

Graduate Curriculum Committee
February 24, 2014
12:00, MH 395

AGENDA

- 1) Welcome and call to order
- 2) Approval of minutes from the last meeting
- 3) Student Athletic Support Services (SASS) track library report-CECS
- 4) Revisions to the MS Industrial Engineering program-CECS
- 5) Revisions to the MSIE Industrial Engineering Program-CECS
- 6) Addition of a Intervention Specialist track to the MEd Teacher Leadership program-CEDHP
- 7) Revisions to the Med Ed Leadership program-CEDHP
- 8) Suspension of admissions to the MEd Teacher Leadership Urban Ed track-CEDHP
- 9) Suspension of admissions to the Urban Ed graduate certificate-CEDHP

- 10) Name change to the MS Optics program-COP
- 11) Name change to the PhD Optics program-COP
- 12) Addition of an Optics track to the MS Optics program-COP
- 13) Addition of a Photonics track to the MS Optics program-COP

- 14) Courses and special topics

- 15) Adjournment

Members of the Graduate Council Curriculum Committee:

Tosha Dupras, COS (Chair)
Deborah Breiter, RCHM
Donna Malvey, COHPA
Charles Kelliher, CBA
Patrick Murphy, CAH
Art Weeks, CECS
Joyce Nutta, CEHP
Terrie Sypolt, LIB
Julee Waldrop, CON
Boris Zeldovich, COP
Antonis Zervos, COM
Lucretia Cooney, GSA
Max Poole, CGS Liaison

Student Athlete Support Services Track Proposal—Higher Education, Library Evaluation, February, 2014

Library Process for Identifying and Comparing Library Holdings with Other Institutions

Identify the best institutions with which to compare our holdings

- When appropriate, use the institutions identified by the College of Education and Human Performance as peer institutions:
 - In-state institutions: University of Florida OR University of South Florida
 - Out-of-state University of North Carolina—Chapel Hill, University of Georgia, Michigan State University, and University of Houston.
 - Peer institutions identified for the library by Sandra Robinson, Dean on 3-26-09.
- Consult with the program head or a faculty member working in the program about institutions to select for comparison
- Check standard lists such as US News & World Report's Best College Rankings, Best Graduate School for Rankings for Education programs at <http://www.usnews.com/rankings> OR Peterson's Graduate School Ranking at <http://www.petersons.com/graduate-schools/finding-right-graduate-school.aspx> to identify best programs. Frequently, I use Pennsylvania State University OR the University of Pittsburgh for comparisons as well since they have comparable programs and have many of their programs ranked by US News & World Report.
- When selecting institutions that are research libraries, (e.g., ARL libraries), I compare library material budgets to determine which are closer in budget to UCF. To compare budgets I use the list that appears annually in the *Chronicle of Higher Education*, e.g., <http://chronicle.com/article/Spending-by-University/140753/> for 2011-12.

Go to the website for institutions being considered for comparison to check the curriculum to see if the degrees offered and the curriculum are similar to UCF's.

Once 3-4 institutions are selected for comparison, I use these indicators to measure our collection against the best programs selected:

- Databases
- Journal titles
- Books by subject/LC class
- Reference resources

- Each of these indicators is used for faculty and student research, projects, and papers. Accrediting agencies such as CAEP look at databases and selected journal titles in a program to determine if library support is available and accessible. Therefore, librarians use these indicators when evaluating the collection.

Results of the comparison are then used to evaluate our library collection and support for the program within the College of Education and Human Performance. A note is made of any resources needed. Future purchases are made, in part, by this comparison. New databases, additional journals and/or new books are considered to purchase to fill gaps. The librarian maintains a wish list of resources in the event additional money is available. Each year, the Collection Development Librarian for the College of Education and Human Performance selects one or two areas in which extra monies are spent to improve the collection.

Copies on the collection analysis for each program is given to the program coordinator, area head, Head of Collection Development, Head of Technical Services, and the Library Director, any of whom can comment on the report.

To: Dr. Mike Robinson, Director of Doctoral Studies, College of Education & Human Performance
Dr. Grant Hayes, Executive Associate Dean
Dr. J. Thomas Owens, Track Coordinator
Mr. Michael Arthur, Dept. Head, Acquisitions & Collections
Ms. Mary Page, Assoc. Director, Technical Services
Mr. Barry Baker, Director of Libraries

From: Terrie Sypolt, Education Subject Librarian

Subject: **Library Evaluation for the Proposed M.A. Higher Education Leadership Student Athlete Support Services Track**

When reviewing support for the M.A. Student Athlete Support Services track of Higher Education Leadership, I selected the following institutions for the comparison:

- University of Florida
- Michigan State University
- University of Georgia
- Penn State University

Florida and Michigan State have been identified as peer institutions by the College of Education and Human Performance and have similar courses to ours. Georgia and Penn State are listed in the U.S. News & World Report as being among the best graduate education programs in Higher Education along with Michigan State and the University of Florida.

While I was unable to find a program like the one proposed here, all of these institutions has Educational Leadership programs in higher education with some graduate students opting to obtain a Masters in Student Personnel Services. Penn State, the University of Georgia, and Michigan State University have had Student Athlete Support Services Centers for 30 or more years. I looked at their services to help determine subject heading comparisons. Because Penn State, Stanford, and Syracuse Universities have maintained high academic standards for their athletes for many years, I called those libraries as well to see what support their libraries offered as well. Much of the proposed program mirrors the Higher Education/Student Personnel track so those resources are listed here as well.

To determine what journal titles to put on the list, I did searches within the following databases: ERIC, Education Full Text, PsycINFO, Sociological Abstract, SportDiscus, Science Direct, and ABI/Inform.

Databases: John C. Hitt Libraries’ databases compare favorably with those of the chosen institutional programs. We have the databases needed to support the Student Support Services Track. No additional databases are needed to support this program.

Journals: The John C. Hitt Libraries’ journal holdings compare favorably to those of the other institutions. We do have the journals necessary to support the proposed track in Student Athlete Support Services. At this time no additional money is needed for this proposed track.

Books: For the time period 1998-present, only Michigan State University holds more volumes than the University of Central Florida in the area of student athlete support services. Thus, the book collection currently supports the proposed program library needs well. No additional funds are needed at this time.

Reference books/Background: UCF’s reference book collection/background resources compare favorably to other institutions compared.

Based upon the numbers seen in the comparison, UCF’s Libraries is able to strongly support the proposed M.A. program in the student athlete support services track of Higher Education Leadership.

No additional funds are needed at this time. If additional journal titles become available and purchase becomes necessary, the John C. Hitt Libraries will need funding from the CEDHP unless additional funds are forthcoming.

Databases:

Databases	UCF	UF	Michigan State	UGA	Penn State
ABI/Inform Archive	X	X	X		X
Academic Search Premier/Complete	X	X		X	X
America: History and Life	X	X	X	X	X
Business Source Premier/Complete	X	X	X	X	X
Chronicle of Higher Education	X	X		X	X
Dissertations & Theses Full Text	X	X	X	X	X
Education Full Text	X	X	X		
ERIC-EBSCOhost	X	X	X	X	X

Databases	UCF	UF	Michigan State	UGA	Penn State
Ethnic NewsWatch	X	X	X	X	X
GenderWatch	X	X		X	
JSTOR	X	X	X	X	X
LexisNexis Academic	X	X	X	X	X
Multicultural Education Abstracts	X	X	X	X	X
OmniFile Full Text	X	X	X		
PsycInfo	X	X	X	X	X
Science Direct	X	X	X	X	X
Social Sciences Full Text	X	X	X		
Sociological Abstracts	X	X	X	X	X
SportDiscus	X	X	X	X	X
SpringerLink	X	X	X	X	X
Web of Science	X	X	X	X	X
WorldCat	X	X	X	X	X

For a complete list of our databases, click on Databases A-Z.

Database Analysis: The UCF John C. Hitt Libraries have the databases needed to support a new M.A. Student Athlete Support Services track in Higher Education Educational Leadership. Our database list compares favorably to those of the University of Florida, Michigan State, the University of Georgia, and Penn State.

Journals:

Journal Title	UCF	UF	Michigan State	UGA	Penn State
Career Development Quarterly	X	X	X	X	X
Chronicle of Higher Education	X	X	X	X	X
College Student Affairs Journal	X	X	X	X	X
College Student Journal	X	X	X	X	X
Educational Foundations	X	X	X	X	X
Educational Researcher	X	X	X	X	X
Inside Higher Ed	X	X	X	X	X

Journal Title	UCF	UF	Michigan State	UGA	Penn State
http://www.insidehighered.com/					
Journal of College Student Development	x	x	x	x	x
Journal of Counseling & Development	x	x	x		x
Journal of Educational Research	x	x	x	x	x
Journal of Higher Education	x	x	x	x	x
Journal of Intercollegiate Sport	x	x			x
Journal of Issues in Intercollegiate Athletics	x	x	x		x
Journal of Sport Behavior	x	x	x	x	x
Journal of Student Affairs Research and Practice	x	2010	x	x	x
NACADA Journal (National Academic Advising Association Journal)	x			x	x
NCAA News http://www.ncaa.com/news/archive/ncaa	x	x	x	x	x
New Directions for Community Colleges	x	2005	x	x	x
New Directions for Institutional Research	x	x	x	x	x
New Directions for Student Services	x	x	x	x	x
Preventing School Failure	x	x	x	x	x
Psychology of Sport and Exercise	x	x	x	x	x
Research in Higher Education	x	x	x	x	x
Research Quarterly for Exercise and Sport	x	x	x	x	x
Sociology of Sport Journal	x	x	x	x	x
Sport, Education and Society	x	x	x	x	x
Sport Management Review	x	x	x	x	x

For more journal titles, click on Book/Catalog and search by journal title. For online journal titles, click on Online Journals and type the desired title in the search box. Bolded tiles are major journals for this track.

Journals Analysis: Compared to journal holdings of the other institutions, UCF fairs well. This journal titles list was compiled from searches done in ERIC, Education Full-text, PsycINFO, Sociological Abstract, SportDiscus, Science Direct. Interlibrary loan is available for articles in journals to which we do not subscribe.

Books: >1998

Subject Headings	UCF	UF	Michigan State	UGA	Penn State
Academic Compliance and Eligibility (Go to NCAA website)					
Adult College Students—United States	4	7	2	4	7
Adult Learning—United States	23	24	22	22	21
College Athletes	28	48	73	5	14
College Athletes—Counseling of—United States	2	2	0	1	1
College Athletes—Education—United States	6	9	0	8	12
College Athletes—Social Networks	9	0	0	3	7
College Athletes—Time Management	2	0	0	1	2
College Athletes—United States	24	13	10	19	27
College Freshmen—Education—United States	5	0	7	1	6
College Personnel Management	25	19	20	19	12
College Student Development Programs—United States	20	24	21	32	30
College Student Orientation—United States	69	43	34	78	109
Counseling in Higher Education (for Academic Advising)	61	58	70	22	28
Education, Higher—United States	500	500	654	515	580
Mentoring in Education	154	129	113	106	110
Note Taking	17	15	7	14	12
Prediction of Scholastic Success	3	5	2	1	3
Sports--Psychology	44	45	0	25	30
Stress Management	127	151	162	114	167
Student Affairs Services—United States	48	51	44	25	44
Study skills—United States	91	25	126	47	56
Test taking skills	30	24	31	29	23
Tutors and tutoring	103	102	59	32	85
Universities and Colleges—United States--Administration	138	144	119	99	101
Total	1533	1438	1576	1222	1487

For specific books, go to Books/Online Catalog and type the title, author or subject desired in the search box.

E-Books

E-Book Title
A Call to Action: Reconnecting College Sports and Higher Education (2001) http://www.knightcommission.org/images/pdfs/2001_knight_report.pdf
NCAA Division I Manual http://www.ncaapublications.com/p-4322-2013-2014-ncaa-division-i-manual.aspx
NCAA Eligibility Center http://web1.ncaa.org/ECWR2/NCAA_EMS/NCAA_EMS.html#
NCAA Guide for the College Bound Student Athlete http://www.ncaapublications.com/productdownloads/CBSA.pdf
NCAA Research and Publications http://www.ncaa.org/about/resources/research/other-research-and-publications
NCAA Resources for U.S. Students http://web1.ncaa.org/ECWR2/NCAA_EMS/NCAA_EMS.html#

Obviously NCAA eligibility requirements, policies and procedures will be huge in student athlete support services leadership preparation. A few of the major documents are listed here.

Books Analysis: Michigan State University Libraries holds the most volumes for the subject headings selected and the time period compared. UCF is right behind Michigan State showing a few more than Penn State, and more than the University of Florida and the University of Georgia.

Reference Books/Background:

Reference Book Title	UCF	UF	Mich State	UGA	Penn State
Encyclopedia of Educational Leadership and Administration	x	x	x	x	x
Encyclopedia of African American Education	x	x	x	x	x
Encyclopedia of Educational Psychology	x	x	x	x	x
Encyclopedia of Education and Human Development	x	x	x	x	x
Encyclopedia of Social Psychology	x	x	x	x	x
Encyclopedia of the Social and Cultural Foundations of Education	x	x	x	x	x
Higher Education in the United States: An Encyclopedia	x	x	x	x	x

Reference Books Analysis: Each of the libraries including the John C. Hitt Libraries have the background resources listed. Numerous manuals can be located in ERIC educational documents available online through ERIC via EbscoHOST or within the ERIC microfiche collection on the third floor of the main library. Two reader/printers will covert microfiche documents into pdf documents that can then be emailed to students and faculty.



Program Recommendation Form

This form is to be used to revise, add, suspend, or delete degree programs, tracks, or certificate programs. If there are changes to a program and the changes will affect the program tracks also, one form may be used for both the program and the track.

PLEASE NOTE: The deadline for new tracks or certificates is **February 1 of each year**. Any proposal for new tracks or certificates received after this date will not be included in the next year's catalog. Revisions to existing programs, tracks, or certificates are **due by March 15**. Any proposals for revisions received after that date will not be included in the next year's catalog. Please include catalog copy (description, curriculum, contact information, application requirements, and application deadlines). **For revisions – attach the catalog copy showing changes (use Track Changes in Word).**

College/Unit(s) Submitting Proposal: _____

Proposed Effective Term/Year: _____

Unit(s) Housing Program: _____

Name of program, track and/or certificate: _____

Brief description of program (this description will show up in the graduate catalog copy): **Do not add complete catalog copy here.**

DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery

Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)

Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)

Program Director(s) and contact information: (name, email, phone, campus address, program website address)

Page 2 of UCF Program Recommendation Form

Please check one: this action affects a: Program Track Certificate

Please check one: this action is a(n):

- Addition. Please proceed to Part A.
- Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:

-
- Inactivation
- Temporary Suspension of Admissions. Give Length of Suspension:
-

Temporary suspension of admissions: The program will be removed from the online application. A notation will be entered in the graduate catalog indicating the length of the suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.

Inactivation: Admissions will be suspended for new students and the program will be removed from the online application. Students active in the program are eligible to complete the program under the appropriate criteria and an appropriate teach-out plan is required. The program will be removed from the catalog as of the approved term.

If you checked inactivation or you are temporarily suspending admissions, please go to Part B and complete it.

Signature Page

Recommend Approval (all approval levels must be signed)

Department Chair (Print) _____ (Signature) _____ Date _____

College Academic (Print) _____ (Signature) _____ Date _____
Standards

College Dean (Print) _____ (Signature) _____ Date _____

Graduate Council (Print) _____ (Signature) _____ Date _____

Graduate Dean (Print) _____ (Signature) _____ Date _____

Approval

Provost and Executive Vice President: _____ Date _____

Distribution: After approval is received from the Provost, distribution will be to:

Department(s); College; Registrar; Associate Registrar; Institutional Research; Academic Services; Faculty Senate;
University Analysis and Planning Support; College of Graduate Studies

Part A – For additions or revisions of programs, tracks or certificates

Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)

For Revisions:

Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other requirements, please state those changes. **Remember to attach the catalog copy showing changes, using Track Changes in Word.**)

Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?

Yes No

If yes, state the name of the program or track where students are currently enrolled and provide a list of students if possible:

Will students have the option to stay in their existing program, track, or certificate? Yes No

Name Change

Are you changing the name of an existing program, track, or certificate? Yes No

If yes, provide the new name of the program, track, or certificate:

Provide the name of the current program, track, or certificate:

When is the name change effective? Please note: A name change will apply to the record of all students who are currently enrolled, readmitted or newly admitted into this program as of the effective date of this change.

Will students have the option to stay in their existing program, track, or certificate? Yes No

If you are requesting a CIP Code change for an existing program, track, or certificate, please provide:

old CIP:

new CIP:

If a name change is your only revision, stop here. Otherwise, complete the rest of Part A.

Part A - Continued

Specify the faculty who will participate in the program, track or certificate and their credentials to do so: (List faculty and a brief paragraph of their credentials.)

Impact of changes on students: Will current students be impacted by the addition or revision of a program, track or certificate? If so, how?

If applicable, provide a written agreement (email is fine) from all involved units that they are in support of, will provide courses to, or will participate in the program, track, or certificate. Please attach the correspondence and also list the units here.

If an addition, provide a statement of who is likely to enroll and why. Please state if there is licensure or certification that depends upon this education, etc. Also, complete the following table.

	Year 1	Year 2	Year 3
Headcount			
SCHs			

If an addition, indicate likely career or student outcomes upon completion: (What will students do? What will their job titles be?)

Part A - Continued

If an addition or there are substantial REVISIONS to existing tracks or certificates, please complete the following table on financial support: (Specify all forms of support – assistantships, fellowships, and tuition remission.)

	No. assistantship students	Source of funds	No. fellowship students (specify fellowship)	No. tuition remissions	Source of funds
Year 1					
Year 2					
Year 3					

Checklist of items to be provided:

- Electronic graduate catalog copy for additions; track changes included if there are revisions. (required)
- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- Emails showing consultation with other units. (if applicable)
- If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
- If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Part B – For inactivations or suspensions of programs, tracks, or certificates

Are students currently enrolled in the program? Yes No

If yes, number of current students:

Please specify the intended time period of inactivation or suspension:

If program, track, or certificate is being inactivated or suspended, then attach a “teach out” plan for all current students specifying how they can finish the program or where students will be placed if moving to another program. The “teach out” plan should specify when courses will be offered to enable students to finish. Specify whether students will remain in the existing program to finish, and if so, when the completion date will be, whether students will be moved to another program, etc. Please provide a list of students where applicable.

