Graduate Council Curriculum Committee
March 16, 2015
12:00 p.m., Millican Hall 395

Revised Agenda

1. Welcome and call to order

2. Approval of the minutes from the last meeting

3. Revisions to the Nanotechnology PSM program, CGS
4. Addition of a Nanotechnology MS program (runs parallel to the PSM), CGS
   - Approval of curriculum and catalog copy only
5. Revisions to the Conservation Biology PSM program, CGS

6. Revisions to the Interactive Entertainment MS program, CAH

7. Revisions to the Cognitive Sciences Graduate Certificate, CAH

8. Revisions to the HSA track (Health Sciences MS), COHPA

9. Review of Courses and Special Topics

10. Adjournment

Members of the Graduate Council Curriculum Committee:
Deborah Breiter, Chair, RCHM
Steven Collins, COS
Paul Dombrowski, CAH
Charles Kelliher, CBA
Art Weeks, CECS
Steven Ebert, COM
Diane Andrews, CON
Guifang Li, COP
Donna Malvey, COHPA
Joyce Nutta, CEHP
Terrie Sypolt, LIB
Lucretia Cooney, GSA
Jana Jasinski, CGS Liaison

UNIVERSITY OF CENTRAL FLORIDA
COLLEGE OF GRADUATE STUDIES

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 Graduate Studies

Proposed Effective Term/Year: Fall 2015

Unit(s) Housing Program: NanoScience Technology Center

Name of program, track and/or certificate: PSM in Nanotechnology

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

The Professional Science Master in Nanotechnology program provides students with scientific education in nanotechnology and professional training in business and technology entrepreneurship. The program prepares students with necessary skills for seeking employment in industry and academia involved in nanotechnology research, product development and commercialization.

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

Will program be a market tuition rate program? ☐ Yes ☑ No

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

Same deadline as the existing 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 requirements as the existing program

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

Qun Huo (Ph.D.), Associate Professor, NanoScience Technology Center

Email: Qun.Huo@ucf.edu Tel: 407-882-2845

psm.nanoscience.ucf.edu

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) SUDIPTA SAHA (Signature) _____ Date 13 Feb 2015

College Academic Standards (Print) James C. Jasinski (Signature) _____ Date 3-5-15

College Dean (Print) C. Ross Hinkle (Signature) _____ Date 3-5-15

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

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

Approval

Provost and Vice President for Academic Affairs: _____ Date _____

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

Department(s); College; Registrar; Associate Registrar; Institutional Knowledge Management; Academic Services; 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.)

We request to reduce the credit hours of the PSM Nanotechnology program from 36 to 30. The program started in Fall 2014 with 10 new students admitted. After evaluating the feedback from students and faculty, and self-assessment of the program, it is our conclusion that a 30-credit hour requirement is a more reasonable requirement for the program, and better reflect the aim and objective of the program. The students are initially required to take 4 core courses in nanotechnology and 3 elective courses in related scientific fields. After teaching all four core courses in the first year of the program, we believe the four core courses plus one additional elective course will provide sufficient scientific training to the students. We propose to reduce the number of elective courses from 3 to 1.

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.**)

We request to reduce the number of elective courses that students need to take from 3 to 1. This will result in a reduction of 6 credit hours of the program.

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.)

All NSTC faculty.

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 students will take 2 courses less than initially planned to meet the graduation requirements.

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.

Not applicable.

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:

Provide rationale for the 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 DESCRIPTION

The Professional Science Master in Nanotechnology program provides students with scientific education in nanotechnology and professional training in business and technology entrepreneurship. The program prepares students with necessary skills for seeking employment in industry and academia involved in nanotechnology research, product development and commercialization.

The PSM in Nanotechnology program consists of a two-year ~~36~~30-credit hour of study that covers Fall, Spring and Summer consecutive academic terms. Admissions to the program occur only in the Fall semester of each year, and students are expected to finish the degree in two years.

The program of study includes a balanced course offering including interdisciplinary technical courses in the field of nanotechnology and advanced courses in business management and technology entrepreneurship. The program also includes a 3-credit hour of directed research and a 3-month internship training in our partnering industry and research organizations. After successfully completing the program, students will receive both PSM degree in Nanotechnology and Graduate Certificate in Technology Venture. This sequence of training will provide students with valuable scientific knowledge, hands-on research experiences and business management skills to work efficiently and competitively in nanotechnology-oriented businesses and entities.

Scientific courses are taught by a team of interdisciplinary faculty from the UCF NanoScience Technology Center. Business management courses are taught by the faculty from the UCF College of Business Administration. The curriculum of courses is delivered via face-to-face.

