaction with the local magnetic field including analysis of the electric charge on the dust particles, and orbital changes due to evaporation and sputtering. **These studies wiould determine whether these orbital changes give rise to the observed dust rings around the sun.** Numerical simulations of the dynamical evolution of dust particles released from comets (using high speed computers) added to previous calculations (Gustafson, Misconi, and Rusk, 1987, Icarus, 72) were carried out. These calculations are aimed at answering whether or not Venus is concentrating dust into its orbital plane. These calculations of the force field in the F-corona, and the numerical techniques and analytical solutions/approximations that were developed and refined here proved to be powerful tools in a wide range of dynamical problems. This included other stars and their dust envelopes, plasma-dust interactions in flare stars, and dust escaping stellar systems into the interstellar medium. Also cometary dynamics and disintegration, planetary accretion, stability of asteroidal satellite orbits, and interrelations between comets, meteor streams, and the zodiacal cloud.

25.*Title:* "To Construct a 36,000 M^2 Radio Telescope Array to Observe Interplanetary Scintillations (IPS) of Radio Sources Arising from Solar Activity Related Interplanetary Shock Waves as Part of a Global Warning Network"

N.Y. Misconi (PI) FIT
M. Thursby (PE) FIT
L. Caraway (Senior Engineer) FIT

Period of Performance: 11/1/91 - 7/1/92

Funded Amount: **$5,000**

Funding Agency: **NASA,** Solar Physics Division

Project Summary

The objective of this study was to improve present capabilities for geomagnetic storms forecasting. This requires continuous measurements of radio emission sources in the sky. These observations which were proposed to use are of the so-called "Interplanetary Scintillation" or IPS of well known radio sources in the universe. The method was based on monitoring these sources continuously during passage of shock waves and other disturbances and recording their scintillation. A suitable site was chosen in Brevard County, Florida, to construct this 36,000 M^2 Radio Array as part of a global network to monitor the Sun and the interplanetary medium and give warning for impending geomagnetic storms. This radio array was to be operational for at least 40 years and can be refurbished later. It would have also brought a wealth of scientific information on the Sun and its activity and solar wind disturbances.

26.*Title:* **"Shielding of Military Shelters against Laser / Nuclear Threats"**

N.Y. Misconi (PI) FIT
M.Rasa, Graduate Student, FIT Environmental Engineering Dept.)

Period of Performance: December 20, 1991 to June 1, 1992

Funded Amount: **$11,000**

Funding Agency: **U.S. Natick Army R &D Center.**

Project Summary

(Sensitive Information)

27.*Title:* **"Equipment for a Sounding Rocket Scientific Payload to Observe the November 3, 1994 Total Solar Eclipse from South America"**

N.Y. Misconi (PI) FIT
L. Caraway (Graduate Student, FIT Electrical Engineering Dept.)

Period of Performance: December 15, 1991 to February 29, 1992

Funded Amount: **$8,000**

Funding Agency: **The National Space Program of Mexico**

Project Summary

To purchase electronic components to build two flight units to fly via a Viper-Class III Sounding Rocket, in a suborbital flight to observe the November 3, 1994 Total Solar Eclipse via a ship in the South Atlantic Ocean or land launch from Brazil.

28.*Title:* "A Viper-Class Sounding Rocket Experiment to Observe the November 3, 1994 Total Solar Eclipse from South America"

N.Y. Misconi (PI) FIT

Period of Performance: March 1, 1992 to July 31, 1992

Funded Amount: **$14,700**

Funding Agency: **NSF, INTERNATIONAL PROGRAM**

Project Summary (see above)

29.*Title:* "Coronal Mass Ejections and the Rotational Bursting of F-coronal Dust"

N.Y. Misconi (PI) FIT
1 Graduate Student

Period of Performance: April 1, 1993 to April 30, 1996

Funded Amount: **$134,556 ($44,852 each year)**

Funding Agency: **NSF, Solar Terrestrial Program**

Project Summary

The objective of this proposal was to investigate the rotational bursting of **F-Coronal dust** particles due to high density (~10^8 protons/cm^3) Coronal Mass Ejections in the F-Corona region. Rotational bursting of F-Coronal dust may take place due to the stress from the high spin rate, which can be driven by four spin mechanisms:

All four-spin mechanism were investigated theoretically by this proposal. On the experimental side, we have already submitted proposals to NASA to investigate these spin mechanisms (except for 4.). The experimental work was to be carried out using a state of the art **Laser-Particle Levitation in vacuum** which was ready for such experimentation. These experiments will perform levitation of solid particles in the laser beam and in vacuum (to simulate outer space conditions). The experiments would have measured the rate of the "windmill type" rotation and its acceleration, the orientation in space of the spin axis, and the "effective moment arm " of the rotation. Furthermore, With the addition of a proton gun, we can

study the statistical spin mechanism mentioned above.

*Results from this study, gave information on the origin of the **observed ß-meteoroids** (ß is the symbol for the ratio of solar radiation pressure to solar gravitational attraction) which are leaving the solar system in hyperbolic orbits. It also gave information on the origin of the **observed** heavy nucleii particles that seem to be emanating from the Sun and previously called **"Star Dust"** but now are considered not to be emanating from the Sun. Details of the connections between these two observed phenomenons and rotational bursting in the F-Corona was given later in this proposal.*

30. A $13,000 Contract with the U.S. Army Natick RD & E Center, to Coat a Military Hard Shelter for protection from Laser / Nuclear Threats and reduce the solar thermal load in a Desert Battle-Field Environment.

31. PROPOSAL FOR RESEARCHING AND TESTING A MATERIAL COATING FOR PROOF OF LASER CROSS-SECTION SIGNATURE REDUCTION FOR MILITARY TACTICAL AND GENERAL PURPOSE VEHICLES

N.Y. Misconi (PI) FIT
1 Engineer (A Graduate from FIT)

Period of Performance: September 24, 1993 to November 15, 1993

Funded Amount: **$23,921**

Funding Agency: U.S. ARMY TANK-AUTOMOTIVE COMMAND, WARREN, MICHIGAN

Project Summary (sensitive information)

32. "A Sounding Rocket Experiment for a Flight-Ready SEEC-Class Photometer (SEEC-2)

N.Y. Misconi(PI) FIT
B. Grossmann (FIT)
L. Caraway (Graduate Student, E.E. Dept.) FIT

Period of Performance: December 3, 1993 to August 1, 1995

Funding Amount: $50,000

Funding Agency: **TRDA**

Project Summary

This proposal outlines an observational technique which acquires information on the aerosol content of the Earth's atmosphere. The aerosol content includes dust particles, car exhaust particles, soot from factory and household chimneys, and other man-made pollutants of aerosol size. It also includes natural pollution such as interplanetary dust, space debris, and volcanic ash. The observational technique makes use of two sets of data on the brightness of bright stars and the zodiacal light, ZL, (sunlight scattered by interplanetary dust) and other components of the light of the night sky (i.e., the integrated starlight, ISL, and the diffuse

galactic light, GL). One set of data will be from ~ 50 miles above the ground (using a mobile sounding rocket), and the other will be from the launch pad (at a selected location) using two specially designed **identical instruments**.