Sample teach out plan: Enter the terms and courses that will be taught for each term throughout the last semester. **Please delete course prefixes and numbers in this section if no teach out plan is required.**

Fall 2012	Spring 2013	Summer 2013	Fall 2013	Spring 2014

Checklist of items to be provided:

- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- E-mails showing consultation with other units. (if applicable)

Industrial Engineering MS

PROGRAM DESCRIPTION

The Master of Science programs in Industrial Engineering are designed to produce highly skilled graduates who are prepared to be industrial engineers, engineering managers or technical professionals, or leaders for the global economy, as well as preparing them for further graduate work or independent research.

Industrial Engineering, in its broad nature, focuses on the design and improvement of systems, products and processes. A total systems approach is used to optimize the various aspects of operations in both manufacturing and service industries. Industrial engineers use many analytical approaches to improve productivity, safety, and quality of working life while reducing operating costs.

The Industrial Engineering programs are structured to support the emergence of Central Florida as a national center of high technology as well as supporting the diverse service industries in the region and throughout the nation.

In the Industrial Engineering MS programs, students are able to individually craft their programs of study and select their courses to focus in one or more of the following research areas.

Human Systems Engineering/Ergonomics

As technology has become more sophisticated, the need to design for the human user has become more difficult, yet even more important. Human engineering and ergonomics assist in ensuring that as technology advances, the abilities, limitations, and needs of humans are considered in the system design. This not only supports the needs of the user, it also optimizes the efficiency and usability of the system designed. Traditionally, ergonomics has been associated with biomechanical issues and work measurement and performance issues in physical system design, as well as occupational and industrial safety. The broader focus of human engineering encompasses those issues as well as incorporating the reaction and effectiveness of human interaction with systems, both physical systems and virtual systems such as computer-based models.

Research in the Human Systems Engineering and Ergonomics area provides students with the necessary knowledge in human engineering and ergonomics to effectively design tasks, industrial systems, and work environments that maximize human performance, safety, and overall productivity.

Interactive Simulation and Training Systems

The Interactive Simulation and Training Systems research within the Industrial Engineering MS program focuses on providing a fundamental understanding of significant topics relative to simulation systems and the requirements, design, development, and use of such systems for knowledge transfer in the technical environment. Courses in this area address the evolving and multiple discipline application of interactive simulation by providing a wealth of electives to support development of individual student interests and talents. In conjunction with UCF's Institute for Simulation and Training, industrial organizations involved in simulation in the Central Florida region, military organizations, and other governmental organizations, ISTS research in the MS program provides exposure to both military and commercial interactive simulation and training systems.

The emphasis is on the application and development of interactive simulation and training systems to meet various requirements including, but not limited to: simulators, skill trainers, organizational learning systems, computer and web-based interactive simulation systems and other novel interactive simulation efforts. Courses in the interactive simulation and training systems area prepare individuals with an undergraduate degree in engineering, science, education, psychology, mathematics or other related disciplines for careers in simulation, focusing particularly on the interactive simulation and training systems industries.

Operations Research

The Operations Research courses in the Industrial Engineering MS program uses mathematics and computer-based systems to model operational processes and decisions in order to develop and evaluate alternatives that will lead to gains in efficiency and effectiveness. Drawing on probability, statistics, simulation, optimization, and stochastic processes, Operations Research provides many of the analytic tools used by industrial engineers as well as by other analysts to improve processes, decision-making, and management by individuals and organizations. Research in this area is ideal for students who have an undergraduate degree in engineering, mathematics, or science. The knowledge in these courses build on an undergraduate Engineering, Mathematics, or Science degree to develop a strong modeling and analytical capability to improve processes and decision-making.

Quality Systems Engineering

The Quality Systems Engineering research in the Industrial Engineering MS program focuses on providing the knowledge for improving product and process quality in manufacturing and service industries. Quality Systems Engineering provides both the quantitative tools for measuring quality and the managerial focus and organizational insight required to implement effective continuous improvement programs and incorporate the voice of the customer. The Quality Systems Engineering courses builds on an undergraduate degree in

industrial engineering or a closely related discipline to provide the necessary knowledge to plan, control, and improve the product assurance function in government, military, service, or manufacturing organizations.

Simulation Modeling and Analysis

The Simulation Modeling and Analysis research and studies in the Industrial Engineering MS program focus on providing a fundamental understanding of the functional and technical design requirements for simulation in manufacturing and service industries. Research in this area is based on a systems modeling paradigm and provides coding and development capability in the context of a broader systems framework. Significant exposure to design and analysis aspects is a core element of the track. The Simulation Modeling and Analysis research and coursework prepare individuals with an undergraduate degree in Engineering, Science, Mathematics, or a closely related discipline for careers in simulation, focusing particularly on using simulation as an analysis and design tool for the manufacturing and service industries.

Systems Engineering

Intelligence is being infused into everyday systems, processes and infrastructure that enable physical goods to be developed, manufactured, bought and sold. These same systems also facilitate the movement and delivery of global products and services that support worldwide markets such as finance, energy resources and healthcare systems.

With these technological advancements, comes a new level of complexity as organizations struggle to integrate systems, processes and data feeds. As a result, the demand for systems engineering and related skills is expected to grow significantly.

Systems engineers design and implement computer systems, software and networks, including defining complex system requirements, and determining system specifications, processes and working parameters.

The Systems Engineering studies and research in the Industrial Engineering MS program are intended for individuals of all engineering disciplines. Research and coursework focus on a systems view of engineering problems related to the management of complex industrial, military, government, and social systems.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.intl.ucf.edu. If you have any questions, please consult the International Services Center at 407-823-2337.

CURRICULUM

This program can be taken entirely through the Florida Engineering Educational Delivery System (FEEDS), which provides video-streamed versions of classes over the Internet.

The Industrial Engineering MS program offers both thesis and nonthesis options with each requiring 30 credit hours of courses. The program is flexible to enable students to model their program of study to suit their needs and future work or career goals. All students must develop a program of study with the graduate program director that meets with departmental approval. At least one-half of the courses (including thesis hours) required in the master's program of study must be at the 6000 level or higher. A cumulative grade-point average of B (3.0) must be maintained in the entire program of study.

Students on assistantships must take 9 credit hours per semester (Fall, Spring) to satisfy the university's requirement for full-time status. Most students working full time take 6 credit hours per semester. At that rate, the program can be completed in 6 semesters or less. However, students with more time available and with an early start on a thesis, if applicable, can finish the program in 3 semesters.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

The Industrial Engineering MS program requires an undergraduate degree in engineering, mathematics, computer science, statistics, physics, quantitative management or similar field.

Outstanding students with degrees in other disciplines such as business, economics or computer/information sciences may also be considered on a case-by-case basis, provided they have significant work experience and/or very high academic standing.

Regardless of the undergraduate degree, all applicants must have completed the following prerequisites:

- Mathematics through Calculus II (MAC 2312 or equivalent)
- An undergraduate course in engineering probability and statistics.
- In addition, they are expected to be familiar with at least one programming language (such as C, FORTRAN, Java, Visual BASIC, C++, etc.) and common computer skills and tools such as word processors and spreadsheets.

Required Courses—12 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)

- EIN 5140 Project Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)

Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must take 12 credit hours of electives after consultation with their adviser.

Thesis Option—6 Credit Hours

The thesis option requires 6 credit hours of thesis. Thesis students must complete an independent research study and write and successfully defend a thesis according to program guidelines.

- EIN 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website (<http://www.cecs.ucf.edu/graddefense/>) and on the College of Graduate Studies Events Calendar at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

The nonthesis option requires an additional 6 credit hours of nonrestricted elective courses that support the student's area of research and study interests. Nonthesis students must also successfully pass an oral comprehensive examination at the completion of their studies to fulfill degree requirements. Please see the graduate program director for further details about the comprehensive examination.

Electives

Thesis Option—18 Credit Hours

Thesis students must complete an independent research project, and write and successfully defend a thesis describing the project. Students may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

- EIN 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

[Thesis-option students must also take an additional 12 credit hours of unrestricted electives that support the student's area of research and study interests.](#)

- [Elective courses \(12 credit hours\) : see list below](#)

[Nonthesis Option—18 Credit Hours](#)

[Non-thesis students are required to take EIN6XXX: Capstone Course in Industrial and Systems Engineering as part of their 30-credit-hour course requirement.](#)

- [EIN6XXX: Capstone Course in Industrial and Systems Engineering \(3 credit hours\)](#)

[This course should be completed towards the end of the student's graduate plan of study. As part of the requirements of this course, non-thesis Master's students will complete an independent capstone project on a topic relevant to the industrial and systems engineering field and approved by the instructor. Students are expected to use and leverage knowledge obtained in the program to complete the project. This course serves as the culminating experience for the Master students and should show that they have engaged in independent learning.](#)

[In addition, nonthesis students must take an additional 15 credit hours of electives that support the student's area of research and study interests.](#)

- [Elective courses \(15 credit hours\) : see list below](#)

[At least one-half of the credit hours of all courses in a master's program of study must be at the 6000 level or higher.](#)

[Students on assistantships must take 9 credit hours per semester to satisfy the university's requirement for full-time status. Most students working full time take 6 credit hours per semester. At that rate, the program can be completed in 6 semesters or less. However, students with more time available can finish the program in 3 semesters.](#)

IEMS Electives

The program requirements are flexible enough to allow the students to tailor the coursework according to their desired educational and career goals. With the approval of their adviser and/or the graduate program director, students may select from the following groups of courses to satisfy the needs of their research goals or career objectives. To assist the students in achieving these goals and objectives, courses are grouped below to suggest focus areas, only as a guide to assist in advising and course selection. They are not intended to restrict elective choices among specialization areas as the intent of the program is to help graduate students maintain an integrated approach to their studies. The listing of these courses does not guarantee that they will be offered by the department in a particular year or semester.

In addition to the courses listed below, students may be allowed to take courses from the following disciplines at UCF, with the approval of the graduate program director, as an elective in their graduate program of study:

- Other Engineering programs
- Computer Science
- Mathematics
- Statistics
- Business Administration or Management

Human Systems Engineering/Ergonomics

- EIN 5248C Ergonomics (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 6270C Work Physiology (3 credit hours)
- EIN 6258 Human-Computer Interaction (3 credit hours)
- EIN 6279C Biomechanics (3 credit hours)
- EIN 6935 Advanced Ergonomics Topics (3 credit hours)
- EIN 6271 Human Reliability (3 credit hours)

Quality and Production Systems

- ESI 6225 Quality Design and Control (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- EIN 5392C Manufacturing Systems Engineering (3 credit hours)
- ~~EIN 5388 Forecasting (3 credit hours)~~
- EIN 6336 Production and Inventory Control (3 credit hours)
- EIN 6425 Scheduling and Sequencing (3 credit hours)
- EIN 5356 Cost Engineering (3 credit hours)
- ESI 5227 Total Quality Improvement (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

Management Systems

- EIN 6182 Engineering Management (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 6370 Innovation in Engineering Design (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- EIN 5108 The Environment of Technical Organizations (3 credit hours)

Simulation, Optimization and Modeling

- ESI 6336 Queuing Systems (3 credit hours)
- ESI 5306 Operations Research (3 credit hours)
- ESI 6418 Linear Programming and Extensions (3 credit hours)

- ESI 6532 Object-Oriented Simulation (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- EIN 5255C Interactive Simulation (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6936 Seminar in Advanced Industrial Engineering (3 credit hours)
- ESI 5419C Engineering Applications of Linear and Nonlinear Optimization (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6529 Advanced Systems Simulation (3 credit hours)
- ESI 6921 ~~Seiminar~~[Seminar](#) in Advanced Operations Research (3 credit hours)

Systems Engineering

- ESI 6358 Decision Analysis (3 credit hours)
- ESI 5359 Risk Assessment and Management (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- EIN 5346 Engineering Logistics (3 credit hours)
- ESI 6891 IEMS Research Methods (3 credit hours)

Equipment Fee

Full-time students in the Industrial Engineering MSIE program pay a \$58 equipment fee each semester that they are enrolled. Part-time students pay \$29 each semester that they are enrolled.

INDEPENDENT LEARNING

The Independent Learning requirement is met by successful completion of thesis or written/oral comprehensive examination.

Application Requirements

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions](#) section of the Graduate Catalog. Applicants must [apply online](#). All requested materials must be submitted by the established deadline.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants

before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway. Students with undergraduate degrees outside of industrial engineering may be required to take additional prerequisites.

In addition to the [general UCF graduate application requirements](#), applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Industrial Engineering or a related discipline, such as computer science, mathematics, other engineering disciplines, or statistics.
- Two letters of recommendation from two individual who are familiar with the applicant's capabilities to enter and succeed into his/her graduate studies and to perform graduate research.
- Curriculum Vitae.
- Statement of educational, research, and professional career objectives. The statement should explain the applicant's future career and educational goals, reasons behind seeking the degree, and why he/she believes that this degree best suits their interests.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from [World Education Services \(WES\)](#) or [Josef Silny and Associates, Inc.](#) only.

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- Alabama
- Arkansas
- Maryland

- Minnesota

Application Deadlines

Industrial Engineering MS	Fall Priority	Fall	Spring	Summer
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Program Recommendation Form

This form is to be used to revise, add, suspend, or delete degree programs, tracks, or certificate programs. If there are changes to a program and the changes will affect the program tracks also, one form may be used for both the program and the track.

PLEASE NOTE: The deadline for new tracks or certificates is **February 1 of each year**. Any proposal for new tracks or certificates received after this date will not be included in the next year's catalog. Revisions to existing programs, tracks, or certificates are **due by March 15**. Any proposals for revisions received after that date will not be included in the next year's catalog. Please include catalog copy (description, curriculum, contact information, application requirements, and application deadlines). **For revisions – attach the catalog copy showing changes (use Track Changes in Word).**

College/Unit(s) Submitting Proposal: _____

Proposed Effective Term/Year: _____

Unit(s) Housing Program: _____

Name of program, track and/or certificate: _____

Brief description of program (this description will show up in the graduate catalog copy): **Do not add complete catalog copy here.**

DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery

Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)

Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)

Program Director(s) and contact information: (name, email, phone, campus address, program website address)

Page 2 of UCF Program Recommendation Form

Please check one: this action affects a: Program Track Certificate

Please check one: this action is a(n):

- Addition. Please proceed to Part A.
- Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:

- Inactivation
- Temporary Suspension of Admissions. Give Length of Suspension:

Temporary suspension of admissions: The program will be removed from the online application. A notation will be entered in the graduate catalog indicating the length of the suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.

Inactivation: Admissions will be suspended for new students and the program will be removed from the online application. Students active in the program are eligible to complete the program under the appropriate criteria and an appropriate teach-out plan is required. The program will be removed from the catalog as of the approved term.

If you checked inactivation or you are temporarily suspending admissions, please go to Part B and complete it.

Signature Page

Recommend Approval (all approval levels must be signed)

Department Chair (Print) _____ (Signature) _____ Date _____

College Academic (Print) _____ (Signature) _____ Date _____
Standards

College Dean (Print) _____ (Signature) _____ Date _____

Graduate Council (Print) _____ (Signature) _____ Date _____

Graduate Dean (Print) _____ (Signature) _____ Date _____

Approval

Provost and Executive Vice President: _____ Date _____

Distribution: After approval is received from the Provost, distribution will be to:

Department(s); College; Registrar; Associate Registrar; Institutional Research; Academic Services; Faculty Senate;
University Analysis and Planning Support; College of Graduate Studies

Part A – For additions or revisions of programs, tracks or certificates

Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)

For Revisions:

Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other requirements, please state those changes. **Remember to attach the catalog copy showing changes, using Track Changes in Word.**)

Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?

Yes No

If yes, state the name of the program or track where students are currently enrolled and provide a list of students if possible:

Will students have the option to stay in their existing program, track, or certificate? Yes No

Name Change

Are you changing the name of an existing program, track, or certificate? Yes No

If yes, provide the new name of the program, track, or certificate:

Provide the name of the current program, track, or certificate:

When is the name change effective? Please note: A name change will apply to the record of all students who are currently enrolled, readmitted or newly admitted into this program as of the effective date of this change.

Will students have the option to stay in their existing program, track, or certificate? Yes No

If you are requesting a CIP Code change for an existing program, track, or certificate, please provide:

old CIP:

new CIP:

If a name change is your only revision, stop here. Otherwise, complete the rest of Part A.

Part A - Continued

Specify the faculty who will participate in the program, track or certificate and their credentials to do so: (List faculty and a brief paragraph of their credentials.)

Impact of changes on students: Will current students be impacted by the addition or revision of a program, track or certificate? If so, how?

If applicable, provide a written agreement (email is fine) from all involved units that they are in support of, will provide courses to, or will participate in the program, track, or certificate. Please attach the correspondence and also list the units here.

If an addition, provide a statement of who is likely to enroll and why. Please state if there is licensure or certification that depends upon this education, etc. Also, complete the following table.

	Year 1	Year 2	Year 3
Headcount			
SCHs			

If an addition, indicate likely career or student outcomes upon completion: (What will students do? What will their job titles be?)

Part A - Continued

If an addition or there are substantial REVISIONS to existing tracks or certificates, please complete the following table on financial support: (Specify all forms of support – assistantships, fellowships, and tuition remission.)

	No. assistantship students	Source of funds	No. fellowship students (specify fellowship)	No. tuition remissions	Source of funds
Year 1					
Year 2					
Year 3					

Checklist of items to be provided:

- Electronic graduate catalog copy for additions; track changes included if there are revisions. (required)
- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- Emails showing consultation with other units. (if applicable)
- If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
- If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Part B – For inactivations or suspensions of programs, tracks, or certificates

Are students currently enrolled in the program? Yes No

If yes, number of current students:

Please specify the intended time period of inactivation or suspension:

If program, track, or certificate is being inactivated or suspended, then attach a “teach out” plan for all current students specifying how they can finish the program or where students will be placed if moving to another program. The “teach out” plan should specify when courses will be offered to enable students to finish. Specify whether students will remain in the existing program to finish, and if so, when the completion date will be, whether students will be moved to another program, etc. Please provide a list of students where applicable.

Sample teach out plan: Enter the terms and courses that will be taught for each term throughout the last semester. **Please delete course prefixes and numbers in this section if no teach out plan is required.**

Fall 2012	Spring 2013	Summer 2013	Fall 2013	Spring 2014

Checklist of items to be provided:

- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- E-mails showing consultation with other units. (if applicable)

Industrial Engineering MSIE

PROGRAM DESCRIPTION

The Department of Industrial Engineering and Management Systems offers a Master of Science in Industrial Engineering (MSIE) degree focusing on the design and improvement of systems, products, and processes. A total systems approach is used to optimize the various aspects of operations in both manufacturing and service industries. Industrial engineers use many analytical approaches to improve productivity, safety, and quality of working life while reducing operating costs. The MSIE curriculum builds on an undergraduate engineering degree to develop a stronger systems focus and analytical capability.