CURRICULUM

Total Credit Hours Required:
~~36~~ 30 Credit Hours Minimum beyond the Bachelor's Degree

The program will consist of ~~36~~ 30 credit hours at the graduate level including 12 credit hours in Nanotechnology, ~~9~~ 3 credit hours of elective courses in physics, engineering, chemistry and biology, 9 hours of professional development in a business certificate program (Graduate Certificate in Technology Ventures), 3 credit hours of research training, and 3 credit hours of internship training. From the coursework in Nanotechnology and the other related science/engineering areas, students will gain basic knowledge as well as the most advanced developments and applications of nanoscale materials and devices. Through internship training, students will gain hands-on research and business experience in applying nanotechnology for new product development and commercialization. The Graduate Certificate in Technology Ventures focuses on the successful development of knowledge and skills needed to commercialize science and technology research. This comprehensive training program will prepare the students with the knowledge, management skills and mindset to pursue technology entrepreneurship or to work in industry that is poised to develop and commercialize new nanotechnology products.

Required Courses – 27 Credit Hours

(1) Core Courses – 12 credit hours

IDS6250 Introduction to nanoscience and nanotechnology (3 credits)
IDS6254 Nanofabrication and characterization (3 credits)
IDS6252 Biomedical nanotechnology (3 credits)
IDS6255 Nanotechnology in energy and sustainability (3 credits)

(2) Professional Training Courses- **Graduate Certificate in Technology Ventures** – 9 credit hours

GEB5516 Technological Entrepreneurship (3 credits)
GEB6116 Business Plan Formation (3 credits)
MAN6518 Strategic Innovation (3 credits)

(3) Directed Research IDS6918 (3 credit hours)

Students will conduct an independent research project under the supervision of an NSTC faculty. Student will learn and gain hands-on research experiences on nanomaterial synthesis, nanostructure fabrication and characterization, and application development in their interested areas.

(4) Internship IDS6946 (3 credit hours)

Students will spend one summer or one semester working in industry to conduct research and business activities related to nanotechnology and product development.

Elective Courses - ~~9~~ 3 Credit Hours

EMA5586 Photovoltaic solar energy materials (3 credits)
EMA5587C Characterization and reliability of PV cells (3 credits)
PHY5937 Nanoelectronic devices (3 credits)
OSE5312 Light Matter Interaction (3 credits)
OSE6938 Photonic Polymer Materials (3 credits)
IDS5127 Foundation of bio-imaging science (3 credits)
MCB5225 Molecular Biology of Diseases (3 credits)
PCB5238 Immunobiology (3 credits)
PCB5236 Cancer Biology (3 credits)
IDS6253 Bioanalytical Technology (3 credits)
IDS6251 Computation, simulation and modeling in nanotechnology (3 credits)

APPLICATION REQUIREMENTS

Applicants should have obtained an undergraduate degree in one of the following areas: physics, chemistry, biology, or engineering. The application should contain the following supporting documents:

- One official transcript (in a sealed envelope) from each college/university attended
- Resume or Curriculum Vitae
- Goal statement
    - The goal 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 Professional Science Master's degree in Nanotechnology. Future career goals after the completion of the applicant's master study should be discussed.
    - The goal statement should be between 500-1,000 words.
- Three letters of recommendation
- A score of 80 or above (computer-based test or paper-based equivalent) on the Test of English as a Foreign Language (TOEFL) is required for applicants from countries where English is not the official language or applications with degrees from a non-US accredited institution
- GRE test score: Not required.

The acceptance decision will be based on the assessment of the applicant's GPA from previous college/university, past work experience, recommendation letters and the statement of interest and objectives. Additionally, the committee will evaluate other academic indicators (such as having completed a senior thesis, authorship on publications, internship, involvement in scientific research projects, and/or presentations at major scientific meetings and non-academic indicators (such as evidence of leadership, extracurricular activities, work or military experience, and/or volunteer activities). For applicants that already have had working experiences in STEM fields, emphasis will be placed on their past experiences and recommendation letters.

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.

Re-admission

Applicants who are reapplying for admission need not resubmit transcripts if the transcripts are previously on file with UCF. However, the following application requirements do need to be current for the new application for readmission:

- Resume/Curriculum Vitae
- Goal Statement
- Letters of Recommendation

Application Deadlines

Professional Science Master's	Full Priority	Fall	Spring	Summer
Domestic Applicants	-	Jul 15	-	-
International Applicants	-	Jan 15	-	-
International Transfer Applicants	-	Mar 1	-	-

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.