33.Title: **"Coronal Mass Ejections and the Rotational Bursting of F-coronal Dust"**

N.Y. Misconi (PI) FIT
2 Graduate Student

Period of Performance: MAY 1, 1995 to April 30, 1996

Funded Amount: **$44,852**

Funding Agency: **NSF, Solar Terrestrial Program**

34. Title : **A Joint Program of Space Education and Establishing Launch Capability in Suborbital Rocketry at UCF**

Larry Chew (PI)
N.Y. Misconi (Co-I)
4 Graduate student

Period of Performance: August 1, 1995 to December 31, 1996

Funded Amount: **$99,651**

Funding Agency: **TRDA**

35. Title: **Dynamics of Rotation of Satellites due to Solar Radiation in the Geo-Stationary Ring**

N.Y. Misconi (PI)

Period of Performance: September 1, 1997 to December 31, 1998

Funded Amount: **$3,600**

Funding Agency: **NASA, GEOS PROGRAM (GSFC)**

DIVERSE FUNDING: The funding history section above contains diverse funding from federal agencies and their various programs. To demonstrate this, a list is compiled in the same order of the awards:

NASA:

- Goddard Spaceflight Center **(GSFC)** Skylab, SL-2 (2 awards)

- Jet Propulsion Laboratory **(JPL),** (3 awards)

- NASA, Headquarters (one award)

- NASA, Comets, Asteroids, and Interplanetary Dust Program (one award)

- NASA, Space Shuttle Program (one award)

- NASA, Solar Physics Division (one award)

- NASA, GEOS Satellites Program, **(GSFC),** (one award)

NSF:

- NSF, Astronomy and Planetary Science Division (one award)

- NSF, International Program (one award)

- NSF, Solar Terrestrial Program

DOD:

- Strategic Defense Initiative **(SDI),** (one award)
- Air Force Office of Scientific Research **(AFOSR)**, (3 awards)

- US, Natick Army R & D Center

- US, Army Tank-Automotive Command, Warren, MI (2 awards)

Naval Research Laboratory: one award

INTERNATIONAL: - The National Space Program of Mexico (one award)

CORPORATIONS: - Grumman Corporation (one award)

FLORIDA AGENCIES:

- Technological Research & Development Authority **(TRDA),** (6 Awards)

- Florida Solar Energy Center **(FSEC)**, (one award)

TEACHING INTERESTS

The following course titles are among my strong interest in teaching:

- Introduction to Space Systems
- Advanced Space Systems
- Space Systems Concepts
- Engineering Dynamics
- Orbital Mechanics
- Engineering Thermodynamics
- Methodology of Making Astronomical Observations from Space platforms

-Photo-Polarimetry of Low-Light Astronomical Background
-Interplanetary Astrophysics
-Solar System Astrophysics
-Dusty Plasmas
-The Interstellar Medium
-Galactic Structure
-Design and Construction of space-borne Instruments
-Design and Construction of Sounding Rocket-borne instruments
-Sounding Rocket and Satellite Dynamics
-Laser Interactions with Matter

I have also supervised several undergraduate students in Independent Research Studies courses at the Astronomy Department of the University of Florida (UF) and the State University of New York at Albany earlier. I will also be very interested in supervising graduate students who may be interested in doing an M.S. or Ph.D. degrees in space science as I have done earlier at UF and FIT. As can be seen from my current research projects that there is need for student participation in these projects.

Refereed Journal Publications

Misconi, N.Y. and Hanner, M.S. (1975), "On the possibility of detecting solar flare effects in the zodiacal light", **Planet. Space Sci., 23**, 1329-1335.

Misconi, N.Y., (1976), "Solar flare effects on the zodiacal light", **Astron. Astrophys.**, **51**, 357-365.

Misconi, N.Y., (1976), "On the rotational bursting of interplanetary dust particles", **Geophys. Res. Letters**, **3**, 357-365.

Misconi, N.Y., (1977), "On the photometric axis of the zodiacal light", **Astron. Astrophys.**, **61**, 497-504.

Misconi, N.Y., Weinberg, J.L., Hahn, R.C. and Beeson, D.E. (1977), "Possible effects of Mars on the symmetry plane of interplanetary dust", presented at the 151st meeting of the American Astronomical Society at Austin, Texas, January 9-11, 1978, **Bull. AAS, 9**, Part II, 620.

Misconi, N.Y. and Weinberg, J.L. (1978), "Is Venus concentrating inter-planetary dust toward its orbital plane?", **Science**, **200**, 1484-1485.

Gustafson, B. A. S. and Misconi, N.Y. (1979), "Streaming of interstellar grains in the solar system", **Nature**, **282**, 276-278.

Ratcliff, K. F., Misconi, N.Y. and Paddack, S. (1980), "Radiation induced rotation of interplanetary dust particles: a feasibility study for a space experiment", **I.A.U. Symp. No. 90: Solid Particles in the Solar System** (I. Halliday and B. McIntosh, Eds.), D. Reidel, Dordrecht, Netherlands, 391-394.

Misconi, N.Y., (1980), "The symmetry plane of the zodiacal cloud near 1 A.U"., in **I.A.U. Symp. No. 90: Solid Particles in the Solar System** (I. Halliday and B. McIntosh, Eds.), D. Reidel, Dordrecht, Netherlands, 49-53.

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Gustafson, B. A. S. and Misconi, N.Y., (1983), "Can cometary dust perturbed by the inner planets be an explanation for the observed distribution of interplanetary dust?", **Cometary Exploration**, **2**, (T.Gombosi, Ed.), Hungarian Academy of Sciences, 121.

Hong, S. S., Misconi, N.Y., Van Dijk, M.H.H., Weinberg, J.L. and Toller, G.N., (1985), "A search for small scale structures in the zodiacal light", **Properties and Interactions of Interplanetary Dust,** (R.H. Giese and Ph.L. Lamy, Eds.), Reidel, Dordrecht, 33-37.

Misconi, N.Y., and Rusk, E.T., (1985), "The gravitational zones of influence of the planets acting on small celestial bodies", **Properties and Interactions of Interplanetary Dust,** (R.H. Giese and Ph.L. Lamy, Eds.), Reidel, Dordrecht, 377.

Misconi, N.Y., and Weinberg, J.L., (1985), "Ground-based observations of near ecliptic zodiacal light brightness", **Properties and Interactions of Interplanetary Dust,** (R.H. Giese and Ph.L. Lamy, Eds.), Reidel, Dordrecht, 11-15.

Gustafson, B. A. S., Misconi, N.Y. and Rusk, E.T., "Could artifacts of a major release of dust from comet Encke during prehistoric times be detected in the present zodiacal light?", presented at international symposium, **"Asteroids, Comets, Meteors II",** 3-6 June 1985, Uppsala, Sweden.

Misconi, N.Y. and Rusk, E.T., (1985), "The size of the gravitational zone of influence of a planet acting on the orbital elements of small celestial bodies", **Planet. Space Sci.**, **33, No. 11,** 1359-1362.