The industrial engineering graduate programs are structured to support the emergence of Central Florida as a national center of high technology as well as supporting the diverse service industries in the region and throughout the nation.

Many of the graduate courses offered by the department or required in the MSIE program are offered through the Florida Engineering Educational Delivery System (FEEDS), which provides video-streamed versions of classes over the Internet.

Read More ▼▲

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.intl.ucf.edu. If you have any questions, please consult the International Services Center at 407-823-2337.

CURRICULUM

This program can be taken entirely through the Florida Engineering Educational Delivery System (FEEDS), which provides video-streamed versions of classes over the Internet.

The Industrial Engineering MSIE degree requires an undergraduate degree in Industrial Engineering or any other Engineering degree. Students with undergraduate degrees outside of Industrial Engineering may be required to take additional prerequisites.

The program offers both thesis and nonthesis options with each requiring 30 credit hours of courses. All admitted students must develop a program of study with the graduate program director that meets with departmental approval. At least one-half of the regular coursework (including thesis hours) required in the master's program of study must be at the 6000 level or higher. A cumulative grade-point average of B (3.0) must be maintained in the entire program of study.

Students on assistantships must take 9 credit hours per semester (Fall, Spring) to satisfy the university's requirement for full-time status. Most students working full time take 6 credit hours per semester. At that rate, the program can be completed in 6 semesters or less. However, students with more time available and with an early start on a thesis, if applicable, can finish the program in 3 semesters.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

Students with undergraduate degrees in industrial engineering or other engineering degrees are encouraged to apply for admission. Graduates from non-engineering curricula may apply to obtain the MS degree.

~~All applicants are expected to have completed the following prerequisites during their undergraduate engineering education:~~

- ~~• Mathematics through Calculus II (MAC 2312 or equivalent)~~
- ~~• An undergraduate course in engineering probability and statistics~~
- ~~• Familiarity of at least one programming language (such as C, FORTRAN, Java, Visual BASIC, C++, etc.)~~
- ~~• Familiarity of common computer skills and tools such as word processors and spreadsheets~~

~~It is expected that applicants to this program have the following prerequisites:~~

- ~~• Computer programming capability. Proficiency with MS Office expected. C++, Visual BASIC, or Java recommended.~~
- ~~• Mathematics through Calculus II (MAC 2312)~~
- ~~• Undergraduate Probability and Statistics for Engineers (STA 3032 or equivalent)~~

Required Courses—12 Credit Hours

- ~~• ESI 5219 Engineering Statistics (3 credit hours)~~
- ~~• EIN 5140 Project Engineering (3 credit hours)~~
- ~~• ESI 6551C Systems Engineering (3 credit hours)~~
- ~~• EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)~~

Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must take 12 credit hours of electives after consultation with their adviser.

Thesis Option—6 Credit Hours

The thesis option requires an additional 6 credit hours of thesis. Thesis students must complete an independent research project and write and successfully defend a thesis describing the project. Students may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

- EIN 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website (<http://www.cecs.ucf.edu/graddefense/>) and on the College of Graduate Studies Events Calendar at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

The nonthesis option requires an additional 6 credit hours of unrestricted electives that support the student's area of research and study interests. Nonthesis students must also successfully pass an oral comprehensive examination at the completion of their studies to fulfill degree requirements. Please see the graduate program director for further details about the comprehensive examination.

Required Courses - - 12 Credit Hours

- ESI 6551C: Systems Engineering
- ESI 6224: Quality Management
- ESI 6247: Design of Experiments
- Select one of the following:
 - ESI 5306: Operations Research
 - ESI 6418: Linear Programming & Extensions

Electives

Thesis Option—18 Credit Hours

Thesis students must complete an independent research project, and write and successfully defend a thesis describing the project. Students may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

- EIN 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Thesis-option students must also take an additional 12 credit hours of unrestricted electives that support the student's area of research and study interests.

- Elective courses (12 credit hours) : see list below

Nonthesis Option—18 Credit Hours

Non-thesis students are required to take EIN6XXX: Capstone Course in Industrial and Systems Engineering as part of their 30-credit-hour course requirement.

- **EIN6XXX: Capstone Course in Industrial and Systems Engineering (3 credit hours)**

This course should be completed towards the end of the student's graduate plan of study. As part of the requirements of this course, non-thesis Master's students will complete an independent capstone project on a topic relevant to the industrial and systems engineering field and approved by the instructor. Students are expected to use and leverage knowledge obtained in the program to complete the project. This course serves as the culminating experience for the Master students and should show that they have engaged in independent learning.

In addition, nonthesis students must take an additional 15 credit hours of electives that support the student's area of research and study interests.

- Elective courses (15 credit hours) : see list below

At least one-half of the credit hours of all courses in a master's program of study must be at the 6000 level or higher.

Students on assistantships must take 9 credit hours per semester to satisfy the university's requirement for full-time status. Most students working full time take 6 credit hours per semester. At that rate, the program can be completed in 6 semesters or less. However, students with more time available can finish the program in 3 semesters.

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The program requirements are flexible enough to allow the students to tailor the coursework according to their desired educational and career goals. With the approval of their adviser and/or the graduate program director, students may select from the following

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- Two letters of recommendation from two individual who are familiar with the applicant's capabilities to enter and succeed into his/her graduate studies and to perform graduate research. The letters should address the educational and career goals of applicant. The letters should also indicate the applicant's capability to perform, excel and succeed in a graduate program. Letters for Master's thesis students must discuss the applicant's ability to perform graduate-level research.
- Curriculum Vitae/resume.
- Statement of educational, research, and professional career objectives:
 - The statement should explain the applicant's future career and educational goals, reasons behind seeking the degree, and why he/she believes that this degree best suits their interests. The statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Master's degree in Industrial Engineering. Future educational and career goals after the completion of the applicant's master study should be discussed.
 - If the applicant is interested in completing a thesis, then the applicant must clearly describe the particular area of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential thesis advisor.

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from [World Education Services \(WES\)](#) or [Josef Silny and Associates, Inc.](#) only.

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College/Unit(s) Submitting Proposal: College of Education

Proposed Effective Term/Year: Fall, 2014 (Catalog year 2014-2015)

Unit(s) Housing Program: School of Education

Name of program, track and/or certificate: Intervention Specialist Track (MED in Teacher Leadership)

Brief description of program (this description will show up in the graduate catalog copy): *Do not add complete catalog copy here.*

The Intervention Specialist graduate track provides advanced coursework for educational leaders to use school-based and classroom instructional data to meet the instructional and intervention needs of all students, including at-risk and struggling students, beyond typical, initial classroom instruction within a multi-tiered system of supports. In addition, this track will provide an advanced, multi-disciplinary theoretical approach and applied knowledge base to experienced educators. Coursework focuses on knowledge, skills and competencies for working with students within an intervention framework. The Intervention Specialist track is multi-disciplinary and includes coursework in exceptional student education, school psychology, reading education, math education and an elective. The six graduate courses provide an opportunity for students to complete the Intervention Specialist track beyond the undergraduate degree.

DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery

Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)

July 15...same as the program.

Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)

Same as the program.

Program Director(s) and contact information: (name, email, phone, campus address, program website address)

Mary E. Little, Ph.D., Mary.Little@ucf.edu, 407.823.3275, ED 315J,

Page 2 of UCF Program Recommendation Form

Please check one: this action affects a: Program Track Certificate

Please check one: this action is a(n):

- Addition. Please proceed to Part A.
 Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:
-

- Inactivation
 Temporary Suspension of Admissions. Give Length of Suspension:
-

Temporary suspension of admissions: The program will be removed from the online application. A notation will be entered in the graduate catalog indicating the length of the suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.

Inactivation: Admissions will be suspended for new students and the program will be removed from the online application. Students active in the program are eligible to complete the program under the appropriate criteria and an appropriate teach-out plan is required. The program will be removed from the catalog as of the approved term.

If you checked inactivation or you are temporarily suspending admissions, please go to Part B and complete it.

Signature Page

RECOMMENDATIONS

<input type="checkbox"/> Yes	<input type="checkbox"/> No	Department Chair: _____	Date: _____
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	College Curriculum Committee Chair: <u>[Signature]</u> KARAN	Date: <u>1/31/2014</u>
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	College Dean: <u>[Signature]</u> Dudge	Date: <u>1/13/14</u>
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Chair or GSC: _____	Date: _____
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Dean, College of Graduate Studies: _____	Date: _____

APPROVAL

Provost and Executive Vice President: _____ Date: _____

Distribution: After approval is received from the Provost, distribution will be to:

Department(s); College; Registrar; Associate Registrar; Institutional Research; Academic Services; Faculty Senate;
University Analysis and Planning Support; College of Graduate Studies

Part A – For additions or revisions of programs, tracks or certificates

Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)

The Intervention Specialist track will prepare educators to use school-based and classroom instructional data sets to meet the instructional and intervention needs of all students, including at-risk and struggling students, beyond typical, initial classroom instruction within a multi-tiered system of supports. This certificate track was developed and designed by CED faculty and educators representing Central Florida school districts who are members of the Exceptional Student Education Advisory Committee. Faculty from various program areas (Exceptional Student Education, Reading, Mathematics, and School Psychology) across the College of Education included courses to develop the Intervention Specialist certificate. Coursework in the certificate program will provide an advanced, multi-disciplinary theoretical and applied knowledge base to experienced educators. Courses and content will meet the most current educational policy mandates regarding service delivery for students with disabilities as well as competencies of the newly-adopted "Intervention Specialist" standards of the Council for Exceptional Children professional organization. Adding the Intervention Specialist graduate track will not adversely affect the faculty. Three of the four courses are offered on a regular basis. Two courses will be an elective, as approved by the program advisor, and represent courses offered on a regular basis. The Intervention Specialist track will positively affect students by providing them with the opportunity to develop advanced diagnostic assessment skills to target appropriate educational interventions in reading and mathematics within the revised context of educational policies within Florida and nationally.

For Revisions:

Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other requirements, please state those changes. Remember to attach the catalog copy showing changes, using Track Changes in Word.)

N.A.

Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?

Yes No

If yes, state the name of the program or track where students are currently enrolled and provide a list of students if possible:

N.A.

Will students have the option to stay in their existing program, track, or certificate? Yes No

Name Change

Are you changing the name of an existing program, track, or certificate? Yes No

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If yes, provide the new name of the program, track, or certificate:
N.A.

Provide the name of the current program, track, or certificate:

When is the name change effective? Please note: A name change will apply to the record of all students who are currently enrolled, readmitted or newly admitted into this program as of the effective date of this change.

Will students have the option to stay in their existing program, track, or certificate? Yes No

If you are requesting a CIP Code change for an existing program, track, or certificate, please provide:

old CIP:

new CIP:

If a name change is your only revision, stop here. Otherwise, complete the rest of Part A.

Part A - Continued

Specify the faculty who will participate in the program, track or certificate and their credentials to do so: (List faculty and a brief paragraph of their credentials.)

Dr. Mary Little, Professor, Exceptional Education. Currently serves as the Coordinator of ESE Graduate Programs. She received her graduate and undergraduate degrees in Special Education and Curriculum and Instruction from the State University College at Buffalo and her doctorate in Special Education from the University of Kansas. Her professional experiences in the K-12 schools include roles as a secondary teacher, co-teacher, program coordinator and principal. Her interests include evidence-based instructional practices, interventions, teacher efficacy, and student learning related to teacher learning. She teaches courses at the graduate and undergraduate levels using traditional and on-line formats, specifically in mathematics, assessment, instruction, action research, and program evaluation. In addition, she has received in excess of \$15 million in external funding for research and development from federal, state, and private funding agencies including the Institute for Educational Sciences (IES) and the Office of Special Education Programs (OSEP). Currently, she serves as the Principal Investigator for Building Bridges in Teacher Education, a federally-funded research and development project through OSEP. The purpose of this project is to research, develop, and enhance the existing graduate programs at UCF to ensure highly qualified special education teachers in the content areas of mathematics and science to improve learning outcomes for secondary students, especially within diverse, urban schools.

Oliver W. Edwards, Ph.D., NCSP, is a tenured associate professor of School Psychology. He teaches courses in applied behavioral analysis and psychopathology assessment. Ed.D. in Educational Administration from Florida International University. In addition, he earned his Ph.D. in School Psychology at the University of Florida. During his doctoral education, he was a McKnight Doctoral Fellow, practiced as a School Psychologist with the School Board of Broward County, Florida for several years. He later became an administrator with the district, supervising roughly 65 School Psychologists and School Social Workers in their work with 65 schools and some 75,000 students. Dr. Edwards' early research addressed issues of intelligence testing of racial/ethnic minorities and the psychosocial development of children raised by grandparents. Currently, he is researching social support networks as well as health disparities and their impact on ethnic minority school children.

Rhinea "Gina" Harwood Gresham, Ph.D., is an Associate Professor in Mathematics Education, Educational Psychologist, and Behavioral Specialist at the University of Central Florida in Orlando. She is a member of the Academy Research Faculty at the university and

Impact of changes on students: Will current students be impacted by the addition or revision of a program, track or certificate? If so, how?

The Intervention Specialist track will positively affect students by providing them with the opportunity to develop advance diagnostic assessment skills to target appropriate educational interventions in reading and mathematics within the revised context of educational policies within Florida and nationally.

If applicable, provide a written agreement (email is fine) from all involved units that they are in support of, will provide courses to, or will participate in the program, track, or certificate. Please attach the correspondence and also list the units here.

Please see the attached memo in support of and approval regarding the addition of the Intervention Specialist Track to the MED in Teacher Leadership.

If an addition, provide a statement of who is likely to enroll and why. Please state if there is licensure or certification that depends upon this education, etc. Also, complete the following table.

Students likely to enroll in this program are individuals interested in careers as instructional coaches, school and district Interventionist Specialists, Response to Intervention (RtI)/MTSS Facilitators, and Teachers on Assignment (TOA).

	Year 1	Year 2	Year 3
Headcount	10	20	40
SCHs	150	300	600

If an addition, indicate likely career or student outcomes upon completion: (What will students do? What will their job titles be?)

Classroom Teachers, Academic instructional coaches, school and district Interventionist Specialists, Response to Intervention (RtI)/MTSS Facilitators, and Teachers on Assignment (TOA). Educators may also wish to use the courses/certificate to fulfill continuing education requirements for certifications or licensure.

Part A - Continued

If an addition or there are substantial REVISIONS to existing tracks or certificates, please complete the following table on financial support: (Specify all forms of support – assistantships, fellowships, and tuition remission.)

	No. assistantship students	Source of funds	No. fellowship students (specify fellowship)	No. tuition remissions	Source of funds
Year 1	NA				
Year 2	NA				
Year 3	NA				

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Checklist of items to be provided:

- Electronic graduate catalog copy for additions; track changes included if there are revisions. (required)
- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- Emails showing consultation with other units. (if applicable)
- If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
- If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Part B -- For inactivations or suspensions of programs, tracks, or certificates

Are students currently enrolled in the program? Yes No

If yes, number of current students:

Please specify the intended time period of inactivation or suspension:

If program, track, or certificate is being inactivated or suspended, then attach a "teach out" plan for all current students specifying how they can finish the program or where students will be placed if moving to another program. The "teach out" plan should specify when courses will be offered to enable students to finish. Specify whether students will remain in the existing program to finish, and if so, when the completion date will be, whether students will be moved to another program, etc. Please provide a list of students where applicable.

NA

Sample teach out plan: Enter the terms and courses that will be taught for each term throughout the last semester. Please delete course prefixes and numbers in this section if no teach out plan is required.

Fall 2010	Spring 2011	Summer 2011	Fall 2011	Spring 2012

Checklist of items to be provided:

- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- E-mails showing consultation with other units. (if applicable)

MEMORANDUM

TO: CED Graduate Curriculum and Standards Committee (GCSC)

FROM: Dr. Gillian Eriksson, Teacher Leadership M.Ed. Program Coordinator
Dr. Randall Hewitt, Ed. S. Masters + 30 Program Coordinator
Dr. Mary Little, ESE Graduate Program Coordinator

RE: Proposal to the Graduate Curriculum and Standards Committee to add an existing Graduate certificate: *Intervention Specialist* as a track in above-referenced graduate programs.

Date: January 30, 2014

Overview / Rationale

Rationale for proposing the "Intervention Specialist" track: The Intervention Specialist certificate will prepare educators to use school-based and classroom instructional data sets by to meet the instructional and intervention needs of all students, including at-risk and struggling students, beyond typical, initial classroom instruction within a multi-tiered system of supports. This certificate program was developed and designed by CED faculty and educators representing Central Florida school districts who are members of the Exceptional Student Education Advisory Committee. Faculty from various program areas (Exceptional Student Education, Reading, Mathematics, and School Psychology) across the College of Education included courses to develop the Intervention Specialist track.

Coursework in the program will provide an advanced, multi-disciplinary theoretical and applied knowledge base to experienced educators. Courses and content will meet the most current educational policy mandates regarding service delivery for students with disabilities as well as competencies of the newly-adopted "Intervention Specialist" standards of the Council for Exceptional Children professional organization.

Adding the Intervention Specialist graduate track will not adversely affect the faculty. The courses are already offered on a regular basis. Currently, this track collaboratively enhances four graduate methods courses among four curriculum areas, as well as provides student choice of an advisor-approved elective of an existing graduate course to complete the 15 hours in the track.

The Intervention Specialist track will positively affect students by providing them with the opportunity to develop advanced diagnostic assessment skills to target appropriate educational interventions in reading and mathematics within the revised context of educational policies within Florida and nationally. The graduate courses provide an opportunity for students to complete the Intervention Specialist track within the advanced graduate program..

Intervention Specialist Track (Catalog Copy)

CERTIFICATE PROGRAM DESCRIPTION

The Intervention Specialist graduate track provides advanced coursework for educational leaders to use school-based and classroom instructional data to meet the instructional and intervention needs of all students, including at-risk and struggling students, beyond typical, initial classroom instruction within a multi-tiered system of supports. In addition, this certificate will provide an advanced, multi-disciplinary theoretical approach and applied knowledge base to experienced educators. Coursework focuses on knowledge, skills and competencies for working with students within an intervention framework. The Intervention Specialist certificate is multi-disciplinary and includes coursework in exceptional student

education, school psychology, reading education, and math education. The graduate courses provide an opportunity for students to complete the Intervention Specialist certificate and track within the advanced graduate program.