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COLLEGE OF GRADUATE STUDIES

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College/Unit(s) Submitting Proposal: College of Graduate Studies

Proposed Effective Term/Year: Fall 2015

Unit(s) Housing Program:

Name of program, track and/or certificate: Conservation Biology, Professional Science Master's

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

The Professional Science Master's (PSM) in Conservation Biology provides students with high-quality training in evaluating, understanding, and providing solutions to society's conservation challenges. The program will teach relevant skills, provide expertise to meet STEM workforce needs, while preparing graduates for careers in the public and private sectors.

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

Will program be a market tuition rate program? ☐ Yes ☑ No

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)

C. Ross Hinkle, rhinkle@ucf.edu, 407-823-6432

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) Graham Worthy (Signature) [signature] Date 3-3-15

College Academic Standards (Print) Jana L. Jasinski (Signature) [signature] Date 2/27/15

College Dean (Print) C. Ross Hinkle (Signature) [signature] Date 2-27-15

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

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

Approval

Provost and Vice President for Academic Affairs: _____ Date _____

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

Department(s); College; Registrar; Associate Registrar; Institutional Knowledge Management; Academic Services; 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.)

Currently, this program includes 8 credit hours of internship and 2 credit hours of a research report. In order to better align this program with other PSM programs at UCF as well as state PSM programs, we would like to decrease the number of internship credits to 3 credits. This will make the total credit hours more in line with the Biology M.S. as well. Since the PSM program is based on workforce development needs, the research report is seen as not needed. This will be replaced with a final paper on the student's internship experience which will be evaluated by a faculty member. In addition to this revision, we will be adding a 0 credit professional development Webcourse to compliment the internship. This course was created in collaboration with Experiential Learning. This will serve as a portal for a midterm and final report as well as necessary assessments of the internship experience which will be provided to the program and Experiential Learning.

The new curriculum also contains updated required core courses and electives that will be taught by the Biology department. Two of the required courses will no longer be offered by the department so we have substituted these courses with new courses that will be offered and will cover much of the same material as the old courses. We also have added a fourth course as an option for the required core courses to add flexibility with the student's schedule and the scheduling of courses.

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.**)

- PCB 6946 Internship in Conservation Biology - Change from 8 credit hours to 3 credit hours - change to IDS 6946
- BSC 6909 Research Report (2 credit hours) - Delete from curriculum
- IDS 5949 Co-op Ed / Work Experience (0 credits) - Add to curriculum
- PCB 5045 Conservation Biology (4 credit hours) - Delete from core courses since it will no longer be offered and replace with PCB 6042 Conservation Biology Theory (3 credit hours)
- PCB 6480C Quantitative Conservation Biology (4 credit hours) - Delete from core courses since it will no longer be offered and replace with PCB 6466 Methods in Experimental Ecology (3 credit hours)
- PCB 5326C Ecosystems in Florida (4 credit hours) - Add to core courses
- PCB 6096 Professional Development in Biology II (1 credit hour) - Delete from curriculum as it is not relevant to non-thesis student
- PCB 6365 Environmental Physiology (3 credit hours) - Delete from curriculum - no longer being offered
- PCB 6727 Comparative Animal Physiology (3 credit hours) - Delete from curriculum - no longer being offered
- ZOO 5486 Mammalogy (4 credit hours) - Delete from curriculum - no longer being offered
- PCB 6328C Landscape Ecology (4 credit hours) - Delete from curriculum - no longer being offered

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.)

Program faculty will include previously approved Biology graduate faculty (biology courses), and other appropriate graduate faculty/graduate faculty scholars (for elective courses and internship hours)

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

Only incoming students will be affected by the internship credit change. All active students in this program as of Spring 2015 will finish their internship by the end of Summer 2015. Active students that have not completed the core courses may choose to take a course from the revised core courses to complete their required courses.

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.

See provided email from Dr. Graham Worthy, Chair of Biology.
In addition curriculum changes for the biology courses were made in consultation with Dr. Worthy so that coursework appropriate for the goals of this program was included.

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:

Provide rationale for the 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)**

CURRICULUM

The Professional Science Master's (PSM) in Conservation Biology is based on courses and an internship (total = 3140 credit hours). Courses include a range of subjects in addition to graduate biology courses (e.g., business, economics, law, policy). This broad background plus the internship experience prepares PSM graduates for employment related to conservation biology.

Total Credit Hours Required:
31 - 36-40-45 Credit Hours Minimum beyond the Bachelor's Degree

The Conservation Biology Professional Science Master's program consists of 3140 credit hours, including at least 16 15 credit hours of core and restricted elective courses in conservation biology, 1314 credit hours of professional development (including courses in communications, mathematics, philosophy, politics, public administration, and business management), and 10 3credit hours of internship. and research analysis. Students in this program will normally enroll in 18 credit hours (fall/spring) in the first year and 22 credit hours (fall/spring/summer) in the second year. The program is designed to be completed in two years.