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Gustafson, B. A. S., Misconi N.Y. and Rusk, E.T., (1987), "Interplanetary Dust Dynamics II. Poynting-Robertson drag and planetary perturbations", **Icarus**, **72**, no.3, 568-581.

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Rusk, E.T., Misconi, N.Y., and Gustafson, B.A.S., (1988), "Dynamical effects of Jupiter, the

Inner Planets and Poynting-Robertson Drag on the lifetime of Interplanetary Dust", **Planet. Space Sci.**, **36, No. 7,** 747-752.

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Misconi, N.Y. , (2007), Detecting the Light of the Night Sky in Mars," Submitted to Planetary and Space Science Journal.

**** It should be noted here that publishing research papers in the field of Astronomy is a long and time-consuming process. For example it takes a year or two to conduct the research and another year or two to publish the results. For the exception of astronomers who work at**

ground or space based national observatories, or astronomers who work on NASA's space missions where team papers are published and thus are able to publish faster and more frequently.

PREVIOUS RESEARCH ACTIVITIES:

- In 1973, I conducted observations of **Comet Kohoutek**, using the 300-ft. Radio Telescope Dish at NRAO, Greenbank. These observations (at 11-cm wavelength) were focused on detecting free-free electron emission from the plasma halo around the comet's nucleus.

- Studied and analyzed observational data of the light of the night sky taken from **Mt. Haleakala, Hawaii.** The Zodiacal Light component was successfully removed from the remaining components (Airglow Continuum, Discrete Stars, Integrated Starlight, Atmospheric Extinction and Scattering).

- Searched for **solar flare effects** on the brightness of the zodiacal light, and formulated and derived the necessary equations that governs the nature of plasma-dust interactions in the interplanetary medium. These plasma-dust interactions included: the solar wind ion drag vs. Poynting-Robertson drag on the dust, solar wind ion pressure and resulting spin of the dust particle, and possible fluorescence of the dust caused by impinging plasma particles on the dust..

- Participated in the science definition of the **zodiacal light/Gegenschein experiment that flew aboard SKYLAB**, and collaborated on the reduction and analysis of the data. Determining the pointing in space of the photopolarimeter and the attached camera were also among the challenges that I was involved in.

- Contributed as a Co-Investigator and member of the NASA Team for the science definition and design of the zodiacal light telescope for the **International Solar Polar Mission (ISPM).** This telescope/photopolarimeter was built in the **Federal Republic of Germany to fly on the NASA spacecraft of the ISPM.** Unfortunately this instrument was not flown due to the cancellation of the NASA mission.

- Analyzed the background starlight and the zodiacal light data obtained from **Pioneer 10 and 11 spacecraft** during its cruise phase to Jupiter.

- Participated in the science definition and design of an improved instrument (telescope and photopolarimeter) to **observe the light of the night sky from Mt. Haleakala, Hawaii.** Calibrated and determined the field of view of the instrument along with Mr. Richard Hahn.

- Worked on the science definition and instrument conceptual design of the **Shuttle Induced-**

Atmosphere Experiment (SIA) that flew on the STS-3 flight of the shuttle Colombia in March 1982. Among the tasks were: calibration of the instrument using bright stars, and conducted calculations to determine the pointing of the telescope and the attached camera during the complex maneuvers of the shuttle. Other responsibilities included correlating the **thrusters firings with the enhanced brightness seen in the bay of the shuttle (shuttle glow).** Among other challenges that were faced: assessing the intensity of the airglow line emission at 6300Å above the bay of the shuttle, separation of the Zodiacal Light (ZL) as close as 10^{o} from the sun. Final conclusions were made, among them were: (a) the shuttle is not suitable for astronomical low light level observations, it was impossible to separate the ZL. This experiment was challenging and very rewarding in acquiring experience in doing space experiments.

- I took part in the science definition and conceptual design of the **Halley Optical Probe Experiment (HOPE) that flew on board the Giotto European spacecraft**. This was the only space probe that made the closest approach to the nucleus of the comet and observed the dust tail of the comet.

- I was selected to be Co-Investigator along with Dr. P. Lamy of France and the late Dr. R. Giese of West Germany to be responsible for observations of the F-Corona as part of the **NASA/ESA joint SOHO (Solar Heliospheric Observatory)** to be launched by ESA in 1993. This space vehicle orbited the L_1 Libration point of the Earth-Sun system. Three Coronagraphs will be built by **NRL** (The Naval Research Laboratory), **Max-Planck Institute fur Aeronomie Katlenburg-Lindau FRG,** and **Laboratoire d'Astronomie Spatiale Marseille France.** The objective of this space experiment was to study the Sun's K and F Coronae for a period (unprecedented) of 6 months of observations. I succeeded in including a **Fabry- Perot interferometer** on board to study the Fraunhofer line MgI which will allow us to determine Doppler Shifts and search for departures of the dust from Keplerian orbits.

- In 1978, my colleague **Dr. K.F. Ratcliff and I (Co-Principal Investigators)** were visiting scientists at the **Goddard Space Flight Center,** under a contract with NASA to set up our Laser- particle levitation experiment. We succeeded in developing an optical bottle bringing the foci of three laser beams to enable us to levitate irregular particles

- Starting in July 1985, I embarked on building a Laser-Particle Dynamics Facility at the Space Astronomy Laboratory (SAL) through a DOD contract (see Funding History). A multi-university and interdisciplinary team was formed for this project which included myself (PI), and Co-Investigators: **Dr. K.F. Ratcliff** (Associate Chairman of the Physics Department at the State University of New York at Albany), **Dr. J.P. Oliver** (Associate Professor at the University of Florida Department of Astronomy), and **Dr. E.T. Rusk** of SAL. The team also included **Dr. G. Eichhorn** (Scientific Collaborator**), Mr. J. Mckisson** (electrical Engineer)**, Mr. D. Ely** (Aerospace Engineer)**,** and other technicians and graduate students. This project involved doing basic research for developing a laser shield (during the first phase of the project) to protect against a hoist of military targets space, air, and on the ground, against lethal laser weapons. The second phase was to

levitate in the laser beam spherical and irregular silica particles 20 to 90 microns in size and measure the angular distribution of the scattered light, **a first in the field of light scattering.** The third phase is to study the spin of these particles while levitated in the laser beam (zero gravity) and in vacuum to determine the effective moment arm of rotation of dust particles in space and around stars. The major objective of the study was to determine whether or not these particles reach rotational bursting, an astrophysical problem that needs to be investigated.

- In 1982, I was awarded NSF Grant for a period of two years. The study was aimed at assessing the gravitational perturbation of the planets on interplanetary dust. This involved performing numerical simulations of the orbital evolution of dust orbiting the sun for periods more than 20,000 years under the effects of the Pointing-Robertson drag and planetary perturbations. The particles under study were assumed to have been released from **comet Encke**, which is believed to be a major contributor to the zodiacal cloud (as suggested by Prof. Fred Whipple). It was shown, contrary to earlier beliefs, that Jupiter, although is the dominant perturber, the inner planets (Venus, Earth, and Mars) exert significant perturbation on the dust.