Track Required Courses—18 Credit Hours

CURRICULUM Total Credit Hours Required:

REQUIRED COURSES—18 CREDIT HOURS

- EEX 6218 Diagnostic Assessment and Intervention Planning in Exceptional Education (3 credit hours)
- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours)
- SPS 6700 Advanced Psychoeducation and Data-based Decision-Making (3 credit hours)
- Electives as approved by the Program Advisor (6 credit hours)

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline. In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé / vita reflecting relevant experience.

APPLICATION DEADLINES	Fall Priority	Fall	Spring	Summer
Intervention Specialist Certificate				
Domestic Applicants	-	Jul 15	Dec 1	Apr 15
International Applicants	-	-	-	-
International	-	-	-	-

Teacher Leadership MEd ↗

Intervention Specialist Track

TRACK DESCRIPTION

The Intervention Specialist graduate track provides advanced coursework for educational leaders to use school-based and classroom instructional data to meet the instructional and intervention needs of all students, including at-risk and struggling students, beyond typical, initial classroom instruction within a multi-tiered system of supports. In addition, this certificate will provide an advanced, multi-disciplinary theoretical approach and applied knowledge base to experienced educators. Coursework focuses on knowledge, skills and competencies for working with students within an intervention framework. The Intervention Specialist certificate is multi-disciplinary and includes coursework in exceptional student education, school psychology, reading education, and math education. The graduate courses provide an opportunity for students to complete the Intervention Specialist certificate and track within the advanced graduate program.

CURRICULUM

Total Credit Hours Required:

33-36 Credit Hours Minimum beyond the Bachelor's Degree

The Intervention Specialist track in the Master of Education Teacher Leadership program requires 15-18 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 18 credit hours of specialization courses.

Required Courses—33-36 Credit Hours

Core—15-18 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction** (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice** (3 credit hours)
- EDF 6635 Action Research and Inquiry in Teacher Leadership** (3 credit hours) or IDS 6971 Thesis (6 credit hours)

* Must be taken in first semester in the program.

** Prerequisites for enrolling in Capstone. Student completes either a Capstone Research Project or Thesis at the end of the program. EDF 6635 is offered in spring semester only.

Specialization—18 Credit Hours

- EEX 6218 Diagnostic Assessment and Intervention Planning in Exceptional Education (3 credit hours)
- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours)
- SPS 6700 Advanced Psychoeducation and Data-based Decision-Making (3 credit hours)
- Electives as approved by the Program Advisor (6 credit hours)

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

Application Requirements

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions](#) section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE taken within the last 5 years.
- Three letters of recommendation.
- Goal statement.
- Resume / vita reflecting relevant experience.
- Evidence of eligibility for a professional teaching certificate in Florida in related area.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Gifted Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

FINANCIALS

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see the College of Graduate Studies [Funding website](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Fellowships

Fellowships are awarded based on academic merit to highly qualified students. They are paid to students through the Office of Student Financial Assistance, based on instructions provided by the College of Graduate Studies. Fellowships are given to support a student's graduate study and do not have a work obligation. For more information, see [UCF Graduate Fellowships](#), which includes descriptions of university fellowships and what you should do to be considered for a fellowship.



Program Recommendation Form

This form is to be used to revise, add, suspend, or delete degree programs, tracks, or certificate programs. If there are changes to a program and the changes will affect the program tracks also, one form may be used for both the program and the track.

PLEASE NOTE: The deadline for new tracks or certificates is **February 1 of each year**. Any proposal for new tracks or certificates received after this date will not be included in the next year's catalog. Revisions to existing programs, tracks, or certificates are **due by March 15**. Any proposals for revisions received after that date will not be included in the next year's catalog. Please include catalog copy (description, curriculum, contact information, application requirements, and application deadlines). **For revisions – attach the catalog copy showing changes (use Track Changes in Word).**

College/Unit(s) Submitting Proposal: _____

Proposed Effective Term/Year: _____

Unit(s) Housing Program: _____

Name of program, track and/or certificate: _____

Brief description of program (this description will show up in the graduate catalog copy): **Do not add complete catalog copy here.**

DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery

Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)

Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)

Program Director(s) and contact information: (name, email, phone, campus address, program website address)

Page 2 of UCF Program Recommendation Form

Please check one: this action affects a: Program Track Certificate

Please check one: this action is a(n):

- Addition. Please proceed to Part A.
- Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:

- Inactivation
- Temporary Suspension of Admissions. Give Length of Suspension:

Temporary suspension of admissions: The program will be removed from the online application. A notation will be entered in the graduate catalog indicating the length of the suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.

Inactivation: Admissions will be suspended for new students and the program will be removed from the online application. Students active in the program are eligible to complete the program under the appropriate criteria and an appropriate teach-out plan is required. The program will be removed from the catalog as of the approved term.

If you checked inactivation or you are temporarily suspending admissions, please go to Part B and complete it.

Signature Page

Recommend Approval (all approval levels must be signed)

Department Chair (Print) _____ (Signature) _____ Date _____

College Academic (Print) _____ (Signature) _____ Date _____
Standards

College Dean (Print) _____ (Signature) _____ Date _____

Graduate Council (Print) _____ (Signature) _____ Date _____

Graduate Dean (Print) _____ (Signature) _____ Date _____

Approval

Provost and Executive Vice President: _____ Date _____

Distribution: After approval is received from the Provost, distribution will be to:

Department(s); College; Registrar; Associate Registrar; Institutional Research; Academic Services; Faculty Senate;
University Analysis and Planning Support; College of Graduate Studies

Part A – For additions or revisions of programs, tracks or certificates

Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)

For Revisions:

Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other requirements, please state those changes. **Remember to attach the catalog copy showing changes, using Track Changes in Word.**)

Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?

Yes No

If yes, state the name of the program or track where students are currently enrolled and provide a list of students if possible:

Will students have the option to stay in their existing program, track, or certificate? Yes No

Name Change

Are you changing the name of an existing program, track, or certificate? Yes No

If yes, provide the new name of the program, track, or certificate:

Provide the name of the current program, track, or certificate:

When is the name change effective? Please note: A name change will apply to the record of all students who are currently enrolled, readmitted or newly admitted into this program as of the effective date of this change.

Will students have the option to stay in their existing program, track, or certificate? Yes No

If you are requesting a CIP Code change for an existing program, track, or certificate, please provide:

old CIP:

new CIP:

If a name change is your only revision, stop here. Otherwise, complete the rest of Part A.

Part A - Continued

Specify the faculty who will participate in the program, track or certificate and their credentials to do so: (List faculty and a brief paragraph of their credentials.)

Impact of changes on students: Will current students be impacted by the addition or revision of a program, track or certificate? If so, how?

If applicable, provide a written agreement (email is fine) from all involved units that they are in support of, will provide courses to, or will participate in the program, track, or certificate. Please attach the correspondence and also list the units here.

If an addition, provide a statement of who is likely to enroll and why. Please state if there is licensure or certification that depends upon this education, etc. Also, complete the following table.

	Year 1	Year 2	Year 3
Headcount			
SCHs			

If an addition, indicate likely career or student outcomes upon completion: (What will students do? What will their job titles be?)

Part A - Continued

If an addition or there are substantial REVISIONS to existing tracks or certificates, please complete the following table on financial support: (Specify all forms of support – assistantships, fellowships, and tuition remission.)

	No. assistantship students	Source of funds	No. fellowship students (specify fellowship)	No. tuition remissions	Source of funds
Year 1					
Year 2					
Year 3					

Checklist of items to be provided:

- Electronic graduate catalog copy for additions; track changes included if there are revisions. (required)
- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- Emails showing consultation with other units. (if applicable)
- If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
- If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Part B – For inactivations or suspensions of programs, tracks, or certificates

Are students currently enrolled in the program? Yes No

If yes, number of current students:

Please specify the intended time period of inactivation or suspension:

If program, track, or certificate is being inactivated or suspended, then attach a “teach out” plan for all current students specifying how they can finish the program or where students will be placed if moving to another program. The “teach out” plan should specify when courses will be offered to enable students to finish. Specify whether students will remain in the existing program to finish, and if so, when the completion date will be, whether students will be moved to another program, etc. Please provide a list of students where applicable.

Sample teach out plan: Enter the terms and courses that will be taught for each term throughout the last semester. **Please delete course prefixes and numbers in this section if no teach out plan is required.**

Fall 2012	Spring 2013	Summer 2013	Fall 2013	Spring 2014

Checklist of items to be provided:

- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- E-mails showing consultation with other units. (if applicable)

Master of Education in Educational Leadership

PROGRAM DESCRIPTION

Comment [RT1]: I've updated the language and the requirements. We don't have specialization and core. All courses are now core or educational leadership courses.

The Master of Education in Educational Leadership program is intended for those who wish to work in leadership positions and administrative careers in education. The MEd program provides theoretical and conceptual knowledge base [and practical application](#) required for principalship and for Florida Level I Educational Leadership certification. Courses required in the program address the [Florida Educational Leadership Standards and the Florida Educational Leadership Examination \(FELE\) competencies and indicators](#) ~~competency domains required specified~~ by the Florida Department of Education, ~~and included in the Florida Educational Leadership Examination (FELE).~~

[Read More](#) ▼▲

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see [Peace Corps Coverdell Fellows](#) for more information about attending graduate school at UCF.

CURRICULUM

The Educational Leadership MEd program requires a minimum of ~~39-36~~ credit hours beyond the bachelor's degree, including ~~6-3 credit hours of core courses, 3027~~ credit hours of [core](#) ~~specialization~~ courses, and a required [6 credit hour](#) administrative internship. Courses may be taken in any sequence with the exception of EDA 6946, which must be taken ~~last~~ [during the last two semesters](#).

Total Credit Hours Required:

~~39-36~~ Credit Hours Minimum beyond the Bachelor's Degree

The MEd program provides the theoretical and conceptual knowledge base [with practical application](#) required for the principalship and for Florida Level I Educational Leadership certification. Courses required in the program address the [Florida Educational Leadership Standards and Florida Educational Leadership Examination \(FELE\) competencies and indicator](#) ~~competency domains specified~~ [required](#) by the Florida Department of Education ~~and included in the Florida Educational Leadership Examination (FELE)~~. Students are required to pass the FELE for graduation. An MEd in Educational Leadership or its equivalent, and successful completion of the FELE, are required by the state of Florida for [Level 1 Educational Leadership](#) certification. ~~in educational leadership~~ (Certification is subject to Florida Department of Education approval).

The MEd program requires an internship. The internship is an independent learning activity that takes place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. For more information concerning the Educational Leadership internship, please refer to the Educational Leadership website

at: <http://education.ucf.edu/edleadership> (click on ~~on~~ [Guide to the Administrative Internship Guide](#)).

~~Beginning Summer 2011~~, MEd students in Educational Leadership will document experience with each of the Florida Principal Leadership Standards (FPLS) and Florida Educational Leadership Exam (FELE) competencies during the EDA 6946 [Administrative Internship](#). This documentation and successful completion of the administrative internship (grade of A or B) will serve as the culminating experience required for graduation.

Modified Leadership Core Program for Those with Graduate Degrees in Other Disciplines

If an individual holds a graduate degree with a major other than Educational Administration, Administration, Supervision or Educational Leadership, certification may be obtained through completion of an approved modified program in Educational Leadership. The UCF modified program consists of the seven ~~core~~ [courses in Specialization](#) courses and a 3 credit hour Administrative Internship course. Request an evaluation of prior graduate course work (required for admission into the program) on the following website: <http://education.ucf.edu/edleadership/>.

Required Courses—~~33~~ 36 Credit Hours

Core—~~6~~ 30 Credit Hours

- ~~• EDF 6432 Measurement and Evaluation in Education (3 credit hours)~~
- ~~• EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)~~

Specialization—~~27~~ Credit Hours

The program recommends that students take these courses in the following sequence:

- EDA 6061 Organization and Administration of Schools^{*} (3 credit hours)
- EDA 6232 Legal Aspects of School Operation^{*} (3 credit hours)
- EDA 6240 Educational Financial Affairs* (3 credit hours)
- EDA 6260 Educational Systems Planning and Management^{*} (3 credit hours)
- EDA 6931 Contemporary Issues in Educational Leadership^{*} (3 credit hours)
- EDS 6123 Educational Supervisory Practices I^{*} (3 credit hours)
- [EDA 6XXX Data Based Decision Making for School Leaders \(3 credit hours\)](#)
- EDS 6130 Educational Supervisory Practices II^{*} (3 credit hours)
- EDA 6300 Community School Administration (3 credit hours)
- EDA 6502 Organization and Administration of Instructional Programs (3 credit hours)

~~*Florida Level I Certification requirements~~

Internship—6 Credit Hours

The internship should be completed [during or after the last two semesters of coursework after taking the sequence of specialization courses](#) listed above.

Comment [RT2]: I deleted the asterisks and the note about required for certification since they all are in our FLDOE approved program and therefore required. I don't want to mislead the students. For modified core, the students need to work with Ken anyway.

- EDA 6946 [Administrative Graduate](#) Internship (6 credit hours; 2 semesters, 3 [credit](#) hours each of internship)

Additional Program Requirements

- Complete the [EDA 6946 Administrative Graduate](#) Internship with a minimum grade of B.
- Pass all applicable sections of the Florida Educational Leadership Examination.

Equipment Fee

Students in the Educational Leadership MED program pay a \$32 equipment fee each semester that they are enrolled. Part-time students pay \$16 per semester.

INDEPENDENT LEARNING

The MED program requires [administrative](#) internship. The [administrative](#) internship is an independent learning activity that takes place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. For more information concerning the Educational Leadership internship, please refer to the Educational Leadership website at: <http://education.ucf.edu/edleadership> (click on Internship Guide).

Application Requirements

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the [Admissions](#) section of the Graduate Catalog. Applicants must [apply online](#). All requested materials must be submitted by the established deadline.

In addition to the [general UCF graduate application requirements](#), applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from [World Education Services \(WES\)](#) or [Josef Silny and Associates, Inc.](#) only.
- Evidence of course work approved for the basic state of Florida bachelor's teaching certificate.

Application Deadlines

Educational Leadership MED	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1

International Transfer Applicants Jan 15 Mar 1 Sep 1 Dec 15

FINANCIALS

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see the College of Graduate Studies [Funding website](#), which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The [Financial Information](#) section of the Graduate Catalog is another key resource.

Fellowships

Fellowships are awarded based on academic merit to highly qualified students. They are paid to students through the Office of Student Financial Assistance, based on instructions provided by the College of Graduate Studies. Fellowships are given to support a student's graduate study and do not have a work obligation. For more information, see [UCF Graduate Fellowships](#), which includes descriptions of university fellowships and what you should do to be considered for a fellowship.

Program Profile

Program Stats

Contact Info

Graduate Program

Kenneth Murray JD, PhD

Associate Professor

kenneth.murray@ucf.edu

Telephone: 407-823-1468

Education 222K [Map](#)

Graduate Admissions

Nicole Arft

gradadmissions@ucf.edu

Telephone: 407-823-2766 ext. 253



Program Recommendation Form

This form is to be used to revise, add, suspend, or delete degree programs, tracks, or certificate programs. If there are changes to a program and the changes will affect the program tracks also, one form may be used for both the program and the track.

PLEASE NOTE: The deadline for new tracks or certificates is **February 1 of each year**. Any proposal for new tracks or certificates received after this date will not be included in the next year's catalog. Revisions to existing programs, tracks, or certificates are **due by March 15**. Any proposals for revisions received after that date will not be included in the next year's catalog. Please include catalog copy (description, curriculum, contact information, application requirements, and application deadlines). **For revisions – attach the catalog copy showing changes (use Track Changes in Word).**

College/Unit(s) Submitting Proposal: _____

Proposed Effective Term/Year: _____

Unit(s) Housing Program: _____

Name of program, track and/or certificate: _____

Brief description of program (this description will show up in the graduate catalog copy): **Do not add complete catalog copy here.**

DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery

Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)

Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)

Program Director(s) and contact information: (name, email, phone, campus address, program website address)

Page 2 of UCF Program Recommendation Form

Please check one: this action affects a: Program Track Certificate

Please check one: this action is a(n):

- Addition. Please proceed to Part A.
- Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:

- Inactivation
- Temporary Suspension of Admissions. Give Length of Suspension:

Temporary suspension of admissions: The program will be removed from the online application. A notation will be entered in the graduate catalog indicating the length of the suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.

Inactivation: Admissions will be suspended for new students and the program will be removed from the online application. Students active in the program are eligible to complete the program under the appropriate criteria and an appropriate teach-out plan is required. The program will be removed from the catalog as of the approved term.

If you checked inactivation or you are temporarily suspending admissions, please go to Part B and complete it.

Signature Page

Recommend Approval (all approval levels must be signed)

Department Chair (Print) _____ (Signature) _____ Date _____

College Academic (Print) _____ (Signature) _____ Date _____
Standards

College Dean (Print) _____ (Signature) _____ Date _____

Graduate Council (Print) _____ (Signature) _____ Date _____

Graduate Dean (Print) _____ (Signature) _____ Date _____

Approval

Provost and Executive Vice President: _____ Date _____

Distribution: After approval is received from the Provost, distribution will be to:

Department(s); College; Registrar; Associate Registrar; Institutional Research; Academic Services; Faculty Senate;
University Analysis and Planning Support; College of Graduate Studies

Part A – For additions or revisions of programs, tracks or certificates

Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)

For Revisions:

Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other requirements, please state those changes. **Remember to attach the catalog copy showing changes, using Track Changes in Word.**)

Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?

Yes No

If yes, state the name of the program or track where students are currently enrolled and provide a list of students if possible:

Will students have the option to stay in their existing program, track, or certificate? Yes No

Name Change

Are you changing the name of an existing program, track, or certificate? Yes No

If yes, provide the new name of the program, track, or certificate:

Provide the name of the current program, track, or certificate:

When is the name change effective? Please note: A name change will apply to the record of all students who are currently enrolled, readmitted or newly admitted into this program as of the effective date of this change.

Will students have the option to stay in their existing program, track, or certificate? Yes No

If you are requesting a CIP Code change for an existing program, track, or certificate, please provide:

old CIP:

new CIP:

If a name change is your only revision, stop here. Otherwise, complete the rest of Part A.

Part A - Continued

Specify the faculty who will participate in the program, track or certificate and their credentials to do so: (List faculty and a brief paragraph of their credentials.)

Impact of changes on students: Will current students be impacted by the addition or revision of a program, track or certificate? If so, how?

If applicable, provide a written agreement (email is fine) from all involved units that they are in support of, will provide courses to, or will participate in the program, track, or certificate. Please attach the correspondence and also list the units here.