With graduate program coordinator approval, a maximum of 6 credit hours of directed research (6918) or independent study (6908) may be used to meet degree requirements.

Required Courses—9-107-8 Credit Hours

Conservation Biology Core—6-77-8 Credit Hours

Students must take two of the following courses.

- PCB 5045 Conservation Biology (4 credit hours)
- PCB 6042 Conservation Biology Theory (3 credit hours)
- PCB 6556 Conservation Genetics (3 credit hours)
- PCB 6480C Quantitative Conservation Biology (4 credit hours)
- PCB 6466 Methods in Experimental Ecology (3 credit hours)
- PCB 5326C Ecosystems in Florida (4 credit hours)

Professional Development Core—12 Credit Hours

Students must take the following two required courses.

- PCB 6095 Professional Development in Biology I (1 credit hour)
- PCB 6096 Professional Development in Biology II (1 credit hour)

Electives—21-25 Credit Hours

Conservation Biology Restricted Electives—9-13 Credit Hours

Students should select one course from each of the following subject areas.

General Biology

- ENY 5006C Entomology (4 credit hours)
- PAZ 5235 Zoo and Aquarium Biology Management (3 credit hours)
- ~~PCB 6365 Environmental Physiology (3 credit hours)~~
- ~~PCB 6727 Comparative Animal Physiology (3 credit hours)~~
- ZOO 6520 Behavioral Ecology (3 credit hours)
- ZOO 5456C Ichthyology (4 credit hours)
- ZOO 5463C Herpetology (4 credit hours)
- ZOO 5475L Field Ornithology (3 credit hours)
- ~~ZOO 5486 Mammalogy (4 credit hours)~~
- PCB 6042 Conservation Biology Theory (3 credit hours)

Ecology

- BOT 6623C Plant Ecology (4 credit hours)
- BSC 5332 Invasion Biology (3 credit hours)
- PCB 5435C Marine Conservation Biology (4 credit hours)
- PCB 6035C Wetland Ecology (4 credit hours)
- PCB 6046 Advanced Ecology (5 credit hours)
- PCB 6053C Restoration Ecology (4 credit hours)
- ~~PCB 6328C Landscape Ecology (4 credit hours)~~
- PCB 6466 Methods in Experimental Ecology (3 credit hours)
- PCB 5326C Ecosystems of Florida (4 credit hours)

Evolutionary Biology, Applied Mathematics, and Genetics

- BSC 5824 Biogeography (4 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 6938 Mathematical Biology (4 credit hours)
- PCB 6675C Evolutionary Biology (4 credit hours)
- PCB 6677 Molecular Evolution (3 credit hours)
- PCB 5447 Disease Ecology and Ecoimmunology (3 credit hours)
- PCB5935 Population Genetics (3 credit hours)

Professional Development Restricted Electives—12 Credit Hours

Students should select at least 12 credit hours of courses from the list below or comparable courses as approved by the Biology graduate coordinator.

- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- EDS 6100 Leadership (3 credit hours)

- INR 6352 Global Environmental Politics (3 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours)
- GEB 6115 Entrepreneurship (3 credit hours)
- GEB 6116 Business Plan Preparation (3 credit hours)
- GEB 6518 Strategic Innovation (3 credit hours)
- MAN 6244 Organizational Behavior (1.5 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- PAD 5041 Ethics and Values in Public Administration (3 credit hours)
- PAD 5336 Introduction to Urban Planning (3 credit hours)
- PAD 5338 Land Use and Planning Law (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6353 Environmental Program Management Research (3 credit hours)
- PAD 6397 Managing Emergencies and Crises (3 credit hours)
- PHM 5035 Environmental Philosophy (3 credit hours)
- PUP 6201 Urban Environmental Policy (3 credit hours)
- PUP 6208 Environmental Politics (3 credit hours)
- PUP 6247 Continuing Issues in Environmental Politics (3 credit hours)

Internship ~~and Research Report~~ — 3~~10~~ Credit Hours

- IDS~~PCB~~ 6946 Internship in Conservation Biology (3~~8~~ credit hours total)
- ~~BSC 6909 Research Report (2 credit hours)~~

Additionally, all students pursuing the Professional Science Master's must enroll in the following course:

- IDS 5949 Co-op Ed / Work Experience (0 credits)

Students must register for IDS 5949 and IDS~~PCB~~ 6946 simultaneously. The students must complete the course with a satisfactory (S) grade. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

Culminating Experience

All students will participate in an internship~~, take an oral examination, and present a final research report. If a student fails the oral examination or the final research report, a minimum of four weeks must pass before re-examination. The comprehensive exam and/or the final research report may be taken a maximum of two times.~~ During their internship, students will play an active role in implementing active adaptive management, including monitoring components, on public and private lands.