- In a study for a period of three years that started in May 1986 and **funded by the Air Force Office of Scientific Research (AFOSR),** we conducted a study of the optical scattering vs. the thermal emission of interplanetary dust. Among the results of this study was that Mars can effect the orbital elements of the dust. A result first suggested by Misconi and confirmed by observations from **IRAS (the Infrared Astronomical Satellite).** Also we compared the small scale structure in the visible vs. thermal emission in an attempt to discover density concentrations that are perhaps due to trails of comets. One such feature was discovered in the visible.

- Directed a Viper-Class III Sounding Rocket Experiment to observe the July 11, 1991, total solar eclipse that was launched from Santiago Ixcuintla, State of Nayarit, Mexico. I oversaw the optical design and directed the development of the Silicon photodiodes, transmission and antenna, and calibration of the scientific payload nicknamed SEEC (Solar Eclipse Extended Corona). Three units were built, one engineering unit and two space flight units, the latter were operational and ready to be launched on the day of the eclipse. Unfortunately, this experiment resulted in the loss of the payload and booster. The reasons were under investigation for both the behaviors of the rocket during launch and the instrument. One vibration test was conducted on the spare flight unit SEEC-2, at DBA Corp. Facility, and the results were successful. Another dynamical impact test was carried out at the Harris Corp. and was successful also. These two tests showed that our payload could easily withstand a 150 *g environment* of the launch and separation of the payload. We are now convinced that the loss of the payload and therefore the transmission of the data resulted from a malfunction in the rocket. That is not hard to imagine, since the rocket that was launched the day before the eclipse to study the wind pattern above the launch site exploded at about 2 to 3 kilometers above the launch pad. We were also preparing to launch a slightly modified SEEC-3 and SEEC-4 jointly with Mexican Space Scientists, to observe the November, 3, 1994, total solar eclipse in the South Atlantic Ocean. This would have been either a ship launch or a land-based launch from Brazil, funds were not available to carry on this task.

Appendix E

Support Letters

November 2, 2007

Dr. Bahman S. Motlagh, Professor
Director of Information Systems Technology Program (IST)
University of Central Florida
College of Engineering and Computer Science (CECS)
P.O. Box 162993
Orlando, Fl 32816-2993

REF: Proposed Master of Science in Technology (MST) Degree Program

Dear Dr. Motlagh:

I am writing you to extend my support for the development of the Proposed Master of Science in Technology (MST) Degree program at the University of Central Florida.

As the Chairman of the ENT/IST Industrial Advisory Board for the University, I know I speak for the Board members in recommending and supporting the effort.

Your proposed Program is a bridge between the technologist and the business person. Now, more that ever, the importance of IT graduates understanding business processes is critical for success in the enterprise.

As the Major Account Manager for AT&T, responsible for AT&T products and services used by UCF, I know that the growth of your department's Undergraduate Degree program to a Master's Degree is a natural extension of your existing program.

AT&T provides technical services to include data, voice, video circuits and equipment. Additionally, AT&T provides professional services for disaster recovery, cyber security and data center design and construction. AT&T needs the expertise and educated knowledge workers from UCF that can help us grow our business.

Having the Master of Science in Technology (MST) degree will allow your undergraduates in IST and ENT to learn more about the world of e-Commerce and why IT continues to drive commerce at astounding speeds. A Master's degree will help your students understand the importance of the pervasiveness of technology and learn how to manage it better.

I agree with your summary that the "Master of Science in Technology (MST) program can greatly help the engineers, scientists, technologist, and business leaders who are moving into management positions and recognize that advanced technical knowledge must be coupled with strong communication and administrative skills."

Thank you for your efforts to further develop our local high tech workforce. I look forward to learning more about the continued development of this program.

Best regards,

Rick Sickles

Chairman, Industrial Advisory Board
Major Account Manager, AT&T Southeast
Adjunct Instructor, UCF/CECS/IST-ENT

cc: Ron Eaglin

Proposal for a Graduate Certificate
In
Emergency Management and Homeland Security

Developed by

Department of Public Administration
University of Central Florida

October 3, 2007

Graduate Certificate in Emergency Management and Homeland Security

University of Central Florida Department of Public Administration

Proposal Brief

Introduction

The Department of Public Administration is proposing a new Graduate Certificate in Emergency Management and Homeland Security that is patterned after the existing Undergraduate Minor in Emergency Management and Homeland Security. This certificate will prepare graduate students in the administration of emergency management and homeland security programs.

Description of the Market

With the development of the ***National Response Plan,*** a comprehensive, all-hazards approach to enhance the ability of the United States to manage domestic incidents has been established. This plan places a strong emphasis on coordination and integration of capabilities throughout society including all levels of government, private organizations, nonprofit organizations, and individual citizens.

The Minor in Emergency Management and Homeland Security was approved during the 2002-2003 Academic year. The courses have been offered since 2003, and undergraduate students have taken the courses either as electives or have completed the minor. From the spring 2006 semester to the current fall 2007 semester, the active student population for this program has grown by 53% demonstrating student interest in the subject. See **Appendix A** for the description of the Minor in Emergency Management and Homeland Security.

A survey of current and potential students was conducted to determine the interest in an Emergency Management and Homeland Security Graduate Certificate. First, thirty-two (32) prospective graduate students attending the 2007 Graduate Fair were surveyed to determine potential interest in the proposed program. Second, all of the students currently taking courses from our department were surveyed, and forty-nine (49) students responded. This yielded a total of eighty-one (81) respondents to the exploratory survey. There was an overwhelming positive response in support of the proposed certificate with sixty-six (66%) percent indicating they would take the certificate alone, and sixty-three (63%) percent indicating they would take the courses as part of their degree program.

Respondents were also asked to indicate preference for the proposed courses and the responses in addition to student comments can be found in **Appendix B.**

In addition, the special issue of the ANNALS of the American Academy of Political and Social Science, *Shelter from the Storm: Repairing the National Emergency Management System after Hurricane Katrina*,[1] the author recommended that Florida's emergency management system should be studied as a model for the entire United States. At this time there is only one other program at Florida State University, that addresses the management training needs for this growing area of public service, and this proposed program is designed to meet the needs of our Central and South Florida.

[1] Waugh, W. L. Jr. (ed.) (2006). *Shelter from the Storm: Repairing the National Emergency management System after Hurricane Katrina.* Special issue of *The Annals of the American Academy of Political and Social Science* Volume (604).

Rationale

The rationale for the Graduate Certificate in Emergency Management and Homeland Security proposal is designed to meet a growing need in our community to learn about new collaborative responses to emergencies. The program has received the support of the faculty of the Department of Public Administration and the Public Administration Advisory Board.

Description of Program

Components of the National Response Plan include: assessment strategies; incident reporting; vertical and horizontal communication and information sharing; training and simulation; mitigation strategies; the organization and planning to mobilize resources at different levels; response and recovery activities; and securing the safety of personnel and the population.