If an addition, provide a statement of who is likely to enroll and why. Please state if there is licensure or certification that depends upon this education, etc. Also, complete the following table.

	Year 1	Year 2	Year 3
Headcount			
SCHs			

If an addition, indicate likely career or student outcomes upon completion: (What will students do? What will their job titles be?)

Part A - Continued

If an addition or there are substantial REVISIONS to existing tracks or certificates, please complete the following table on financial support: (Specify all forms of support – assistantships, fellowships, and tuition remission.)

	No. assistantship students	Source of funds	No. fellowship students (specify fellowship)	No. tuition remissions	Source of funds
Year 1					
Year 2					
Year 3					

Checklist of items to be provided:

- Electronic graduate catalog copy for additions; track changes included if there are revisions. (required)
- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- Emails showing consultation with other units. (if applicable)
- If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
- If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Part B – For inactivations or suspensions of programs, tracks, or certificates

Are students currently enrolled in the program? Yes No

If yes, number of current students:

Please specify the intended time period of inactivation or suspension:

If program, track, or certificate is being inactivated or suspended, then attach a “teach out” plan for all current students specifying how they can finish the program or where students will be placed if moving to another program. The “teach out” plan should specify when courses will be offered to enable students to finish. Specify whether students will remain in the existing program to finish, and if so, when the completion date will be, whether students will be moved to another program, etc. Please provide a list of students where applicable.

Sample teach out plan: Enter the terms and courses that will be taught for each term throughout the last semester. **Please delete course prefixes and numbers in this section if no teach out plan is required.**

Fall 2012	Spring 2013	Summer 2013	Fall 2013	Spring 2014

Checklist of items to be provided:

- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- E-mails showing consultation with other units. (if applicable)



Program Recommendation Form

This form is to be used to revise, add, suspend, or delete degree programs, tracks, or certificate programs. If there are changes to a program and the changes will affect the program tracks also, one form may be used for both the program and the track.

PLEASE NOTE: The deadline for new tracks or certificates is **February 1 of each year**. Any proposal for new tracks or certificates received after this date will not be included in the next year's catalog. Revisions to existing programs, tracks, or certificates are **due by March 15**. Any proposals for revisions received after that date will not be included in the next year's catalog. Please include catalog copy (description, curriculum, contact information, application requirements, and application deadlines). **For revisions – attach the catalog copy showing changes (use Track Changes in Word).**

College/Unit(s) Submitting Proposal: _____

Proposed Effective Term/Year: _____

Unit(s) Housing Program: _____

Name of program, track and/or certificate: _____

Brief description of program (this description will show up in the graduate catalog copy): **Do not add complete catalog copy here.**

DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery

Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)

Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)

Program Director(s) and contact information: (name, email, phone, campus address, program website address)

Page 2 of UCF Program Recommendation Form

Please check one: this action affects a: Program Track Certificate

Please check one: this action is a(n):

- Addition. Please proceed to Part A.
- Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:

-
- Inactivation
 - Temporary Suspension of Admissions. Give Length of Suspension:
-

Temporary suspension of admissions: The program will be removed from the online application. A notation will be entered in the graduate catalog indicating the length of the suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.

Inactivation: Admissions will be suspended for new students and the program will be removed from the online application. Students active in the program are eligible to complete the program under the appropriate criteria and an appropriate teach-out plan is required. The program will be removed from the catalog as of the approved term.

If you checked inactivation or you are temporarily suspending admissions, please go to Part B and complete it.

Signature Page

Recommend Approval (all approval levels must be signed)

Department Chair (Print) _____ (Signature) _____ Date _____

College Academic (Print) _____ (Signature) _____ Date _____
Standards

College Dean (Print) _____ (Signature) _____ Date _____

Graduate Council (Print) _____ (Signature) _____ Date _____

Graduate Dean (Print) _____ (Signature) _____ Date _____

Approval

Provost and Executive Vice President: _____ Date _____

Distribution: After approval is received from the Provost, distribution will be to:

Department(s); College; Registrar; Associate Registrar; Institutional Research; Academic Services; Faculty Senate;
University Analysis and Planning Support; College of Graduate Studies

Part A – For additions or revisions of programs, tracks or certificates

Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)

For Revisions:

Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other requirements, please state those changes. **Remember to attach the catalog copy showing changes, using Track Changes in Word.**)

Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?

Yes No

If yes, state the name of the program or track where students are currently enrolled and provide a list of students if possible:

Will students have the option to stay in their existing program, track, or certificate? Yes No

Name Change

Are you changing the name of an existing program, track, or certificate? Yes No

If yes, provide the new name of the program, track, or certificate:

Provide the name of the current program, track, or certificate:

When is the name change effective? Please note: A name change will apply to the record of all students who are currently enrolled, readmitted or newly admitted into this program as of the effective date of this change.

Will students have the option to stay in their existing program, track, or certificate? Yes No

If you are requesting a CIP Code change for an existing program, track, or certificate, please provide:

old CIP:

new CIP:

If a name change is your only revision, stop here. Otherwise, complete the rest of Part A.

Part A - Continued

Specify the faculty who will participate in the program, track or certificate and their credentials to do so: (List faculty and a brief paragraph of their credentials.)

Impact of changes on students: Will current students be impacted by the addition or revision of a program, track or certificate? If so, how?

If applicable, provide a written agreement (email is fine) from all involved units that they are in support of, will provide courses to, or will participate in the program, track, or certificate. Please attach the correspondence and also list the units here.

If an addition, provide a statement of who is likely to enroll and why. Please state if there is licensure or certification that depends upon this education, etc. Also, complete the following table.

	Year 1	Year 2	Year 3
Headcount			
SCHs			

If an addition, indicate likely career or student outcomes upon completion: (What will students do? What will their job titles be?)

Part A - Continued

If an addition or there are substantial REVISIONS to existing tracks or certificates, please complete the following table on financial support: (Specify all forms of support – assistantships, fellowships, and tuition remission.)

	No. assistantship students	Source of funds	No. fellowship students (specify fellowship)	No. tuition remissions	Source of funds
Year 1					
Year 2					
Year 3					

Checklist of items to be provided:

- Electronic graduate catalog copy for additions; track changes included if there are revisions. (required)
- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- Emails showing consultation with other units. (if applicable)
- If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
- If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Part B – For inactivations or suspensions of programs, tracks, or certificates

Are students currently enrolled in the program? Yes No

If yes, number of current students:

Please specify the intended time period of inactivation or suspension:

If program, track, or certificate is being inactivated or suspended, then attach a “teach out” plan for all current students specifying how they can finish the program or where students will be placed if moving to another program. The “teach out” plan should specify when courses will be offered to enable students to finish. Specify whether students will remain in the existing program to finish, and if so, when the completion date will be, whether students will be moved to another program, etc. Please provide a list of students where applicable.

Sample teach out plan: Enter the terms and courses that will be taught for each term throughout the last semester. **Please delete course prefixes and numbers in this section if no teach out plan is required.**

Fall 2012	Spring 2013	Summer 2013	Fall 2013	Spring 2014

Checklist of items to be provided:

- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- E-mails showing consultation with other units. (if applicable)



Program Recommendation Form

This form is to be used to revise, add, suspend, or delete degree programs, tracks, or certificate programs. If there are changes to a program and the changes will affect the program tracks also, one form may be used for both the program and the track.

PLEASE NOTE: The deadline for new tracks or certificates is February 1 of each year. Any proposal for new tracks or certificates received after this date will not be included in the next year's catalog. Revisions to existing programs, tracks, or certificates are due by March 15. Any proposals for revisions received after that date will not be included in the next year's catalog. Please include catalog copy (description, curriculum, contact information, application requirements, and application deadlines). For revisions - attach the catalog copy showing changes (use Track Changes in Word).

College/Unit(s) Submitting Proposal: College of Optics and Photonics

Proposed Effective Term/Year: Fall 2014

Unit(s) Housing Program: _____

Name of program, track and/or certificate: Master of Science in Optics

Brief description of program (this description will show up in the graduate catalog copy): Do not add complete catalog copy here.

The Master of Science in Optics and Photonics program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The program is interdisciplinary and combines optical science and engineering.

DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery

Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)

Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)

Program Director(s) and contact information: (name, email, phone, campus address, program website address)

Please check one: this action affects a: Program Track Certificate

Please check one: this action is a(n):

Addition. Please proceed to Part A.

Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:

Request name change to Optics and Photonics MS

Inactivation

Temporary Suspension of Admissions. Give Length of Suspension:

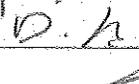
Temporary suspension of admissions: The program will be removed from the online application. A notation will be entered in the graduate catalog indicating the length of the suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.

Inactivation: Admissions will be suspended for new students and the program will be removed from the online application. Students active in the program are eligible to complete the program under the appropriate criteria and an appropriate teach-out plan is required. The program will be removed from the catalog as of the approved term.

If you checked inactivation or you are temporarily suspending admissions, please go to Part B and complete it.

Signature Page

Recommend Approval (all approval levels must be signed)

Department Chair (Print)	<u>DAVID J. HAGAN</u>	(Signature)	<u></u>	Date	<u>1/14/14</u>
College Academic Standards	(Print) <u>DAVID HAGAN</u>	(Signature)	<u></u>	Date	<u>1/23/14</u>
College Dean	(Print) <u>BAHAA E.A. SALEM</u>	(Signature)	<u></u>	Date	<u>1/14/14</u>
Graduate Council	(Print) _____	(Signature)	_____	Date	_____
Graduate Dean	(Print) _____	(Signature)	_____	Date	_____

Approval

Provost and Executive Vice President: _____ Date _____

Distribution: After approval is received from the Provost, distribution will be to:

Department(s); College; Registrar; Associate Registrar; Institutional Research; Academic Services; Faculty Senate; University Analysis and Planning Support; College of Graduate Studies

Part A – For additions or revisions of programs, tracks or certificates

Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)

The word "photonics" is rapidly replacing the word "optics" in many sectors of our field. For this reason, the word "Photonics" was added to our college a decade ago. The faculty of the college now believe it is time that we also added the word photonics to our graduate degrees. We believe it may make it a little easier for our alumni to find employment opportunities with some companies.

For Revisions:

Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other requirements, please state those changes. Remember to attach the catalog copy showing changes, using Track Changes in Word.)

-Request name change from MS in "Optics" to MS in "Optics and Photonics"

Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?

Yes No

If yes, state the name of the program or track where students are currently enrolled and provide a list of students if possible:

Will students have the option to stay in their existing program, track, or certificate? Yes No

Name Change

Are you changing the name of an existing program, track, or certificate? Yes No

If yes, provide the new name of the program, track, or certificate:

Master of Science in Optics and Photonics

Provide the name of the current program, track, or certificate:

Master of Science in Optics

When is the name change effective? Please note: A name change will apply to the record of all students who are currently enrolled, readmitted or newly admitted into this program as of the effective date of this change.

Spring 2014 if possible. If not, by Fall 2014

Will students have the option to stay in their existing program, track, or certificate? Yes No

If you are requesting a CIP Code change for an existing program, track, or certificate, please provide:

old CIP:

new CIP:

If a name change is your only revision, stop here. Otherwise, complete the rest of Part A.

Part A - Continued

Specify the faculty who will participate in the program, track or certificate and their credentials to do so: (List faculty and a brief paragraph of their credentials.)

All faculty who currently teach in the current Optics MS program.

Impact of changes on students: Will current students be impacted by the addition or revision of a program, track or certificate? If so, how?

The name change will probably help students in job searches, as the word "photonics" is rapidly replacing the word "optics" in some areas of our field.

If applicable, provide a written agreement (email is fine) from all involved units that they are in support of, will provide courses to, or will participate in the program, track, or certificate. Please attach the correspondence and also list the units here.

n/a

If an addition, provide a statement of who is likely to enroll and why. Please state if there is licensure or certification that depends upon this education, etc. Also, complete the following table.

n/a

	Year 1	Year 2	Year 3
Headcount			
SCHs			

If an addition, indicate likely career or student outcomes upon completion: (What will students do? What will their job titles be?)

n/a

Part A - Continued

If an addition or there are substantial REVISIONS to existing tracks or certificates, please complete the following table on financial support: (Specify all forms of support – assistantships, fellowships, and tuition remission.)

	No. assistantship students	Source of funds	No. fellowship students (specify fellowship)	No. tuition remissions	Source of funds
Year 1					
Year 2					
Year 3					

Checklist of items to be provided:

- Electronic graduate catalog copy for additions; track changes included if there are revisions. (required)
- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- Emails showing consultation with other units. (if applicable)
- If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
- If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Part B – For inactivations or suspensions of programs, tracks, or certificates

Are students currently enrolled in the program? Yes No

If yes, number of current students:

Please specify the intended time period of inactivation or suspension:

n/a

If program, track, or certificate is being inactivated or suspended, then attach a "teach out" plan for all current students specifying how they can finish the program or where students will be placed if moving to another program. The "teach out" plan should specify when courses will be offered to enable students to finish. Specify whether students will remain in the existing program to finish, and if so, when the completion date will be, whether students will be moved to another program, etc. Please provide a list of students where applicable.

n/a

Sample teach out plan: Enter the terms and courses that will be taught for each term throughout the last semester. Please delete course prefixes and numbers in this section if no teach out plan is required.

Fall 2012	Spring 2013	Summer 2013	Fall 2013	Spring 2014

Checklist of items to be provided:

- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- E-mails showing consultation with other units. (if applicable)



Program Recommendation Form

This form is to be used to revise, add, suspend, or delete degree programs, tracks, or certificate programs. If there are changes to a program and the changes will affect the program tracks also, one form may be used for both the program and the track.

PLEASE NOTE: The deadline for new tracks or certificates is February 1 of each year. Any proposal for new tracks or certificates received after this date will not be included in the next year's catalog. Revisions to existing programs, tracks, or certificates are due by March 15. Any proposals for revisions received after that date will not be included in the next year's catalog. Please include catalog copy (description, curriculum, contact information, application requirements, and application deadlines). For revisions - attach the catalog copy showing changes (use Track Changes in Word).

College/Unit(s) Submitting Proposal: College of Optics and Photonics

Proposed Effective Term/Year: Fall 2014

Unit(s) Housing Program: _____

Name of program, track and/or certificate: Doctor of Philosophy in Optics

Brief description of program (this description will show up in the graduate catalog copy): Do not add complete catalog copy here.

The PhD in Optics and Photonics program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The program is interdisciplinary and combines optical science and engineering.

DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery

Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)

Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)

Program Director(s) and contact information: (name, email, phone, campus address, program website address)

Page 2 of UCF Program Recommendation Form

Please check one: this action affects a: Program Track Certificate

Please check one: this action is a(n):

- Addition. Please proceed to Part A.
- Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:

Request name change to PhD in Optics and Photonics

- Inactivation
- Temporary Suspension of Admissions. Give Length of Suspension:
-

Temporary suspension of admissions: The program will be removed from the online application. A notation will be entered in the graduate catalog indicating the length of the suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.

Inactivation: Admissions will be suspended for new students and the program will be removed from the online application. Students active in the program are eligible to complete the program under the appropriate criteria and an appropriate teach-out plan is required. The program will be removed from the catalog as of the approved term.

If you checked inactivation or you are temporarily suspending admissions, please go to Part B and complete it.

Signature Page

Recommend Approval (all approval levels must be signed)

Department Chair (Print)	<u>DAVID J. HAGAN</u>	(Signature)	<u></u>	Date	<u>1/14/14</u>
College Academic Standards (Print)	<u>D. HAGAN</u>	(Signature)	<u></u>	Date	<u>1/23/14</u>
College Dean (Print)	<u>BAHAA E.A. SALEH</u>	(Signature)	<u></u>	Date	<u>1/14/14</u>
Graduate Council (Print)	_____	(Signature)	_____	Date	_____
Graduate Dean (Print)	_____	(Signature)	_____	Date	_____

Approval

Provost and Executive Vice President: _____ Date _____

Distribution: After approval is received from the Provost, distribution will be to:

Department(s); College; Registrar; Associate Registrar; Institutional Research; Academic Services; Faculty Senate; University Analysis and Planning Support; College of Graduate Studies

Part A -- For additions or revisions of programs, tracks or certificates

Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)

The word "photonics" is rapidly replacing the word "optics" in many sectors of our field. For this reason, the word "Photonics" was added to our college a decade ago. The faculty of the college now believe it is time that we also added the word photonics to our graduate degrees. We believe it may make it a little easier for our alumni to find employment opportunities with some companies.

For Revisions:

Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other requirements, please state those changes. Remember to attach the catalog copy showing changes, using Track Changes in Word.)

-Request name change from PhD in "Optics" to PhD in "Optics and Photonics"

Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?

Yes No

If yes, state the name of the program or track where students are currently enrolled and provide a list of students if possible:

Will students have the option to stay in their existing program, track, or certificate? Yes No

Name Change

Are you changing the name of an existing program, track, or certificate? Yes No

Page 5 of UCF Program Recommendation Form

If yes, provide the new name of the program, track, or certificate:

Doctor of Philosophy in Optics and Photonics

Provide the name of the current program, track, or certificate:

Doctor of Philosophy in Optics

When is the name change effective? Please note: A name change will apply to the record of all students who are currently enrolled, readmitted or newly admitted into this program as of the effective date of this change.

Spring 2014 if possible. If not, by Fall 2014

Will students have the option to stay in their existing program, track, or certificate? Yes No

If you are requesting a CIP Code change for an existing program, track, or certificate, please provide:

old CIP:

new CIP:

If a name change is your only revision, stop here. Otherwise, complete the rest of Part A.

Part A - Continued

Specify the faculty who will participate in the program, track or certificate and their credentials to do so: (List faculty and a brief paragraph of their credentials.)

All faculty who currently teach in the current Optics PhD program.

Impact of changes on students: Will current students be impacted by the addition or revision of a program, track or certificate? If so, how?

The name change will probably help students in job searches, as the word "photonics" is rapidly replacing the word "optics" in some areas of our field.

Page 6 of UCF Program Recommendation Form

If applicable, provide a written agreement (email is fine) from all involved units that they are in support of, will provide courses to, or will participate in the program, track, or certificate. Please attach the correspondence and also list the units here.

n/a

If an addition, provide a statement of who is likely to enroll and why. Please state if there is licensure or certification that depends upon this education, etc. Also, complete the following table.

n/a

	Year 1	Year 2	Year 3
Headcount			
SCHs			

If an addition, indicate likely career or student outcomes upon completion: (What will students do? What will their job titles be?)

n/a

Part A - Continued

If an addition or there are substantial REVISIONS to existing tracks or certificates, please complete the following table on financial support: (Specify all forms of support -- assistantships, fellowships, and tuition remission.)