~~A committee of biologists will oversee the oral examination, during which the students will be evaluated on their knowledge of key core concepts in conservation biology.~~ Finally, their understanding, writing, and analytical skills will be evaluated by means of a written ~~research~~ report completed at the end of the internship and ~~departmental~~ presentation that is based on their internship experience and completed in ~~their final~~the semester following completion of the internship.

Independent Learning

The internship program and ~~the research~~ report serve as the independent learning experiences for this program.

From: Graham Worthy
To: Ross Hinkle
Subject: Fwd: Voting result: PSM program transfer to Interdisciplinary Studies
Date: Tuesday, September 30, 2014 9:08:38 PM

Ross
Below are the results of the vote by the Biology faculty relative to moving the PSM. I think this gives a clear mandate.
Cheers, Graham

Please note the change in address and phone number

Graham A.J. Worthy, Ph.D.

Department Chair and Provost's Distinguished Research Professor of Biology,
Hubbs-Sea World Endowed Professor of Marine Mammalogy, and
Director, Physiological Ecology and Bioenergetics Lab

Department of Biology, University of Central Florida,
4110 Libra Dr., Room BIO302A
Orlando FL 32816-2368

Graham.Worthy@ucf.edu
http://worthy.cos.ucf.edu/PEBL/

407-823-1333 office
407-823-5769 fax
skype: graham.worthy

"Wise men talk because they have something to say; fools, because they have to say something" Plato

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-------- Original Message --------
Subject: Voting result: PSM program transfer to Interdisciplinary Studies
Date: Tue, 30 Sep 2014 08:53:08 -0400
From: Graham Worthy <Graham.Worthy@ucf.edu>
Organization: University of Central Florida
To: Eric Hoffman <Eric.Hoffman@ucf.edu>, Pedro Quintana-Ascencio <Pedro.Quintana-Ascencio@ucf.edu>, Betsy VonHolle <Mary.VonHolle@ucf.edu>, Christa Diercksen <Christa.Diercksen@ucf.edu>, Christopher Parkinson <Parkinson@ucf.edu>, Cynthia Bayer <Cynthia.Bayer@ucf.edu>, David Jenkins <David.Jenkins@ucf.edu>, Elizabeth Harris <Elizabeth.Harris@ucf.edu>, Frank Logiudice <Frank.Logiudice@ucf.edu>, Gregg Klowden <gklowden@ucf.edu>, Hojun Song <song@ucf.edu>, I Stout <I.Stout@ucf.edu>, John Fauth <John.Fauth@ucf.edu>, John Weishampel <John.Weishampel@ucf.edu>, Joshua King <Joshua.King@ucf.edu>, Kate Mansfield <Kate.Mansfield@ucf.edu>, Kenneth Fedorka

<Kenneth.Fedorka@ucf.edu>, Laurence Vonkalm <lvonkalm@ucf.edu>, Linda Walters <Linda.Walters@ucf.edu>, Pamela Thomas <Pamela.Thomas@ucf.edu>, Patrick Bohlen <Patrick.Bohlen@ucf.edu>, Rani Vajravelu <Rani.Vajravelu@ucf.edu>, Reed Noss <Reed.Noss@ucf.edu>, Tiffany Costa <tiffany.doan@ucf.edu>, Walter Sotero <Walter.Sotero@ucf.edu>, William Crampton <William.Crampton@ucf.edu>

The result of the motion is as follows:
Motion: The faculty of the Department of Biology support reassigning the Professional Science Masters in Conservation Biology Program to the Interdisciplinary Studies Program as of January 1 2015. Qualified students who apply to enter the program in Fall 2015 will be considered for admission by program administrators in Interdisciplinary Studies. Staff of Interdisciplinary Studies will be responsible for supervising all newly admitted students, identifying and coordinating their internships, and program reporting. Students currently in the PSM program, who were admitted by the Department of Biology before Spring 2015, will remain the responsibility of the department through their matriculation. Future PSM students who meet course prerequisites will continue to be admitted into biology courses when space is available
Moved: Pedro Quintana-Ascencio
Seconded: Ken Fedorka
Yes – 10
No – 2
Abstain – 2

Please note the change in address and phone number

Graham A.J. Worthy, Ph.D.