This proposal has been developed based on our experience with the Emergency Management and Homeland Security Minor in the Department of Public Administration *(See Appendix A)*. The proposed graduate certificate in emergency management and homeland security is designed to provide an interdisciplinary graduate education for persons engaged in or seeking professional careers in emergency management and homeland security focusing on managing security threats or crises, natural or man-made threats, disasters or emergencies through coordination of the public, private, and nonprofit sectors. In our curriculum, in addition to covering recent national trends in policy and practice in the field of emergency management and homeland security**,** the program will focus on the Florida emergency management and public safety system.

GRADUATE CERTIFICATE IN EMERGENCY MANAGEMENT AND HOMELAND SECURITY

The Department of Public Administration offers a Graduate Certificate in Emergency Management and Homeland Security, which consists of 18 semester hours at the graduate level, including four required core courses and two electives; one from a planning tract and one from a management / policy tract. This certificate will prepare graduate students in the administration of emergency management and homeland security programs.

Curriculum

- **Required Courses (12 credit hours)**

PAD xxxx	Foundations of Emergency Management and Homeland Security *
PAD xxxx	Managing Emergencies and Crises*
PAD 6716	Information Systems for Public Managers and Planners
PAD xxxx	Cross-Sectoral Governance*

* Indicates a new course development.

- **Restricted Electives (6 credit hours).**
  - Select one (1) course from Group 1
  - Select one (1) course from Group 2

Group 1 – Planning Emphasis

PAD 5336	Urban Design (3 credit hours)
PAD 5338	Land Use and Planning Law (3 credit hours)
PAD 5356	Managing Community and Economic Development (3 credit hours)
PAD 6353	Environmental Program Management Research (3 credit hours)
CGN 6655	Regional Planning, Design, and Development (3 credit hours)

Group 2 – Management & Policy Emphasis

PAD 5142	Nonprofit Organization (3 credit hours)
PAD 6037	Public Organizations Management (3 credit hours)
PAD 6387	Transportation Policy (3 credit hours)
CCJ 6021	Criminal Justice Responses to Terrorism (3 credit hours)
HSA 5198	Health Care Decision Sciences & Knowledge Mgmt (3 credit hours)
INR 6136	Seminar in American Security Policy(3 credit hours)
INR 6071	Seminar in Weapons of Mass Destruction (3 credit hours)

Faculty Resources and Qualification

The Graduate Certificate Program in Emergency Management and Homeland Security is affiliated with the Master of Public Administration (MPA) program and with the Master of Nonprofit Management (MNM) and supported by the Department of Public Administration. The Department of Public Administration currently has 12 full time faculty members, who specialize in the major aspects of public and nonprofit management and policy analysis. The MPA program consists of 42 graduate hours and is accredited by the National Association of Schools of Public Affairs and Administration. The MNM consists of 33 credit hours and is taught online primarily by full time faculty members.

Drs. Kapucu, Lawther, and Wang within the department have written numerous articles individually and with students addressing emergency management and homeland security. Experts in this area have identified Dr. Kapucu as a "rising star" and state that the courses he has developed are what are needed in the field. A list of Departmental Faculty Members can be found in **Appendix C.** A reference list of the eighteen (18) faculty and student publications on Emergency Management and Homeland Security can be found in **Appendix D.** In addition, to strengthen the case for this proposal, the literature support for development of this certificate can be found in **Appendix E.**

Administration of the Program

The Graduate Certificate Program in Emergency Management and Homeland Security will be administered by the Graduate Program of Public Administration and will the follow policies, rules, and procedures related to the graduate program at the Department of Public Administration. An assistant professor, Naim Kapucu, will have the responsibility of tracking the progress of the students in the Graduate Certificate program during the first phase of development.

APPENDIX A

MINOR IN EMERGENCY MANAGEMENT AND HOMELAND SECURITY
University of Central Florida, Department of Public Administration

The minor in emergency management and homeland security provides students with an opportunity to comprehensively study the disaster management cycle, including emergency planning, mitigation, response and recovery. In an age of dense population, increased terrorism, unpredictable weather and high public expectations of risk reduction and public leadership, this is an exciting area of study. Students who complete a minor in emergency management and homeland security gain additional insight and knowledge that will help them find positions in various federal, state and local government or nonprofit organizations. Some of these may include the Environmental Protection Agency, Occupational Health and Safety Administration, the Orange County Emergency Management Division, the Federal Emergency Management Agency, the Department of Homeland Security and state and local Homeland Security agencies.

Credit Hour Requirements 18 hrs

Core Courses (15 hrs)

PAD 4110 Intergovernmental Administration	3 hrs
PAD 4392 Emergency Management and Homeland Security	3 hrs
PAD 4712 Information Systems for Public Managers and Planners	3 hrs
PAD 4395 Disaster Response and Recovery	3 hrs
PAD 4390 Hazard Mitigation and Preparedness	3 hrs

Restricted Electives (select one) (3 hrs)

CCJ 4661 Conflict &Terrorism	3 hrs
HSA 4938 Health Issues in Disasters	3 hrs

Other Requirements

- A minimum GPA of 2.0 is required in all courses used to satisfy the minor
- Grades below "C" (2.0) or "S" grades are not accepted
- At least 15 hours used in the minor must be earned at UCF within the department
- Internship or Independent Study cannot be used toward the minor.

The University of Central Florida is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award degrees at the associate, baccalaureate, master's, and doctoral levels.

For more information:

Contact Naim Kapucu, Ph.D., Assistant Professor
Department of Public Administration, University of Central Florida
HPA II Suite 238M, Orlando, FL 32816-1395
Phone: 407-823-6096 & Fax: 407-823-5651
URL: http://pegasus.cc.ucf.edu/~nkapucu
E mail: nkapucu@mail.ucf.edu
Undergraduate Coordinator: Mr. Bob Morin
Additional Information:
http://www.catalog.sdes.ucf.edu/current/minors/emergency_management/emergency_management.pdf
Update: 11/10/06

APPENDIX B

SURVEY FOR GRADUATE CERTIFICATE IN EMERGENCY MANAGEMENT & HOMELAND SECURITY

The Department of Public Administration is planning to offer a Graduate Certificate in Emergency Management and Homeland Security in a future semester. Your response to these questions will be used in developing and offering this certificate. The certificate, if offered, will be **18 credit hours** (6 courses), with four core courses and two electives chosen from a list. The courses can be taken:

- Independently,
- as a graduate certificate in Emergency Management & Homeland Security, or
- as electives for the Master of Public Administration or Master of Nonprofit Management degrees

If offered, how interested are you in taking the following courses either independently or as part of a certificate or degree program? N=81	Very Interested	Somewhat Interested	Neutral	Not very Interested	Not Interested
	1	2	3	4	5
Foundations of Emergency Management and Homeland Security (EM/HS) Course topics: • Contemporary EM/HS issues • Historical development of EM/HS • Applicable national policies and institutions	**38%**	**38%**	**11%**	**5%**	**6%**
Managing Emergencies and Crises Course topics: • Crisis management, disaster recovery, and continuity of operational issues. • Evolution of U.S. disaster policy management • Disaster types, and common myths	**54%**	**32%**	**4%**	**2%**	**4%**
Information Systems for Public Managers and Planners Course topics: • Introduction to state-of-the-art hard- and software • Computer employment and systems concepts. • Public sector management and operations	**43%**	**30%**	**12%**	**9%**	**2%**
Cross-Sectoral Governance Course topics: • Structure & dynamics of cross-sectoral governance • Management of intergovernmental relations • Historical & theoretical perspectives	**36%**	**40%**	**11%**	**7%**	**4%**

Would you take these courses (N = 73 responses)

Note: Total = 110% as some students selected more than one course venue

As an independent course	**14%**
As part of a certificate program	**52%**
As part of a degree program	**41%**

Student Comments

(Comments are from fall 2007 active students)

Student comment: I think these are needed classes at this time. Should have a lot of emphasis on mitigation and teaching techniques as this is the most common activity, though not as flashy as response activities.