	No. assistantship students	Source of funds	No. fellowship students (specify fellowship)	No. tuition remissions	Source of funds
Year 1					
Year 2					
Year 3					

Page 7 of UCF Program Recommendation Form

Checklist of Items to be provided:

- Electronic graduate catalog copy for additions; track changes included if there are revisions. (required)
- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- Emails showing consultation with other units. (if applicable)
- If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
- If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Part B -- For inactivations or suspensions of programs, tracks, or certificates

Are students currently enrolled in the program? Yes No

If yes, number of current students:

Please specify the intended time period of inactivation or suspension:

n/a

If program, track, or certificate is being inactivated or suspended, then attach a "teach out" plan for all current students specifying how they can finish the program or where students will be placed if moving to another program. The "teach out" plan should specify when courses will be offered to enable students to finish. Specify whether students will remain in the existing program to finish, and if so, when the completion date will be, whether students will be moved to another program, etc. Please provide a list of students where applicable.

n/a

Sample teach out plan: Enter the terms and courses that will be taught for each term throughout the last semester. Please delete course prefixes and numbers in this section if no teach out plan is required.

Fall 2012	Spring 2013	Summer 2013	Fall 2013	Spring 2014

Checklist of items to be provided:

- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- E-mails showing consultation with other units. (if applicable)

January 13, 2014

TO:	UCF Graduate Curriculum Committee
FROM:	Office of Academic Programs
RE:	Request for Review and Approval: Graduate Program Name Changes

The word "photonics" is rapidly replacing the word "optics" in many sectors of our field. For this reason, the word "Photonics" was added to our college a decade ago. The faculty of the college now believe it is time that we also added the word photonics to our graduate degrees. We believe it may make it a little easier for our alumni to find employment opportunities with some companies.

The two programs affected will be the PhD and the MS program:

- Request name change from PhD in "Optics" to PhD in "Optics and Photonics"
- Request name change from MS in "Optics" to MS in "Optics and Photonics"

Please approve and make effective as soon as possible.

Thanks,



David J. Hagan
Associate Dean for Academic Programs
Professor of Optics and Physics



Program Recommendation Form

This form is to be used to revise, add, suspend, or delete degree programs, tracks, or certificate programs. If there are changes to a program and the changes will affect the program tracks also, one form may be used for both the program and the track.

PLEASE NOTE: The deadline for new tracks or certificates is **February 1 of each year**. Any proposal for new tracks or certificates received after this date will not be included in the next year's catalog. Revisions to existing programs, tracks, or certificates are **due by March 15**. Any proposals for revisions received after that date will not be included in the next year's catalog. Please include catalog copy (description, curriculum, contact information, application requirements, and application deadlines). **For revisions – attach the catalog copy showing changes (use Track Changes in Word).**

College/Unit(s) Submitting Proposal: College of Optics and Photonics

Proposed Effective Term/Year: Fall 2014

Unit(s) Housing Program: _____

Name of program, track and/or certificate: Master of Science in Optics and Photonics, Photonics Track

Brief description of program (this description will show up in the graduate catalog copy): **Do not add complete catalog copy here.**

The Master of Science in Optics and Photonics program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The program is interdisciplinary and combines optical science and engineering.

DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery

Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)

Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)

Program Director(s) and contact information: (name, email, phone, campus address, program website address)

David J. Hagan, hagan@creol.ucf.edu, 3X6817, CREOL +2700, creol.ucf.edu

Page 2 of UCF Program Recommendation Form

Please check one: this action affects a: Program Track Certificate

Please check one: this action is a(n):

Addition. Please proceed to Part A.

Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:

Inactivation

Temporary Suspension of Admissions. Give Length of Suspension:

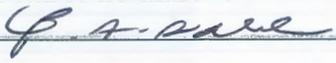
Temporary suspension of admissions: The program will be removed from the online application. A notation will be entered in the graduate catalog indicating the length of the suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.

Inactivation: Admissions will be suspended for new students and the program will be removed from the online application. Students active in the program are eligible to complete the program under the appropriate criteria and an appropriate teach-out plan is required. The program will be removed from the catalog as of the approved term.

If you checked inactivation or you are temporarily suspending admissions, please go to Part B and complete it.

Signature Page

Recommend Approval (all approval levels must be signed)

Department Chair (Print)	<u>David J. Hagan</u>	(Signature)	<u></u>	Date	<u>1/30/2014</u>
College Academic Standards (Print)	<u>David J. Hagan</u>	(Signature)	<u></u>	Date	<u>1/30/2014</u>
College Dean (Print)	<u>Bahaa E.A. Saleh</u>	(Signature)	<u></u>	Date	<u>1/31/14</u>
Graduate Council (Print)	_____	(Signature)	_____	Date	_____
Graduate Dean (Print)	_____	(Signature)	_____	Date	_____

Approval

Provost and Executive Vice President: _____ Date _____

Distribution: After approval is received from the Provost, distribution will be to:

Department(s); College; Registrar; Associate Registrar; Institutional Research; Academic Services; Faculty Senate;
University Analysis and Planning Support; College of Graduate Studies

Part A – For additions or revisions of programs, tracks or certificates

Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)

As the field of optics and photonics grows, there is a need for students to specialize at the graduate level. We have therefore decided to offer two tracks in our MS program, one in "Photonics" the other in "Optics". The Photonics track, described here, will require students to take several courses that are fundamental to the field of study, particularly in the area of optical communications. Students in the track will also be required to complete a research report. We will schedule course so that the student can complete the track in either a 12 month or 18 month timeframe. We believe that the availability of this track, along with the possibility to complete it on an accelerated schedule, will make the program attractive to prospective students and boost the enrollment in our MS program. We also believe that graduates from this focused curriculum on photonics will be highly sought-after by industry. Students in this track will are not expected to receive any financial support from the college or university.

For Revisions:

Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other requirements, please state those changes. Remember to attach the catalog copy showing changes, using Track Changes in Word.)

[Empty box for listing program changes]

Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?

Yes No

If yes, state the name of the program or track where students are currently enrolled and provide a list of students if possible:

Will students have the option to stay in their existing program, track, or certificate? Yes No

Name Change

Are you changing the name of an existing program, track, or certificate? Yes No

If yes, provide the new name of the program, track, or certificate:

Provide the name of the current program, track, or certificate:

Master of Science in Optics and Photonics

When is the name change effective? Please note: A name change will apply to the record of all students who are currently enrolled, readmitted or newly admitted into this program as of the effective date of this change.

Will students have the option to stay in their existing program, track, or certificate? Yes No

If you are requesting a CIP Code change for an existing program, track, or certificate, please provide:

old CIP:

new CIP:

If a name change is your only revision, stop here. Otherwise, complete the rest of Part A.

Part A - Continued

Specify the faculty who will participate in the program, track or certificate and their credentials to do so: (List faculty and a brief paragraph of their credentials.)

All faculty who currently teach in the current Optics MS program.

Impact of changes on students: Will current students be impacted by the addition or revision of a program, track or certificate? If so, how?

Currents student may elect to enroll in the track but if not they will not be affected.

If applicable, provide a written agreement (email is fine) from all involved units that they are in support of, will provide courses to, or will participate in the program, track, or certificate. Please attach the correspondence and also list the units here.

If an addition, provide a statement of who is likely to enroll and why. Please state if there is licensure or certification that depends upon this education, etc. Also, complete the following table.

Graduates from Electrical Engineering and Physics programs. Also full time employees from industry wishing to advance their careers.

	Year 1	Year 2	Year 3
Headcount	5	12	18
SCHs	150	360	540

If an addition, indicate likely career or student outcomes upon completion: (What will students do? What will their job titles be?)

students will receive a degree with a specialization in Photonics. For students who want to pursue jobs in the photonics industry, this will enhance their prospects as their training and education will be dedicated to this area of the optical sciences.

Part A - Continued

If an addition or there are substantial REVISIONS to existing tracks or certificates, please complete the following table on financial support: (Specify all forms of support – assistantships, fellowships, and tuition remission.)

	No. assistantship students	Source of funds	No. fellowship students (specify fellowship)	No. tuition remissions	Source of funds
Year 1					
Year 2					
Year 3					

Checklist of items to be provided:

- Electronic graduate catalog copy for additions; track changes included if there are revisions. (required)
- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- Emails showing consultation with other units. (if applicable)
- If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
- If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Part B – For inactivations or suspensions of programs, tracks, or certificates

Are students currently enrolled in the program? Yes No

If yes, number of current students:

Please specify the intended time period of inactivation or suspension:

n/a

If program, track, or certificate is being inactivated or suspended, then attach a "teach out" plan for all current students specifying how they can finish the program or where students will be placed if moving to another program. The "teach out" plan should specify when courses will be offered to enable students to finish. Specify whether students will remain in the existing program to finish, and if so, when the completion date will be, whether students will be moved to another program, etc. Please provide a list of students where applicable.

n/a

Sample teach out plan: Enter the terms and courses that will be taught for each term throughout the last semester. Please delete course prefixes and numbers in this section if no teach out plan is required.

Fall 2012	Spring 2013	Summer 2013	Fall 2013	Spring 2014

Checklist of items to be provided:

- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- E-mails showing consultation with other units. (if applicable)



January 30, 2014

TO:	UCF College of Graduate Studies
FROM:	CREOL Office of Academic Programs
RE:	Program Recommendation : Photonics Track Checklist Items

Checklist of items to be provided:

- Electronic graduate catalog copy for additions; track changes included if there are revisions.
(required)
- Attach all appropriate course action requests that will be necessary to implement the changes.
(required)
- Emails showing consultation with other units. (if applicable)
- If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
- If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Thanks,

A handwritten signature in black ink that reads 'David J. Hagan'.

David J. Hagan

January 30, 2014

Electronic graduate catalog copy for additions; track changes included if there are revisions.
(required)

See Attached

Optics MS

Program **PHOTONICS TRACKS**

International

College : Optics and Photonics	Degree :MS
Department :	Option : Thesis, Nonthesis
Program Websites : http://www.creol.ucf.edu/	

PROGRAM DESCRIPTION

The Master of Science in Optics program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The program is interdisciplinary and combines optical science and engineering.

CURRICULUM

The Optics MS program requires a minimum of 30 credit hours beyond the bachelor's degree. The program offers a thesis and nonthesis option. Students are allowed ~~considerable some~~ freedom in planning their study programs, although some foundation Optics courses are strongly recommended as core courses and ~~two one~~ research methods/laboratory courses ~~is are~~ required.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Additional notes on the curriculum:

- A minimum of 24 credit hours of formal graduate courses is required in the thesis option of which at least 12 credit hours must be formal Optics (prefix OSE) courses. A minimum of 27 credit hours of formal graduate courses is required in the nonthesis option of which at least 18 credit hours must be formal Optics (prefix OSE) courses. The remaining credit hours can be thesis or other elective and research courses as permitted in the option.
- ~~At least 6-3 credit hours of approved optics or related science and engineering research methods/laboratory courses are is required in both options. At least one must be in Optics or approved as an Optics substitute.~~
- ~~An OSE 6908 Research Report of 3 credits is required in the Nonthesis option.~~
- Up to nine credit hours of appropriate graduate courses from accredited universities may be transferred with approval from the College of Optics and Photonics. Only courses with grades of "B" or better can be transferred.

Required Courses—185 Credit Hours

Core—159 Credit Hours

The following foundation courses are strongly recommended for all students unless they can demonstrate knowledge sufficient to waive the course in which case they will take an additional elective.

- OSE 5041 Introduction to Wave Optics* (3 credit hours)

And ~~two of~~ the following ~~three-four~~ courses:

- ~~OSE 5203 Geometrical Optics and Imaging Systems (3 credit hours)~~
- ~~OSE 5414 Fundamentals of Optoelectronic Devices (3 credit hours)~~
- ~~OSE 6432 Guided Waves and Optoelectronics (3 credit hours)~~
- ~~OSE 6525 Laser Engineering (3 credit hours)~~
- ~~OSE 6421 Integrated Photonics (3 credit hours)~~
- ~~OSE 6XXX Optical Communication Systems (3 credit hours)~~

* Note that OSE 5041 may be substituted by the student taking both OSE 6111 Optical Wave Propagation and OSE 6115 Interference and Diffraction.

Research Methods/Laboratory—6-3 Credit Hours

At least ~~6-3~~ credit hours of approved Optics and related science/engineering research methods/laboratory courses are required from the list below. ~~At least one must be in Optics (OSE). One required laboratory may be waived if the student can demonstrate an equivalent hands-on proficiency in that laboratory specialization.~~ These research methods/laboratory courses count toward the formal graduate course work requirement.

- ~~OSE 6234C Applied Optics Laboratory (3 credit hours)~~
- ~~OSE 6455C Photonics Laboratory (3 credit hours)~~
- ~~OSE 6526C Laser Engineering Laboratory (3 credit hours)~~
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- Other graduate-related science and engineering methodology labs may be taken with approval by the College of Optics and Photonics.

All students are required to take a minimum of 9-6 credit hours of electives. If students substitute OSE 6111 and OSE 6115 for OSE 5041, then the number of elective hours is reduced to 6-3 credit hours.

Any graduate course with an OSE prefix may be an elective with the approval of the adviser. In addition, the following courses are also accepted toward meeting the Optics (OSE) course work requirement.

- EMA 5610 Laser Materials Processing (3 credit hours)
- PHY 5455 Modern X-Ray Science (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- Other appropriate engineering and science courses may be taken with approval by the College of Optics and Photonics.

A listing and description of courses offered by the College of Optics and Photonics is found in the "Courses" section of the Graduate Catalog Menu at the top of the page.

Thesis Option—6 Credit Hours

The thesis option requires at least 6 credit hours of thesis research.

- OSE 6971 Thesis (6 credit hours)

Independent study and directed research credit hours are not allowed toward the degree requirements. The student must prepare an approved program of study and form a thesis committee upon completion of nine credit hours. The MS thesis committee consists of three members, with at least two regular graduate faculty members from the College of Optics and Photonics. Students are required to write a thesis and pass an oral exam based primarily on the topics of the thesis and course work.

Nonthesis Option—6 Credit Hours

The nonthesis option requires an additional 6 credit hours of ~~electives, courses or electives~~

- OSE 6908 Research Report (3 credit hours)
- Electives (36 credit hours)

Up to 3 credit hours of ~~directed research (OSE 6948) or R~~research ~~R~~report (OSE 6909) ~~may will be required, included as electives with prior approval of the College of Optics and Photonics although they are not counted toward the required 27 credit hours of formal course work.~~ ~~Students must select and advisor from the College of Optics Faculty to serve on their Research Report.~~ Students must prepare an approved program of study upon completion of nine credit hours. Students are required to pass a final oral comprehensive examination based primarily on the subject matter of the courses taken. The purpose of the exam is for the student to demonstrate his or her basic knowledge of the fundamentals of optics and photonics.

~~The nonthesis master's requires a minimum of two one methods/laboratory courses as described above. These laboratory courses involves a substantial amount of independent learning on the part of the student. For example, laboratory reports must include sections on the theoretical and historical background behind the phenomena explored in laboratory experiments, and students are expected to obtain this background information on their own by researching the scientific literature. One required Optics laboratory may be waived if the student can demonstrate an equivalent hands-on proficiency in that laboratory specialization. These methodology/laboratory courses count toward the formal course work requirement.~~

INDEPENDENT LEARNING

~~Students must demonstrate independent learning by either writing a thesis, or a research report. Additionally, a~~ All students must take a minimum of ~~two one~~ graduate methodology/laboratory courses in Optics or a closely related field that include experiments, research and ~~laboratory reports. Nonthesis students also engage in directed research or research report. Thesis students enroll in 6 hours of thesis credits during the completion of their research study.~~

***** APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre-application process. The pre-application is located at <http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx>.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Optics, Electrical Engineering, Physics, or closely related fields.
- Official, competitive GRE score taken within the last five years.
- Goal Statement: Please choose the Personal Statement option. Your Personal statement should describe your career goals. Please include why you want to come to CREOL and how the MS will help you achieve your ultimate career goals.
- Three letters of recommendation.
- Résumé.

Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case-by-case basis.

Application Deadlines

Optics MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see the College of Graduate Studies Funding website, which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The Financial Information section of the Graduate Catalog is another key resource.

Fellowships

Fellowships are awarded based on academic merit to highly qualified students. They are paid to students through the Office of Student Financial Assistance, based on instructions provided by the College of Graduate Studies. Fellowships are given to support a student's graduate study and do not have a work obligation. For more information, see [UCF Graduate Fellowships](#), which includes descriptions of university fellowships and what you should do to be considered for a fellowship.

Contact INFO

Graduate Program

David Hagan PhD

Associate Dean

hagan@creol.ucf.edu

Telephone: 407-823-6817

CROL 231 [Map](#)

Graduate Admissions

Admissions Counselor

gradadmissions@ucf.edu

Telephone: 407-823-2766 ext. 251

Millican Hall 230 [Map](#)

[Online Application](#)

[Graduate Admissions](#)

Mailing Address

UCF College of Graduate Studies

Millican Hall 230

PO Box 160112

Orlando, FL 32816-0112

Institution Codes

GRE: 5233

GMAT: RZT-HT-58

TOEFL: 5233

ETS PPI: 5233

Graduate Fellowships

Grad Fellowships

Telephone: 407-823-0127

gradfellowship@ucf.edu

www.graduate.ucf.edu

Graduate Financial Aid

UCF Student Financial Assistance

Millican Hall 120

Telephone: 407-823-2827

Appointment Line: 407-823-5285

Fax: 407-823-5241

finaid@ucf.edu

<http://finaid.ucf.edu>

[Catalog Home](#) | [About the Graduate Catalog](#) | [Events Calendar](#) | [Apply Now!](#)



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January 30, 2014

Attach all appropriate course action requests that will be necessary to implement the changes.
(required)

CAR OSE 6XXX Optical Communication Systems (copy attached)
Was included on the January 27 meeting.



Course Action Request Form

Course Addition Course Revision Course Deletion

Forward to your college office

Course Information NOTE: Course additions and course revisions must be accompanied by a course syllabus and rationale.
Note: Departments must also submit an electronic syllabus to the college curriculum person.

College: College of Optics and Photonics Department: Optics - MS/PhD
Department Chair: David J Hagan, Associate Dean Phone: 407-823-6817
Academic Affairs Approved Instructor: Guifang Li

	Course Prefix	Number	Title	Credit Hours Ex.: 3(3,0)
Course Prefix				
New or Proposed Revision	OSE	6XXX	Optical Communications Systems	3(3,0)

30 Char. Abbreviation: Optical Communication Sys

Course Description (25 word limit):

Introduces key principles and analysis of optical communication systems. Emphasis on developing the ability to analyze and design digital, analog fiber-based systems and networks.