Department Chair and Provost's Distinguished Research Professor of Biology,
Hubbs-Sea World Endowed Professor of Marine Mammalogy, and
Director, Physiological Ecology and Bioenergetics Lab

Department of Biology, University of Central Florida,
4110 Libra Dr., Room BIO302A
Orlando FL 32816-2368

Graham.Worthy@ucf.edu
http://worthy.cos.ucf.edu/PEBL/

407-823-1333 office
407-823-5769 fax
skype: graham.worthy

"Wise men talk because they have something to say; fools, because they have to say something" Plato

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UNIVERSITY OF CENTRAL FLORIDA
COLLEGE OF GRADUATE STUDIES

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: Arts and Humanities

Proposed Effective Term/Year: Fall 2015

Unit(s) Housing Program: Florida Interactive Entertainment Academy

Name of program, track and/or certificate: M.S. Interactive Entertainment

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

The Master's of Science in Interactive Entertainment at UCF's Florida Interactive Entertainment Academy (FIEA) teaches artists, programmers, and producers the techniques, tools, and skills to succeed in the gaming industry. The program provides specific skills in the area of game design, as well as essential skills such as problem solving, teamwork, and project management. Students are selected for admission into production teams based on the skills they possess and contributions they can make to their production team.

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?)

No changes

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

No changes

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

Executive Director Ben Noel, bnoel@fiea.ucf.edu, 407-235-3612,

Joe Muley, jmuley@fiea.ucf.edu, 407-235-3585

UCF Center for Emerging Media, 500 West Livingston Street, Orlando, www.fiea.ucf.edu

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) Ben Noel **(Signature)** _____ **Date** 11/13/14

College Academic Standards (Print) Lynn Hepner **(Signature)** _____ **Date** 3/2/15

College Dean (Print) José B. Fernández **(Signature)** _____ **Date** 3/2/15

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.)

To create distinctive classes previously listed as lab sections of DIG 5045C, DIG 5046C, and DIG 6785C. There are enough students in each specialization (Art, Production, Programming) to justify creating unique courses specific to each area. We are revising the program to better clarify all specializations. Creation of these courses is also at the recommendation of the 10-11 department Academic Program Review.

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.)**

*The three specialization will split into the 3 courses:
-DIG 5045C (Fall) will become 3 separate courses (1 Art, 1 Production, 1 Programming)
-DIG 5046C (Spring) will become 3 separate courses (1 Art, 1 Production, 1 Programming)
-DIG 6785C (Summer) will become 3 separate courses (1 Art, 1 Production, 1 Programming)
-Each of these new separate courses will be required of the students in that particular specialization.
*DIG 5549C will be revised to have a new name and course description, as well as dropping the lab component.
*We will add a new course to the Fall semester for those students entering their final semester. This course will be called Venture Practicum. It will be 6 credit hours like DIG 6944C, but will not contain the lab component.

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?

No. As far as the students are concerned nothing will change. This change will hopefully just help bring some order and clarity to the program. It may actually have more of an impact on our recruiting efforts.

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 DESCRIPTION

The Master's of Science in Interactive Entertainment at UCF's Florida Interactive Entertainment Academy (FIEA) teaches artists, programmers, and producers the techniques, tools, and skills to succeed in the gaming industry. The program provides specific skills in the area of game design, as well as essential skills such as problem solving, teamwork, and project management. Students are selected for admission into production teams based on the skills they possess and contributions they can make to their production team.

FIEA provides a team-based, industry-oriented education in a world-class facility located at UCF's Center for Emerging Media in downtown Orlando. Student production teams are mentored by industry experts and researchers who provide instruction in game design, creative collaboration, rapid prototyping, 3-D animation and modeling, documentation, software engineering, legal and ethical issues, preproduction, and postmortems. Graduates have access to internship opportunities and job interviews with game and media companies from across the country.

Read More

CURRICULUM

The Interactive Entertainment MS degree requires a minimum of 30 credit hours beyond the bachelor's degree including 12 credit hours of core courses, 9 credit hours of specialization, a practicum and a capstone experience.

Total Credit Hours Required:
30 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—24 Credit Hours

Core—12 Credit Hours

The foundation of the degree is the four-course core sequence that focuses on team-based learning. This sequence is designed to provide declarative, procedural, and strategic knowledge in a variety of issues related to game design. These include creative collaboration, rapid prototyping, 3-D animation and modeling, documentation, software engineering, legal and ethical issues, preproduction, and postmortems.

- DIG 5529C Production for Media (3 credit hours)
- DIG 5548C Rapid Prototype Production I (3 credit hours)
- DIG 5549C ~~Rapid Prototype Production II (3 credit hours)~~ Experimentation, Application and Innovation in Games (3 credit hours)
- DIG 6547C Preproduction and Prototyping (3 credit hours)

Specialization—9 Credit Hours

Specialization courses help prepare students in their chosen field (Programming, Art or Production) by covering the details of each discipline. Programming classes focus on software engineering techniques as they apply to interactive entertainment products, while production classes focus on the specifics of game design as well as project management. Art classes help students develop aesthetic and technical skills necessary to create compelling visuals for the entertainment industry.