Student comment: this would be interesting to take as electives for the MPA

Student comment: I would be very interested in a Graduate Certificate in Emergency Management and Homeland Security. Thank you for considering expanding the UCF MPA program!

Student comment: Interesting issues

Student comment: Excellent idea – I would be interested

Student comment: I would be willing and happy to take it as any but a certificate program would be a very could asset to those trying to enter nonprofit especially those international ones with emergency response abilities. The History of EM and HS would be essential to understanding but the Managing Emergencies an Crises class would be my choice- I would sign up now if I could =)

Student comment: I would be interested in learning more about the Masters Degree program from the University of Central Florida

Student comment: Attached is the Homeland Security/Emergency Management survey. It is too bad the program is beginning now as I have already completed most of my course electives. As a twenty-three year fire protection member, this course of instruction would definitely add a nice touch to my course track.

Student comment: I think this would be an amazing program! It's definitely long overdue. The only concern I would have would be the potential redundancy with the EM minor currently offered. I'm sure that this would be a more in-depth look at EM, and in that case I'm all for it. I'd sign up right now if it was currently offered! I think offering it as a certificate program, that could be used toward the MPA would be the best opportunity. I know of many people in the field who would love to "start off" their graduate studies with a certificate program. Please keep me in mind if you have any further questions. I am a recent PA graduate (with EM minor) and work in the Fire Service and may be able to answer any questions you may have.

Appendix C

FACULTY LISTING

Thomas Bryer, Ph.D. *Nonprofit, Public Mgmt, Urban-Regional Planning*	Assistant Professor tbryer@mail.ucf.edu
Peter Colby, Ph.D. *Budgeting, Finance, Organization Management*	Professor pwcolby-ucf@cfl.rr.com
Matthew Collins, Ph.D. *Budgeting, Finance, Nonprofit,*	Instructor mcollins@mail.ucf.edu
Mary Ann Feldheim, Ph.D. *Policy, Nonprofit, Strategic Planning*	Assoc. Professor Mfeldhei@mail.ucf.edu
Jay Jurie, DPA *Policy, Urban Issues, Land-Use*	Assoc. Professor jurie@mail.ucf.edu
Naim Kapucu, Ph.D. *Nonprofit Administration, Emergency Management*	Asst. Professor nkapucu@mail.ucf.edu
Ronnie Korosec, Ph.D. *Public Policy analysis, Government Innovation, Strategic Planning*	Asst. Professor rkorosec@mail.ucf.edu
Wendell Lawther, Ph.D. *Human Resources, Privatization*	Assoc. Professor lawther@mail.ucf.edu
K. Tom Liou, DPA *Public Policy, Economic Development*	Professor kliou@mail.ucf.edu
Robert Morin, MPA *Public Policy, Administration, Planning*	Instructor rmorin@mail.ucf.edu
Melvin Rogers, MPA *Human Resources, Governance, Urban Issues*	Instructor mrogers@mail.ucf.edu
XiaoHu Wang, Ph.D. *Budgeting, Finance, Research Methods*	Assoc. Professor xwang@mail.ucf.edu

Appendix D

[1}**Kapucu, Naim.** (2007). "Community Capacity Building in Response to Catastrophic Disasters," *The Public Manager*. Forthcoming fall 2007.

[2] **Kapucu, Naim**, Maria-Elena Augustin and Vener Garayev. (2007). "Interstate Partnerships in Emergency Management: Emergency Management Assistance Compact (EMAC) in Response to Catastrophic Disasters," *Public Administration Review*. Forthcoming.

[3] **Kapucu**, **Naim.** Wendell Lawther, and Sommer Pattison. (2007). "Logistics and Staging Areas in Managing Disasters and Emergencies," *Journal of Homeland Security and Emergency Management*. Forthcoming.

[4] **Kapucu**, **Naim**. (2007). "Planning for Disasters and Responding to Catastrophes: Error of the Third Type in Disaster Policy and Planning," *International Journal of Public Policy.* Forthcoming.

[5] **Kapucu, Naim**. (2007). "Culture of Preparedness: Household Disaster Preparedness," *Disaster Prevention and Management: An International Journal.* Forthcoming.

[6] Shawn (XiaoHu) Wang and **Kapucu, Naim**. (2007). "Public Complacency under Repeated Emergency Threats: Some Empirical Evidence," *Journal of Public Administration Research and Theory (JPART).* Forthcoming.

[7] **Kapucu**, **Naim**. (2007). "Emergency Logistics Planning and Disaster Preparedness," *The Journal of Emergency Management*. Volume 4(6): 21-24.

[8] **Kapucu, Naim.** (2007). "Better Community Organizing, Better Public Emergency Preparedness: Evidence from 2004 Hurricanes in Florida," *Disasters: The Journal of Disaster Studies, Policy, and Management*. Forthcoming.

[9] **Kapucu, Naim**. (2007). "Nonprofit Response to Catastrophic Disasters," *Disaster Prevention and Management: An International Journal,* Volume 16 (4) (forthcoming)

[10] **Kapucu, Naim**. (2006). "Examining the National Response Plan in Response to a Catastrophic Disaster: Hurricane Katrina in 2005," *International Journal of Mass Emergencies and Disasters*, Volume 24 (August) (2): 271-299.

[11] F. Necati Catbas, Melih Susoy, and **Naim Kapucu**. (2006). "Structural Health Monitoring for Improving Transportation Security: Case Study for Bridges," *Journal of Homeland Security and Emergency Management,* Volume 3(4):1-23.

[12] **Kapucu, Naim** and Montgomery Van Wart. (2006). "The Emerging Role of the Public Sector in Managing Extreme Events: Lessons Learned," Lead article, *Administration & Society.* Volume 38 (3): 279-308. Cited by Governor's Transition Decision Handbook, presented to Governor-Elect Charlie Crist, November 2006. "Emergency Management Preparation is the Key" (p. 27).

[13] **Kapucu, Naim**. (2006). "Interagency Communication Networks during Emergencies: Boundary Spanners in Multi-agency Coordination," *The American Review of Public Administration (ARPA).*Volume 36 (2): 207-225. (The winner of ***the Best Paper Award*** for 2004 by Section on Crisis and Emergency Management (SCEM) of the American Society for Public Administration)

[14] Corbacioglu, Sitki and **Naim Kapucu**. (2006). "Organizational Learning and Self-Adaptation in Dynamic Environments of Disasters," *Disasters: The Journal of Disaster Studies, Policy, and Management*, Volume 30 (2): 212-233 (authors listed in alphabetical order).