Will lab fees be charged? Yes No

Repeat for credit? Yes No If yes, indicate the total times this course may be used in the degree program. _____

Repeat within same semester? Yes No

NOTE: For a repeatable course, indicate in the syllabus what will remain the same and what will change when the course is repeated. Also indicate who approves content before a course is repeated.

Prerequisite(s) and/or Corequisite(s): GS, OSE 5414 Graded S/U? Yes No

Split-Level Class: Yes No

If offering a split-level class, complete this section even if it had been approved earlier for individual delivery.

List undergraduate split-level course: _____

NOTE: Both the graduate and the undergraduate split-level syllabi must be approved through the established university process for approving courses so that there are two separate and complete syllabi for each course. The graduate syllabus should clearly demonstrate more advanced subject matter, expectations, and rigor. Attach both undergraduate and graduate syllabi to this form.

Term of Offering

When will course be offered?

- Odd Fall Odd Spring Odd Summer Every Semester
 Even Fall Even Spring Even Summer Occasional

Intended Utilization of Course

The course will be used primarily as:

- Required Courses Elective Courses

Justification for Course Addition or Course Revision

What is the rationale for adding/changing this course?

Optics has approve a new MS Program track that will focus on Photonics. This course is essential in the development of understanding the fiber and optoelectronic based components of optical communication systems.

What majors require or recommend this course for graduation? Optics MS,

If not a major requirement, what will be the source of students? Optics, EE, Phys

What is the estimated annual enrollment? 20

Possible duplications and conflicts with other departments or colleges should be discussed with appropriate parties. Please detail discussion you have had.

none. Request for comments in progress.

Justification for Course Deletion

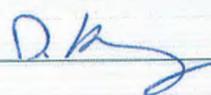
Is this course a required course for graduation in a major or prerequisite? Yes No

If yes, have the involved major departments been informed, in writing, of proposed deletion? Yes No

If not, explain: Course Description (25 word limit):

Notes:

Approval Signatures

Department Chair  Date 1/14/14

College Academic Standards _____ Date _____

College Dean  Date 1/14/14

Graduate Council _____ Date _____

Graduate Dean _____ Date _____

OSE 6XXX – Optical Communication Systems

COURSE GOALS

This course will aim at elucidating the key principles underlying the analysis of optical communication systems based on their fiber- and optoelectronic-based components. The emphasis will be on engineering aspects and the students should be able to comprehend, analyze and design digital and analog fiber-based systems and networks at the end of the course.

COURSE OBJECTIVES

In order to analyze and design fiber-optic systems, it is necessary to study the components that constitute it, the principles that underlie their operation, and their functional characteristics from the perspective of a system design engineer. To this extent, the course will develop tools to understand:

- Propagation of signals and their impairments in optical fibers
- Operational characteristics of optical transmitters and receivers
- Link analysis of digital and analog optical systems
- Dispersion management techniques

TOPICS:

1. Overview of fiber optic communication systems

2. Propagation of signals in fibers

- a. Planar slab waveguides
- b. Waveguide modes, field distribution, and group velocity
- c. Rectangular channel
- d. Multimode fiber: Ray analysis, Graded-Index Fibers, Bandwidth, Modal noise
- e. Single-mode fiber: Pulse propagation, Group velocity dispersion, Polarization-mode dispersion (PMD), Optical dispersion compensation techniques.
- f. Fiber fabrication techniques
- g. Nonlinear effects in fibers

3. System performance of telecom lasers

- a. Operation principles, modulation, chirp, linewidth enhancement factor, phase and intensity noise characteristics

4. Optical receivers

- a. Noise (Shot and thermal sources and PIN vs. APD)
- b. Sensitivity (Bit-error rate, minimum received power, quantum limit of detection)
- c. Sensitivity degradation (extinction ratio, intensity noise, timing jitter)

5. Optical modulators

- a. Electro-optic modulators
- b. Electro-absorption modulators

6. Optical amplifiers

- a. Erbium Doped Fiber Amplifiers (EDFA): gain spectrum and bandwidth, gain saturation and amplifier noise
- b. Semiconductor Optical Amplifiers (SOA): basic design and characteristics

7. Optical communication systems

- a. Loss- and dispersion-limited systems
- b. Power and rise time budgeting
- c. System Architectures (point-to-point, distributed and local area networks)
- d. Long-haul digital link design (sources of power penalty: modal noise, dispersive pulse broadening, mode-partition noise, frequency chirping and reflection feedback)
- e. Analog optical link design and CATV systems
- f. WDM systems

8. Dispersion management

- a. Precompensation techniques (prechirp, novel coding and nonlinear prechirp)
- b. Postcompensation techniques
- c. Dispersion-compensating fibers
- d. Fiber Bragg gratings

9. Coherent optical systems

- a. Homodyne and heterodyne detectors
- b. Modulation formats (ASK, PSK and FSK)

REQUIRED TEXTBOOK:

Fiber Optic Communication Systems, 3rd Edition, G. P. Agrawal, John Wiley and Sons, 2002.

RECOMMENDED TEXTBOOKS:

- 1) *Optical Fiber Communications: Principles and Practice*, 3rd Edition, John M. Senior, Prentice Hall, 2009.
- 2) *An Introduction to Fiber Optics*, A. K. Ghatak and K. Thyagarajan, Cambridge University Press, 1998.
- 3) *Optical Networks*, 2nd Edition, R. Ramaswami and K. Sivarajan, Morgan Kaufmann, Elsevier, 2010.

COURSE REQUIREMENTS

Graduate Standing; OSE5414 (Fundamentals of Optoelectronic Devices) Recommended

GRADING:

Homework Assignments: 25%
Midterm Exam: 35%
Final Exam: 40%

January 30, 2014

Emails showing consultation with other units. (if applicable)

See attached email to Dr. Kalpathy Sundaram

Rachel Agerton-Franzetta

From: Rachel Agerton-Franzetta
Sent: Thursday, January 30, 2014 1:12 PM
To: Kalpathy Sundaram
Subject: Optics Program Recommendations: 2 Tracks in Optics and Photonics
Attachments: MS degree tracks v7.pdf

Hi Dr. Sundaram,

The CREOL Curriculum Committee has decided to split our MS Optics degree into two tracks. One track will be devoted to Photonics and the requirements will be all related to Photonics. The second track will be devoted to Optics and the requirements will be all related to Optics. The purpose of this is that students who are seeking jobs in industry in either specific field will be able to show credentials that verify their expertise in that field.

We are submitted this recommendation to the Graduate Counsel, and want to make sure that this would not overlap any of your tracks.

I'm attaching our proposed course schedule for your reference.

Please respond with your comments.

Thanks,

Rachel Franzetta

Graduate Coordinator

College of Optics and Photonics

University of Central Florida

4304 Scorpius St., Box 162700

Orlando, FL 32816-2700

407-823-6986

rfranzet@creol.ucf.edu



January 30, 2014

If in addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Creating the Photonics Track does not in add a new discipline, but does focus on specific courses required to show specialization of the photonics field of work. This track will belong to the College of Optics and Photonics, Optics Master of Science.
No other tracks of certificates are related to this track.

CREOL, The College of Optics and Photonics
Twelve-Month (Accelerated) Master's Program with Two Tracks***

Photonics Track	Optics Track
Fall (12 credit)	
OSE5041 Introduction to Wave Optics (or OSE 6111 + OSE 6115)	OSE5041 Introduction to Wave Optics (or OSE 6111 + OSE 6115)
OSE5414 Fundamentals of Optoelectronic Devices	OSE5203 Geometrical Optics and Imaging Systems
OSE6525 Laser Engineering	OSE6525 Laser Engineering
Elective 1	Elective 1
Spring (12 credit)	
OSE6XXX: Optical Communication Systems*	OSE6211 Fourier Optics
OSE6421 Integrated Photonics	Elective 2
Elective 2	Elective 3
Elective 3	Elective 4
Summer (6 credit)	
Elective 4	OSE6265 Optical Systems Design
Research report (3 credits)	Research report (3 credits)
Electives	
Suggested electives for each track are given below. However, any graduate OSE course or approved graduate science or engineering course can be taken provided that at least one of them is a laboratory course.	
Suggested Electives	
OSE6125 Computational Photonics	OSE5312 Light-matter interaction
OSE6143 Fiber Optics Communication	OSE6445 High-Speed Photonics
OSE6536 Semiconductor Lasers	OSE6938U ST: Fiber Lasers
OSE6820 Flat Panel Displays	OSE6820 Flat Panel Displays
OSE6315 Liquid Crystal Materials and Devices	OSE6315 Liquid Crystal Materials and Devices
Suggested Lab(s)	
OSE6455C Photonics Laboratory	OSE6526C Laser Engineering Laboratory
OSE6615C Optoelectronic Device Fab. Laboratory	OSE6234C Applied Optics Laboratory*



Program Recommendation Form

This form is to be used to revise, add, suspend, or delete degree programs, tracks, or certificate programs. If there are changes to a program and the changes will affect the program tracks also, one form may be used for both the program and the track.

PLEASE NOTE: The deadline for new tracks or certificates is **February 1 of each year**. Any proposal for new tracks or certificates received after this date will not be included in the next year's catalog. Revisions to existing programs, tracks, or certificates are **due by March 15**. Any proposals for revisions received after that date will not be included in the next year's catalog. Please include catalog copy (description, curriculum, contact information, application requirements, and application deadlines). **For revisions – attach the catalog copy showing changes (use Track Changes in Word).**

College/Unit(s) Submitting Proposal: College of Optics and Photonics

Proposed Effective Term/Year: Fall 2014

Unit(s) Housing Program: _____

Name of program, track and/or certificate: Master of Science in Optics and Photonics, Optics Track

Brief description of program (this description will show up in the graduate catalog copy): Do not add complete catalog copy here.

The Master of Science in Optics and Photonics program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The program is interdisciplinary and combines optical science and engineering.

DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery

Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)

Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)

Program Director(s) and contact information: (name, email, phone, campus address, program website address)

David J. Hagan, hagan@creol.ucf.edu, 3X6817, CREOL +2700, creol.ucf.edu

Page 2 of UCF Program Recommendation Form

Please check one: this action affects a: Program Track Certificate

Please check one: this action is a(n):

- Addition. Please proceed to Part A.
 Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:
-

- Inactivation
 Temporary Suspension of Admissions. Give Length of Suspension:
-

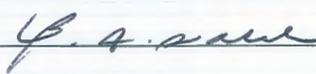
Temporary suspension of admissions: The program will be removed from the online application. A notation will be entered in the graduate catalog indicating the length of the suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.

Inactivation: Admissions will be suspended for new students and the program will be removed from the online application. Students active in the program are eligible to complete the program under the appropriate criteria and an appropriate teach-out plan is required. The program will be removed from the catalog as of the approved term.

If you checked inactivation or you are temporarily suspending admissions, please go to Part B and complete it.

Signature Page

Recommend Approval (all approval levels must be signed)

Department Chair (Print)	<u>David J. Hagan</u>	(Signature)	<u></u>	Date	<u>1/30/2014</u>
College Academic Standards (Print)	<u>David J. Hagan</u>	(Signature)	<u></u>	Date	<u>1/30/2014</u>
College Dean (Print)	<u>Bahaa E.A. Saleh</u>	(Signature)	<u></u>	Date	<u>1/31/14</u>
Graduate Council (Print)	_____	(Signature)	_____	Date	_____
Graduate Dean (Print)	_____	(Signature)	_____	Date	_____

Approval

Provost and Executive Vice President: _____ Date _____

Distribution: After approval is received from the Provost, distribution will be to:
Department(s); College; Registrar; Associate Registrar; Institutional Research; Academic Services; Faculty Senate;
University Analysis and Planning Support; College of Graduate Studies

Part A – For additions or revisions of programs, tracks or certificates

Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)

As the field of optics and photonics grows, there is a need for students to specialize at the graduate level. We have therefore decided to offer two tracks in our MS program, one in "Photonics" the other in "Optics". The Optics track, described here, will require students to take several courses that are fundamental to the field of optics, particularly in the area of optical design and imaging.. Students in the track will also be required to complete a research report. We will schedule courses so that the student can complete the track in either a 12 month or 18 month timeframe. We believe that the availability of this track, along with the possibility to complete it on an accelerated schedule, will make the program attractive to prospective students and boost the enrollment in our MS program. We also believe that graduates from this focused curriculum on optics and imaging will be highly sought-after by industry. Students in this track will are not expected to receive any financial support from the college or university.

For Revisions:

Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other requirements, please state those changes. **Remember to attach the catalog copy showing changes, using Track Changes in Word.**)

Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?

Yes No

If yes, state the name of the program or track where students are currently enrolled and provide a list of students if possible:

Will students have the option to stay in their existing program, track, or certificate? Yes No

Name Change

Are you changing the name of an existing program, track, or certificate? Yes No

If yes, provide the new name of the program, track, or certificate:

Provide the name of the current program, track, or certificate:

Master of Science in Optics and Photonics

When is the name change effective? Please note: A name change will apply to the record of all students who are currently enrolled, readmitted or newly admitted into this program as of the effective date of this change.

Will students have the option to stay in their existing program, track, or certificate? Yes No

If you are requesting a CIP Code change for an existing program, track, or certificate, please provide:

old CIP:

new CIP:

If a name change is your only revision, stop here. Otherwise, complete the rest of Part A.

Part A - Continued

Specify the faculty who will participate in the program, track or certificate and their credentials to do so: (List faculty and a brief paragraph of their credentials.)

All faculty who currently teach in the current Optics MS program.

Impact of changes on students: Will current students be impacted by the addition or revision of a program, track or certificate? If so, how?

Currents student may elect to enroll in the track but if not they will not be affected.

Page 6 of UCF Program Recommendation Form

If applicable, provide a written agreement (email is fine) from all involved units that they are in support of, will provide courses to, or will participate in the program, track, or certificate. Please attach the correspondence and also list the units here.

If an addition, provide a statement of who is likely to enroll and why. Please state if there is licensure or certification that depends upon this education, etc. Also, complete the following table.

Graduates from Electrical Engineering and Physics programs. Also full time employees from industry wishing to advance their careers.

	Year 1	Year 2	Year 3
Headcount	3	7	10
SCHs	90	210	300

If an addition, indicate likely career or student outcomes upon completion: (What will students do? What will their job titles be?)

Students will receive a degree with a specialization in Optics For students who want to pursue jobs in the optics industry, for example as optical designers or optical engineers, etc., this will enhance their job prospects due to their specialized education and training.

Part A - Continued

If an addition or there are substantial REVISIONS to existing tracks or certificates, please complete the following table on financial support: (Specify all forms of support – assistantships, fellowships, and tuition remission.)

	No. assistantship students	Source of funds	No. fellowship students (specify fellowship)	No. tuition remissions	Source of funds
Year 1					
Year 2					
Year 3					

Checklist of items to be provided:

- Electronic graduate catalog copy for additions; track changes included if there are revisions. (required)
- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- Emails showing consultation with other units. (if applicable)
- If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
- If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Part B – For inactivations or suspensions of programs, tracks, or certificates

Are students currently enrolled in the program? Yes No

If yes, number of current students:

Please specify the intended time period of inactivation or suspension:

n/a

If program, track, or certificate is being inactivated or suspended, then attach a "teach out" plan for all current students specifying how they can finish the program or where students will be placed if moving to another program. The "teach out" plan should specify when courses will be offered to enable students to finish. Specify whether students will remain in the existing program to finish, and if so, when the completion date will be, whether students will be moved to another program, etc. Please provide a list of students where applicable.

n/a

Sample teach out plan: Enter the terms and courses that will be taught for each term throughout the last semester. Please delete course prefixes and numbers in this section if no teach out plan is required.

Fall 2012	Spring 2013	Summer 2013	Fall 2013	Spring 2014

Checklist of items to be provided:

- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- E-mails showing consultation with other units. (if applicable)



January 30, 2014

TO:	UCF College of Graduate Studies
FROM:	CREOL Office of Academic Programs
RE:	Program Recommendation : Optics Track Checklist Items

Checklist of items to be provided:

- Electronic graduate catalog copy for additions; track changes included if there are revisions. (required)
- Attach all appropriate course action requests that will be necessary to implement the changes. (required)
- Emails showing consultation with other units. (if applicable)
- If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
- If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Thanks,

A handwritten signature in black ink that reads 'David J. Hagan'.

David J. Hagan

January 30, 2014

Electronic graduate catalog copy for additions; track changes included if there are revisions.
(required)

See Attached

Optics MS

Program **OPTICS TRACKS**

College : Optics and Photonics	Degree :MS
Department :	Option : Thesis, Nonthesis
Program Websites : http://www.creol.ucf.edu/	

PROGRAM DESCRIPTION

The Master of Science in Optics program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The program is interdisciplinary and combines optical science and engineering.

CURRICULUM

The Optics MS program requires a minimum of 30 credit hours beyond the bachelor's degree. The program offers a thesis and nonthesis option. Students are allowed ~~considerable~~ some freedom in planning their study programs, although some foundation Optics courses are strongly recommended as core courses and ~~two~~ one research methods/laboratory course ~~is~~ are required.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Additional notes on the curriculum:

- A minimum of 24 credit hours of formal graduate courses is required in the thesis option of which at least 12 credit hours must be formal Optics (prefix OSE) courses. A minimum of 27 credit hours of formal graduate courses is required in the nonthesis option of which at least 18 credit hours must be formal Optics (prefix OSE) courses. The remaining credit hours can be thesis or other elective and research courses as permitted in the option.
- At least ~~6-3~~ credit hours of approved optics ~~or related science and engineering research~~ methods/laboratory courses are required in both options. ~~At least one must be in Optics or approved as an Optics substitute.~~
- ~~An OSE 6909 Research Report of 3 credits is required in the Nonthesis option.~~
- Up to nine credit hours of appropriate graduate courses from accredited universities may be transferred with approval from the College of Optics and Photonics. Only courses with grades of "B" or better can be transferred.

Required Courses—~~15-18~~ Credit Hours

Core—~~9-15~~ Credit Hours

The following foundation courses are strongly recommended for all students unless they can demonstrate knowledge sufficient to waive the course in which case they will take an additional elective.