- ~~DIG 5045C Principles of Interactive Entertainment I (3 credit hours)~~
- ~~DIG 5046C Principles of Interactive Entertainment II (3 credit hours)~~
- ~~DIG 6785C Advanced Interactive Entertainment (3 credit hours)~~
  - Art Specialization Students will take the following
    - DIG 5XXX Game Asset Creation (Fall - 3 credit hours)
    - DIG 6XXX Advanced Game Asset Creation (Spring - 3 credit hours)
    - DIG 6XXX Game Asset Portfolio Development (Summer - 3 credit hours)
  - Production Specialization Students will take:
    - DIG 5XXX Game Production and Design I (Fall - 3 credit hours)
    - DIG 6XXX Game Production and Design II (Spring - 3 credit hours)
    - DIG 6XXX Media Distribution (Summer - 3 credit hours)
  - Programming Specialization Students will take:
    - DIG 5XXX Game Programming Fundamentals (Fall - 3 credit hours)
    - DIG 6XXX Advanced Game Programming (Spring - 3 credit hours)
    - DIG 6XXX Applied Programming Mechanics (Summer - 3 credit hours)

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Capstone—3 Credit Hours

The capstone experience applies the concepts and theories learned to produce a large-scale project. The target deliverable is a playable demonstration of a game that simulates the core experience and demonstrates the key features of the project's vision. The course concludes with a special event premiering the final project to the FIEA community and invited guests.

- DIG 6718C Interactive Entertainment Project (3 credit hours)

Practicum—6 Credit Hours

The practicum is a supervised experience supplementing theoretical and practical experiences involving new research developments or partnerships within industry. Students may participate on a research team exploring new ideas in interactive entertainment with industry partners, work on an on-site internship with a game company, or develop their own interests by working with faculty on a personal research area of interest.

- DIG 6944C Game Design Practicum (6 credit hours) "or"

- DIG 6XXX Venture Practicum (6 credit hours)

Independent Learning

Both the capstone course and the practicum provide independent learning experiences. The capstone experience is a project-based class that features a game demonstration. The practicum allows students to work with industry partners, in an internship, or to conduct research.

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.
- A portfolio of prior work as it relates to their area of specialization (art, programming, production, etc.) sent directly to the Florida Interactive Entertainment Academy.
- Applicants must submit 3 personal references with your portfolio. These references should be willing and able to attest to your academic, professional and personal achievements. These references need to include the following info:
    - Reference Name
    - Email address
    - Phone number
    - Relationship to applicant

This program admits students in the fall semesters into production teams. Students will be selected based on the skills they possess and contributions they can make to the production team.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Because of the high volume of portfolios received, we regret that we cannot offer individual feedback on the materials that are submitted as part of the application process.

Application Deadlines

Interactive Entertainment MS	***Fall Priority**	**Fall**	**Spring**	**Summer**

Domestic Applicants	Jan 15	Jul 15	-	-
International Applicants	Jan 15	Jan 15	-	-
International Transfer Applicants	Jan 15	Mar 1	-	-

*Applicants who plan to enroll full time in a degree program and who wish to be considered for university fellowships or assistantships should apply by the Fall Priority date.

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.

UNIVERSITY OF CENTRAL FLORIDA
COLLEGE OF GRADUATE STUDIES

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 and Arts and Humanities

Proposed Effective Term/Year: 2015-16

Unit(s) Housing Program: Philosophy

Name of program, track and/or certificate: Cognitive Sciences Graduate Certificate

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

No Change.

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

Will program be a market tuition rate program? ☐ Yes ☐ No

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

No Change

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

No Change

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

Mason Cash Mason.Cash@ucf.edu Philosophy Dept. x1352.

http://www.graduatecatalog.ucf.edu/programs/Program.aspx?ID=1388

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)**	Michael Strawser	**(Signature)**	Michael Strawser	**Date** 3/3/15
College Academic Standards	**(Print)**	Lynn Hepner	**(Signature)**	Lynn Connell Hepner	**Date** 3/4/15
College Dean	**(Print)**	José B. Fernández	**(Signature)**	José B. Fernández	**Date** 3/4/15
Graduate Council	**(Print)**	_____	**(Signature)**	_____	**Date** _____
Graduate Dean	**(Print)**	_____	**(Signature)**	_____	**Date** _____

Approval

Provost and Vice President for Academic Affairs: _____ **Date** _____

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

Department(s); College; Registrar; Associate Registrar; Institutional Knowledge Management; Academic Services; 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.)