[15] Comfort, Louise K. and **Naim Kapucu**. (2006). "Inter-organizational Coordination in Extreme Events: The World Trade Center Attack, September 11, 2001," *Natural Hazards: Journal of the International Society for the Prevention and Mitigation of Natural Hazards.* Volume 39 (2): 309-327.

[16] Corbacioglu, Sitki and **Naim Kapucu**. (2005). "Critical Evaluation of Turkish Disaster Management: Historical Perspectives and New Trends," *The Turkish Public Administration Annual.* Volume 29-31, pages 53-72.

[17] Corbacioglu, Sitki and **Naim Kapucu**. (2005). "Intergovernmental Relations in Response to the 1999 Marmara Earthquake in Turkey: A Network Analysis," *International Journal of Mass Emergencies and Disasters*. Volume 23(3): 73–102.

[18] **Kapucu, Naim**. (2005). "Interorganizational Coordination in Dynamic Contexts: Networks in Emergency Management," *Connections: Journal of International*

APPENDIX E

Literature Support for Proposal

The National Response Plan (December 2004) establishes a comprehensive, all-hazards approach to enhance the ability of the United States to manage domestic incidents. This plan places a strong emphasis on coordination and integration of capabilities at all level of government, private organizations, nonprofit organizations, and individual citizens. Local governments play an important role as the plan calls for handling all incidents at the lowest possible organizational and jurisdictional level. Supporting this area, variety of coordination mechanisms needed that link local responses to federal capabilities for intelligence gathering and incidence response. For example, Joint Field Offices (JFO) are temporary, Federal facilities that are established locally to provide a central point for Federal, State, local, and tribal representatives with responsibility for incident support and coordination. The Plan includes several key concepts, all of which require sound attention to management: Threat assessment strategies; Incident reporting; Vertical and horizontal communication and information sharing; Training and exercising; Mitigation strategies; Organizing and planning to mobilize resources at different levels; Response and recovery activities; and Safety of personnel and the population.

Indeed, a variety of reports such as those prepared by the National Academy of Public Administration (e.g., *National Agenda for the Support of Intergovernmental Research 2006 and Advancing the Management of Homeland Security* 2004) discuss a management challenges, performance of response operations, and intergovernmental relations. Two frequently mentioned problems are interoperability and performance management. Problems in interoperability concern the need to create common languages, develop interoperable technical infrastructure, clarify expected outcomes, and lead by example. Networks need to be created or strengthened in which roles are clearly defined. Performance measurement is an approach to defining outcomes and for measuring progress towards achieving outcomes. Several reports discuss about the need to establish national standards. Regardless of whether these exist or whether local entities formulate their own standards, performance measurement is an essential management tool to ensure meeting objectives. Beyond this, public administration can be of use through surveys and inventories of needs and capabilities that may exist.

It is clear that different localities have different needs at different points in time as the above planning unfolds. It is important that several areas of research, training, and technical assistance in the Central Florida region which can be served through the emergency management and homeland security programs at the Department of Public Administration in COHPA, UCF. Because of the interdisciplinary nature of the emergency management and homeland security issues the program will include guest speakers from different disciplines (i.e. Engineering, Institute for Simulation and Training, Political Science, Global Perspectives, and Education), service learning activities coordinated with emergency management and homeland security agencies in the region, and interdisciplinary research will be linked to the classroom environment for the certificate program.

Graduate Council Curriculum Subcommittee
Course Agenda 11-14-2007

Health & Public Affairs Special Topics

CCJ 6938 Sect 01 HPA-Criminal Justice/Legal St 3(3,0)
ST:Advanced Quantitative Methods in Criminal Justice: PR: CCJ 6706. Application of multivariate linear and nonlinear statistical techniques to criminal justice issues. Focus is on selecting appropriate procedures, computer-based analysis and interpreting and applying results.
30 character abbreviation: **ST:Advanced Quant Methods in C**
AGENDA NOTES: Course Addition also being proposed.

CCJ 6938 Sect 01 HPA-Criminal Justice/Legal St 3(3,0)
ST:Criminal Justice Organizations: PR: Graduate Standing or C.I. Theory and research on complex organizations are applied in criminal justice settings. Alternative organizational goals, structures, staffing patterns, management styles and planning strategies are examined.
30 character abbreviation: **ST:Criminal Justice Organizati**
AGENDA NOTES: Course Addition also being proposed.

PLA 6938 Sect 01 HPA-Criminal Justice/Legal St 3(3,0)
ST:Administrative Law for Criminal Justice Professionals: PR: Graduate Standing or C.I. The study of administrative law and procedure on the federal, state and local levels, with particular emphasis on Florida criminal justice administration.
30 character abbreviation: **ST:Admin Law for CJ Profession**
AGENDA NOTES: Course Addition also being proposed.

HSC 7939 Sect 01 HPA-Health Professions 3(3,0)
ST:Theories in Healthcare Management: PR: Admission to Public Affairs PhD program or C.I. Overview of healthcare management theories/applications including resource dependence, populations ecology, institutional structure and innovation, network, transaction costs, decision making, power and stakeholder management theories.
30 character abbreviation: **ST:Theories in Healthcare Mgmt**
AGENDA NOTES: Course Addition also being proposed.

PHT 6938C Sect 01 HPA-Health Professions 4(3,1)
ST:Radiology/Imaging for Physical Therapy: PR: Admission to DPT program. A diagnostic imaging course focusing on clinical implications in rehabilitation. The focus will be on patients with neurological and orthopedic disorders.
30 character abbreviation: **ST:Radiology Imaging for PT**
AGENDA NOTES: Course Addition also being proposed.

PHT 6938L Sect 01 HPA-Health Professions 3(0,40)
ST:Clinical Education I: PR: Admission to DPT program. Collaborative course where students meet to analyze, synthesize and discuss current professional, ethical and moral

decision-making in physical therapy setting, culminating in a six-week clinical internship. Graded S/U.
30 character abbreviation: **ST:Clinical Education I**

PHT 7939C Sect 01 HPA-Health Professions 2(2,1)
ST:Physical Therapy Integration I: PR: Admission to DPT program. This course will emphasize the differential diagnostic skills required of a physical therapist when deciding if physical therapy care is appropriate.
30 character abbreviation: **ST:Physical Therapy Integratio**

SOW 6938 Sect 01 HPA-Social Work 3(3,0)
ST:Child Abuse: Treatment and Prevention: PR: Admission to MSW degree or SW Certificate program. Study of various forms of child abuse, the social worker's role and interventions with victims of child abuse and their family members.
30 character abbreviation: **ST:Child Abuse: Treat & Preven**

College of Sciences Course Action Additions

COM 6XXX COS-Communication 3(3,0)
Communication in Close Relationships: PR: Graduate standing or C.I. Classic and contemporary theory of communication in close relationships.
30 character abbreviation: **Close Relationshp Communicatn_**

College of Education Course Action Additions

Tabled
SSE 6XXX ED-Teaching & Learning Princ 3(3,0)
Teaching with Film in the Social Studies: Selected strategies, trends, methods, materials, and legal issues for effectively incorporating film in the K-12 classroom while still meeting the state and national standards.
30 character abbreviation: **Teach Film Social Studies_____**

Health & Public Affairs Course Action Additions

CCJ 6XXX HPA-Criminal Justice/Legal St 3(3,0)
Advanced Quantitative Methods in Criminal Justice: PR: CCJ 6706. Application of multivariate linear and nonlinear statistical techniques to criminal justice issues. Focus is on selecting appropriate procedures, computer-based analysis and interpreting and applying results.
30 character abbreviation: **Advanced Quant Methods in CJ__**
AGENDA NOTES: Special Topic also being proposed.