- OSE 5041 Introduction to Wave Optics* (3 credit hours)

And ~~two of~~ the following ~~three-four~~ courses:

- OSE 5203 Geometrical Optics and Imaging Systems (3 credit hours)
- ~~OSE 6432 Guided Waves and Optoelectronics (3 credit hours)~~
- OSE 6525 Laser Engineering (3 credit hours)
- ~~OSE 6211 Fourier Optics~~
- ~~OSE 6265 Optical Systems Design~~

* Note that OSE 5041 may be substituted by the student taking both OSE 6111 Optical Wave Propagation and OSE 6115 Interference and Diffraction.

Research Methods/Laboratory—~~6-3~~ Credit Hours

At least ~~6-3~~ credit hours of approved Optics and related science/engineering research methods/laboratory courses are required from the list below. ~~At least one must be in Optics (OSE). One required laboratory may be waived if the student can demonstrate an equivalent hands-on proficiency in that laboratory specialization.~~ These research methods/laboratory courses count toward the formal graduate course work requirement.

- OSE 6234C Applied Optics Laboratory (3 credit hours)
- ~~OSE 6455C Photonics Laboratory (3 credit hours)~~
- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- ~~OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)~~
- Other graduate-related science and engineering methodology labs may be taken with approval by the College of Optics and Photonics.

Elective Courses—~~9-6~~ Credit Hours

All students are required to take a minimum of 9-6 credit hours of electives. If students substitute OSE 6111 and OSE 6115 for OSE 5041, then the number of elective hours is reduced to 6-3 credit hours.

Any graduate course with an OSE prefix may be an elective with the approval of the adviser. In addition, the following courses are also accepted toward meeting the Optics (OSE) course work requirement.

- EMA 5610 Laser Materials Processing (3 credit hours)
- PHY 5455 Modern X-Ray Science (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- Other appropriate engineering and science courses may be taken with approval by the College of Optics and Photonics.

A listing and description of courses offered by the College of Optics and Photonics is found in the "Courses" section of the Graduate Catalog Menu at the top of the page.

Thesis Option—6 Credit Hours

The thesis option requires at least 6 credit hours of thesis research.

- OSE 6971 Thesis (6 credit hours)

Independent study and directed research credit hours are not allowed toward the degree requirements. The student must prepare an approved program of study and form a thesis committee upon completion of nine credit hours. The MS thesis committee consists of three members, with at least two regular graduate faculty members from the College of Optics and Photonics. Students are required to write a thesis and pass an oral exam based primarily on the topics of the thesis and course work.

Nonthesis Option—6 Credit Hours

The nonthesis option requires an additional 6 credit hours of courses or electives.

- OSE 6909 Research Report (3 credit hours)
- Electives (6 credit hours)

Up to 3 credit hours of directed research (OSE 6948) or Rresearch Rreport (OSE 69096909) may will be included as electives with prior approval of the College of Optics and Photonics although they are not counted toward the required 27 credit hours of formal course work. Students must select an advisor from the College of Optics Faculty to serve on their Research Report. Students must prepare an approved program of study upon completion of nine credit hours. Students are required to pass a final oral comprehensive examination based primarily on the subject matter of the courses taken. The purpose of the exam is for the student to demonstrate his or her basic knowledge of the fundamentals of optics and photonics.

~~The nonthesis master's requires a minimum of two one methods/laboratory courses as described above. These laboratory courses involves a substantial amount of independent learning on the part of the student. For example, laboratory reports must include sections on the theoretical and historical background behind the phenomena explored in laboratory experiments, and students are expected to obtain this background information on their own by researching the scientific literature. One required Optics laboratory may be waived if the student can demonstrate an equivalent hands-on proficiency in that laboratory specialization. These methodology/laboratory courses count toward the formal course work requirement.~~

INDEPENDENT LEARNING

~~Students must demonstrate independent learning by either writing a thesis, or a research report. Additionally, a~~ All students must take a minimum of two one graduate methodology/laboratory course e in Optics or a closely related field that include experiments, research and laboratory reports. ~~Nonthesis students also engage in directed research or research report. Thesis students enroll in 6 hours of thesis credits during the completion of their research study.~~

***** APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre-application process. The pre-application is located at <http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx>.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Optics, Electrical Engineering, Physics, or closely related fields.
- Official, competitive GRE score taken within the last five years.
- Goal Statement: Please choose the Personal Statement option. Your Personal statement should describe your career goals. Please include why you want to come to CREOL and how the MS will help you achieve your ultimate career goals.
- Three letters of recommendation.
- Résumé.

Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case-by-case basis.

Application Deadlines

Optics MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

***** FINANCIALS

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see the College of Graduate Studies Funding website, which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The Financial Information section of the Graduate Catalog is another key resource.

Fellowships

Fellowships are awarded based on academic merit to highly qualified students. They are paid to students through the Office of Student Financial Assistance, based on instructions provided by the College of Graduate Studies. Fellowships are given to support a student's graduate study and do not have a work obligation. For more information, see UCF Graduate Fellowships, which includes descriptions of university fellowships and what you should do to be considered for a fellowship.

Contact INFO

Graduate Program

David Hagan PhD

Associate Dean

hagan@creol.ucf.edu

Telephone: 407-823-6817

CROL 231 

Graduate Admissions

Admissions Counselor

gradadmissions@ucf.edu

Telephone: 407-823-2766 ext. 251

Millican Hall 230 

[Online Application](#)

[Graduate Admissions](#)

Mailing Address

UCF College of Graduate Studies

Millican Hall 230

PO Box 160112

Orlando, FL 32816-0112

Institution Codes

GRE: 5233

GMAT: RZT-HT-58

TOEFL: 5233

ETS PPI: 5233

Graduate Fellowships

Grad Fellowships

Telephone: 407-823-0127

gradfellowship@ucf.edu

www.graduate.ucf.edu

Graduate Financial Aid

UCF Student Financial Assistance

Millican Hall 120

Telephone: 407-823-2827

Appointment Line: 407-823-5285

Fax: 407-823-5241

finaid@ucf.edu

<http://finaid.ucf.edu>

[Catalog Home](#) | [About the Graduate Catalog](#) | [Events Calendar](#) | [Apply Now!](#)



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January 30, 2014

Attach all appropriate course action requests that will be necessary to implement the changes.
(required)

No new CARs are submitted for this Track.

January 30, 2014

Emails showing consultation with other units. (if applicable)

See attached email to Dr. Kalpathy Sundaram

Rachel Agerton-Franzetta

From: Rachel Agerton-Franzetta
Sent: Thursday, January 30, 2014 1:12 PM
To: Kalpathy Sundaram
Subject: Optics Program Recommendations: 2 Tracks in Optics and Photonics
Attachments: MS degree tracks v7.pdf

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We are submitted this recommendation to the Graduate Counsel, and want to make sure that this would not overlap any of your tracks.

I'm attaching our proposed course schedule for your reference.

Please respond with your comments.

Thanks,

Rachel Franzetta

Graduate Coordinator
College of Optics and Photonics
University of Central Florida
4304 Scorpius St., Box 162700
Orlando, FL 32816-2700
407-823-6986

rfranzet@creol.ucf.edu



January 30, 2014

If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.

Creating the Optics Track does not in add a new discipline, but does focus on specific courses required to show specialization of the optics field of work. This track will belong to the College of Optics and Photonics, Optics Master of Science.

No other tracks of certificates are related to this track.

CREOL, The College of Optics and Photonics
Twelve-Month (Accelerated) Master's Program with Two Tracks***

Photonics Track	Optics Track
Fall (12 credit)	
OSE5041 Introduction to Wave Optics (or OSE 6111 + OSE 6115)	OSE5041 Introduction to Wave Optics (or OSE 6111 + OSE 6115)
OSE5414 Fundamentals of Optoelectronic Devices	OSE5203 Geometrical Optics and Imaging Systems
OSE6525 Laser Engineering	OSE6525 Laser Engineering
Elective 1	Elective 1
Spring (12 credit)	
OSE6XXX: Optical Communication Systems*	OSE6211 Fourier Optics
OSE6421 Integrated Photonics	Elective 2
Elective 2	Elective 3
Elective 3	Elective 4
Summer (6 credit)	
Elective 4	OSE6265 Optical Systems Design
Research report (3 credits)	Research report (3 credits)
Electives	
Suggested electives for each track are given below. However, any graduate OSE course or approved graduate science or engineering course can be taken provided that at least one of them is a laboratory course.	
Suggested Electives	
OSE6125 Computational Photonics	OSE5312 Light-matter interaction
OSE6143 Fiber Optics Communication	OSE6445 High-Speed Photonics
OSE6536 Semiconductor Lasers	OSE6938U-ST: Fiber Lasers
OSE6820 Flat Panel Displays	OSE6820 Flat Panel Displays
OSE6315 Liquid Crystal Materials and Devices	OSE6315 Liquid Crystal Materials and Devices
Suggested Lab(s)	
OSE6455C Photonics Laboratory	OSE6526C Laser Engineering Laboratory
OSE6615C Optoelectronic Device Fab. Laboratory	OSE6234C Applied Optics Laboratory*

Course Agenda

February 24, 2014

Revised

1. Course Additions

College of Arts and Humanities Course Additions

TSL 6XXX	CAH-Department of Modern Languages and Literatures	3(3,0)
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TESOL Listening Speaking and Pronunciation: PR: Graduate Standing or C.I. Applications of second language acquisition theories, principles, and current research as they relate to the teaching of ESL listening, speaking and pronunciation. *Even Fall.*

Abbrev: (30 of 30 chars) TESOL Listen Speak & Pronounce

Discussion with others: While there is no duplicate or conflict with this course, we have discussed this course with Joyce Nutta, the ESOL Coordinator in Education, and she is very supportive of this course being offered for both our CAH students and the students in Education. We have also shared the syllabus Dr. Linda Rosa-Lugo in Speech and Language.

Rationale: This course is a critical addition to our course offerings in teaching ESL language areas. We have Teaching Reading, Writing, Vocabulary, and Grammar, but are missing a course related to Teaching Speaking, Listening, Pronunciation and Phonetics. Graduate TESOL programs all have this course, so it is important that we finally add it to our course offerings now that we can.

Majors taking course: TESOL, Education, and Speech and Language graduate students.

College of Education and Human Performance Course Additions

EDA 6XXX	ED-School of Teaching, Learning, and Leadership	3(3,0)
-----------------	--	---------------

Data Based Decision Making for School Educational Leaders: PR: Graduate Standing or C.I. Purpose is to understand and use concepts from research, measurement, and assessment to make informed and reasoned decisions. *Spring, Summer, Fall.*

Abbrev: (26 of 30 chars) Data Based Decision Making

Rationale: The MED in Educational Leadership is a program aligned with Florida Principal Leadership Standards and Florida Educational Leadership Exam competencies and indicators. This course is needed to align with these standards and competencies and at the request of superintendents and other school district leaders. By adding this aligned course and deleting two others (6 sh) from the program, the total credit hours will be 36 for program completion and in line with the requirements of competitor institutions.

Majors taking course: MED in Educational Leadership

College of Engineering and Computer Science Course Additions

**ECS-Department of Industrial Engineering
and Management Systems**

EIN 6XXX

3(3,0)

Industrial and Systems Engineering Capstone: PR: ESI 6551C and (ESI 5219 or ESI 6247) and department consent. Project-based course where students work on theoretical and applied research issues related to industrial and systems engineering. *Spring, Fall.*

Abbrev: (30 of 30 chars) Industrial System Eng Capstone

Rationale: This course is required to satisfy the independent learning component requirement of graduation with MS or MSIE non-thesis.

Majors taking course: IEMS MS and MSIE Non-Thesis.

College of Health and Public Affairs Course Additions

PAD 5XXX

HPA-Department of Public Administration

3(3,0)

Introduction to Public Procurement: PR: Consent of Instructor. Acquisition of knowledge and skills relating to the public procurement process *Occasional.*

Abbrev: (27 of 30 chars) Intro to Public Procurement

Discussion with others: No duplications or conflicts

Rationale: Procurement of goods and services by governments has increased dramatically in recent years; over \$2.1 trillion in the US. Currently public procurement has evolved from a clerical function to a profession, with an increasing commitment to education and career progression. This course introduces the student to basic knowledge, skills and abilities necessary to perform effectively.

PAD 6XXX

HPA-Department of Public Administration

3(3,0)

Sustainable Transportation Planning: PR: Admission to Master of Urban and Regional Planning program or C.I. **TABLED.** Planning for multimodal transportation, including highway/automobile, public transit, pedestrian, bicycling and rail systems, to explore the social, economic and health implications to communities. *Occasional.*

Abbrev: (30 of 30 chars) Sustainable Transportation Pln

Discussion with others: No conflicts. The MSURP coordinator discussed this class with the Chair of Engineering.

Rationale: This class aligns with the MSURP strategic plan goal to review and revise the curriculum on an ongoing basis and make programmatic changes when necessary. This class is being created in response to student requests for a transportation planning course. A curriculum review subcommittee on transportation planning also recommended this course be offered.

2. Special Topics Additions

College of Health and Public Affairs Special Topics Additions

PAD 5937

HPA-Department of Public Administration

3(3,0)

Introduction to Public Procurement: PR: Consent of Instructor. Acquisition of knowledge and skills relating to the public procurement process. *Occasional*.

Abbrev: (28 of 30 chars) ST: Intro Public Procurement

Discussion with others: No conflicts or duplications

Rationale: Procurement of goods and services by governments has increased dramatically in recent years; over \$2.1 trillion in the US. Currently public procurement has evolved from a clerical function to a profession, with an increasing commitment to education and career progression. This course introduces the student to basic knowledge, skills and abilities necessary to perform effectively.

PAD 6938 **HPA-Department of Public Administration** **3(3,1)**

Sustainable Transportation Planning: PR: Admission to MSURP or C.I. **TABLED**. Planning for multimodal transportation, including highway/automobile, public transit, pedestrian, bicycling and rail systems, to explore the social, economic and health implications to communities. *Occasional*.

Abbrev: (30 of 30 chars) ST: Sustainable Transportation

Discussion with others: No conflicts. MSURP coordinator discussed class with Chair of Engineering

Rationale: This class aligns with the MSURP strategic plan goal to review and revise the curriculum on an ongoing basis and make programmatic changes when necessary. This class is being created in response to student requests that a transportation planning course be offered. A curriculum review subcommittee on transportation planning also recommended this course be offered.

3. Course Revisions

College of Arts and Humanities Course Revisions

CRW 6976 **Capstone Course: Scholarship and Publication Models** **3(3,0)**
Scholarship and Publication Models

PR: Admission to Creative Writing MFA. MFA, graduate standing or C.I.

Overview of thesis-writing process from proposal to defense, and possible subsequent publication.

Abbrev (30 of 30): ~~Capstone Cour: Scholarship & P~~ **Scholarship Publication Models**

Term Offered: ~~Fall~~ Occasional

Discussion with others: No conflicts

Rationale: CRW 6976 has gone through the College of Graduate Studies Curriculum Committee to be moved from "Specialization" to "Restricted Electives" on the Plan of Study. This request is to remove the first half of the title, "Capstone Course," to better represent the type of course, since this is offered to both first and second-year MFA students.

Majors taking course: Creative Writing MFA students

There are no programs that list CRW 6976.

Term Offered: ~~Even~~ Spring

Graded SU: ~~No~~ Yes

Rationale: The current course, Play Therapy with Special Populations, does not meet the need for working with parents. The current courses in the certificate do not include a practical component for working with the parents of play therapy clientele. Additionally, students in the course will receive hands on experience working with parents in groups. This course will also enhance the ability for research in this area of play therapy due to the increased number of students trained in this area.

There are no programs that list MHS 6424.

College of Health and Public Affairs Course Revisions

HIM 6293	Health Care Coding and Diagnosis	3(3,0) 4(3,1)
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PR: ~~Graduate status.~~ Admission to Health Care Informatics or RHIA Certificate.

Analysis ~~Medical Coding and use of ICD the role it plays in informatics emphasizing document usage and CPT coding procedures.~~ extracting needed data for proper code selection. Data mapping related to ICD-9-CM and ICD-10-CM is explored.

Abbrev (30 of 30): ~~Health Care Coding & Diag~~ Health Care Coding & Diagnosis

Term Offered: ~~Occasional~~ Fall

Discussion with others: Existing course - No duplications or conflicts exist.

Rationale: This is an existing course in the Health Services Administration program that has not been taught in several years. It is being updated to be used in the RHIA certificate program.

Majors taking course: Registered Health Informatics Administration Certificate

There are no programs that list HIM 6293.

HSA 6175	Advanced Trends in Health Care Finance Theory Advanced Trends in Health Care Finance and Management	3(3,0) 4(3,1)
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PR: ~~CI~~ Admission to Registered Health Information Administration certificate or PHC 6160. Health Care Informatics degree program.

Public Focus on areas related to overall strategy of the health funding philosophies; evolving market strategies of insurers care organization including decision making practices; infrastructure investment; business partnerships; management staff competencies; and managed care organizations; macroeconomic implication of alternative financing policies. financial report analysis.

Abbrev (29 of 30): ~~Adv Trends Hlth Care Fin Thry~~ Adv Trends Hlth Care Fin Mgmt

Term Offered: ~~Occasional~~ Summer

Discussion with others: Existing course - No duplications or conflicts exist

Rationale: This is an existing course in the Health Services Administration program that has not been taught in several years. It is being updated to be used in the RHIA certificate.

Majors taking course: Registered Health Informatics Administration certificate

There are no programs that list HSA 6175.

PR: SOW 6562

Field education for part-time MSW clinical students; includes seminar and supervised practice of social work in an agency for ~~200~~ 150 clock hours. Graded S/U.

Term Offered: ~~Occasional~~ Summer

Discussion with others: None - existing course

Rationale: There are a total of 8 credit hours required for clinical field seminar (3 courses). Fall and Spring semesters are each assigned 3 credit hours with students completing 225 clock hours each term. The summer semester is the shortest (12 weeks); therefore the clock hours are set at

150 and course is assigned 2 credits hours. Overall clock hour requirement increased from 550 to 600 for clinical field.

Majors taking course: Master of Social Work

There are no programs that list SOW 6563.

COLLEGE OF GRADUATE STUDIES COURSE ADDITION

IDS 6XXX

**Modeling and Simulation Capstone Report
Planning
1 (1,0)**

PR: Graduate standing

Identify a topic and required resources to complete a multi-disciplinary Modeling and Simulations capstone project. Develop annotated topical outline for Modeling and Simulation capstone report.

Term offered: odd summer, even summer

Rationale: Distance learners in the certificate need to begin preparation for the capstone project of the final course at least 6 months in advance.

Majors taking course: M&S of Technical Systems graduate certificate

No duplication or conflict identified.