CCJ 6XXX HPA-Criminal Justice/Legal St 3(3,0)
Criminal Justice Organizations: PR: Graduate Standing or C.I. Theory and research on complex organizations are applied in criminal justice settings. Alternative organizational goals, structures, staffing patterns, management styles and planning strategies are examined.

30 character abbreviation: **Criminal Justice Organizations**
AGENDA NOTES: Special Topic also being proposed.

PLA 6XXX HPA-Criminal Justice/Legal St 3(3,0)
Administrative Law for Criminal Justice Professionals: PR: Graduate Standing or C.I. The study of administrative law and procedure on the federal, state and local levels, with particular emphasis on Florida criminal justice administration.
30 character abbreviation: **Admin Law for CJ Professionals**
AGENDA NOTES: Special Topic also being proposed.

HSC 7XXX HPA-Health Professions 3(3,0)
Theories in Healthcare Management: PR: Admission to Public Affairs PhD program or C.I. Overview of healthcare management theories/applications including resource dependence, populations ecology, institutional structure and innovation, network, transaction costs, decision making, power and stakeholder management theories.
30 character abbreviation: **Theories in Healthcare Mgmt**
AGENDA NOTES: Special Topic also being proposed.

PHT 6XXXC HPA-Health Professions 4(3,1)
Radiology/Imaging for Physical Therapy: PR: Admission to DPT program. A diagnostic imaging course focusing on clinical implications in rehabilitation. The focus will be on patients with neurological and orthopedic disorders.
30 character abbreviation: **Radiology Imaging for PT**
AGENDA NOTES: Special Topic also being proposed.

College of Sciences Course Action Deletions

PSY 6918 COS-Psychology 3(3,0)
Directed Research: PR: PSY 6217, EXP 6257, PSY 6935, ten additional graduate hours in PSY, and C.I. Directed Research involves supervised research activity in an agency setting. The student will devote 15 hours per week in the assigned setting to work on an applied research problem with joint supervision by faculty and agency staff. May be repeated for credit.

College of Sciences Course Action Revisions

POS 6743 ~~Geographic Information Systems for Environmental Politics~~ 3(3,0)
Geographic Tools for Political Science Research
PR: graduate standing or C.I.
Provides an introduction to the theoretical assumptions, analytical possibilities and application of geographic ~~Information Systems (GIS)~~ tools of analysis for political science research.
30 character abbreviation: **Geo Tools for Politicl Science**

EXP 5254 Human Factors and Aging 3(3,0)
PR: Graduate status, post-bac, or senior standing ~~or C.I.~~ with C.I.
An overview of issues related to enhancing quality of life of elderly through the implementation of basic human factors principles in environmental and task design.

Health & Public Affairs Course Action Revisions

~~**PHT 5156 Physiology of Therapeutic Exercise 2(2,0)**~~
PHT 6XXXC Applied Human Physiology 5(4,5)
PR: Admission to ~~PT program.~~ Physical Therapy Program or MS in Health Sciences.
~~Exercise physiology investiages the physiological responses and adaptations to human movement including cardiovascular and pulmonary.~~
Course provides in-depth study of human cardiovascular, hemopoietic, respiratory, gastrointestinal, renal and reproductive systems with emphasis on mechanisms responsible for maintaining homeostasis.
30 character abbreviation: **Applied Human Physiology**

~~**PHT 5115L Gross Anatomy/Neuroscience I Lab 2(0,4)**~~
PHT 6XXXC Gross Anatomy/Neuroscience I 6(3,6)
PR: Admission to ~~PT program.~~ DPT program.
~~Human cadaver dissection of the back, spinal cord, cranial nerves, and upper and lower extremities.~~
Study of Human anatomy via lecture and cadaver dissection emphasizing upper and lower extremity, muscoloskeletal, peripheral vascular and peripheral nervous systems, thoracic and abdominopelvic cavities.
30 character abbreviation: **Gross Anatomy/Neuroscience I**

~~**PHT 5118L Gross Anatomy/Neuroscience II Lab 2(0,4)**~~
PHT 6XXXC Gross Anatomy/Neuroscience II 6(3,6)
PR: Gross ~~Anatomy Neuroscience I and Lab; CR Gross Anatomy Neuroscience II.~~ Anatomy/Neuroscience I.
~~Directed Laboratory experiences with cadaver dissection; use of the skeleton, models, and computer programs to facilitate learning.~~
Comprehensive study of anatomy and physiology of the nervous system to develop DPT students' improved treatment strategies for patients with neurological problems.
30 character abbreviation: **Gross Anatomy Neuroscience II**

~~**PHT 5805**~~ **Clinical Education I** ~~**1(0,4)**~~
PHT 6XXXL 3(0,40)
PR: Admission to ~~PT program.~~ DPT program.
~~Full-time supervised clinical education in physical therapy settings. Application of objectives of courses previously completed. Graded S/U.~~
Collaborative course where students meet to analyze, synthesize and discuss current professional, ethical and moral decision-making in physical therapy setting, culminating in a six-week clinical internship. Graded S/U.

~~**PHT 5722C**~~ **Physical Therapy Integration I 2(2,1)**
PHT 7XXXC
PR: Admission to ~~PT program.~~ DPT program.
~~Problem solving approach to selected dysfunctions, including burns and open wounds, and selected diagnostic procedures and therapy interventions.~~

This course emphasizes the differential diagnostic skills required of a physical therapist when deciding if physical therapy care is appropriate.

~~PHT 6822~~ ~~Advanced Clinical Applications I~~ ~~1(0,8)~~
PHT 7XXXL Advanced Clinical Education I 6(0,40)
~~PR: Clinical Education I.~~ PR: Admission to DPT program.
~~Eight weeks of full-time supervised clinical education is a physical therapy setting. All previous education objectives apply and are cumulative. Graded S/U.~~
Collaborative course for 2nd year students to meet, analyze, synthesize and discuss current ethical, legal, and moral decision-making in physical therapy clinical setting culminating in internship. Graded S/U.
30 character abbreviation: **Advanced Clinical Education I**

~~SOW 5655~~ Child Abuse: Treatment and Prevention 3(3,0)
SOW 6XXX
PR: Admission to MSW degree or SW or Criminal Justice Certificate program.
~~The social worker's role and interventions with victims of child abuse and their family members.~~
Study of various forms of child abuse, the social worker's role and interventions with victims of child abuse and their family members.