We would like to add EME 6646: Learning, Instructional Design, and Cognitive Neuroscience to our restrictive elective course offerings. This class is often requested by students. It fits with other restricted elective courses in already part of the certificate: EME 6601 Instructional Simulation Design for Training and Education (3 credit hours) and EME 6614 Instructional Game Design for Training and Education (3 credit hours). But unlike these courses, it has no prerequisites (beyond Consent of Instructor for those not in the Instructional Design and Technology MA program). It is also offered in the summer which gives students more flexibility.

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.**)

Add to restricted elective courses:

EME 6646: Learning, Instructional Design, and Cognitive Neuroscience (3 credit hours)

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.)

Mason Cash (program director). No change.

Adds Dr. Atsusi Hirumi to the list of faculty who teach certificate courses. Dr. Hurimi is Associate Professor of Instructional Technology at the University of Central Florida. He received his M.A. in Educational Technology from San Diego State University and his Ph.D. in Instructional Systems from Florida State University. Dr. Hirumi's work focuses on developing systems to train and empower K12, university and corporate educators on the design, development and delivery of interactive distance education programs. His research concentrates on the design and sequencing of e-learning interactions.

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

Only that one additional elective course will be an option, which many students are interested in taking, that is very relevant to the theme of the certificate program.

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.

See attached email from Dr. Hurimi who teaches the course, and Dr. Jay Hoffman, Chair of Education and Human Sciences.

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.

No change

	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?)

no change

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)** None needed.

☑ **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:

_____

Provide rationale for the 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)**

Cognitive Sciences Certificate

PROGRAM DESCRIPTION

The Cognitive Sciences Graduate Certificate program focuses on the interdisciplinary study of cognitive systems. It integrates a diverse range of approaches to examining cognitive processes, investigating the structures that support and scaffold cognition, attempting to understand, model and construct cognitive systems, and philosophically examining the foundations and applications of the cognitive sciences. It also includes applications of these investigations to many areas of human endeavor, including technology design, communication, training, education and clinical settings.

The interdisciplinary program is founded on the belief that cognition is a complex range of phenomena that cannot be well understood from any single disciplinary perspective. Thus, the program includes core interdisciplinary courses on the Cognitive Sciences, as well as drawing from related courses from many areas including Communication Sciences and Disorders, Education, Engineering and Computer Science, Linguistics, Neuroscience, Philosophy and Psychology.

The Graduate Certificate in Cognitive Sciences is designed for students from diverse backgrounds who wish to: (i) deepen and broaden knowledge gained in a related bachelor's degree, (ii) prepare for master's or PhD programs in the cognitive sciences, or (iii) complement current study in UCF graduate programs related to the cognitive sciences.

CURRICULUM

Total Credit Hours Required:
18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—6 Credit Hours

The program recommends that students complete these courses in the first year of the certificate.

- PHI 5327 Topics in the Cognitive Sciences (3 credit hours)
- PHI 5340 Research Methods in the Cognitive Sciences (3 credit hours)

Elective Courses—12 Credit Hours

Core Courses—9 Credit Hours

Choose at least 9 credit hours of elective courses from at least three of the following four Core Areas.

Language and Communication

- COM 6046 Interpersonal Communication (3 credit hours)
- LIN 5137 Linguistics (3 credit hours)
- LIN 6932 Problems in Linguistics (3 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6417 Cognitive/Communicative Disorders (3 credit hours)
- TSL 6252 Sociolinguistics for ESOL (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)

Artificial Intelligence and Modeling Cognition

- CAP 5636 Advanced Artificial Intelligence (3 credit hours)
- CAP 6640 Computer Understanding of Natural Language (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- EEL 6876 Current Topics in Artificial Intelligence (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 6875 Autonomous Agents (3 credit hours)

Philosophy

- PHI 5225 Philosophy of Language (3 credit hours)
- PHI 5325 Topics in Philosophy of Mind (3 credit hours)
- PHI 5328 Philosophies of Embodiment (3 credit hours)
- PHI 5329 Philosophy of Neuroscience (3 credit hours)

Psychology and Neuroscience

- DEP 5057 Developmental Psychology (3 credit hours)
- EXP 5208 Sensation and Perception (3 credit hours)
- EXP 5256 Human Factors I (3 credit hours)
- EXP 6255 Human Performance (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- ZOO 5745C Essentials of Neuroanatomy (4 credit hours)
- ZOO 5748C Clinical Neuroanatomy (5 credit hours)
- ZOO 5749C Clinical Neuroscience (5 credit hours)

Restricted Elective Courses—3 Credit Hours

Choose up to one elective course either from the above Core Areas or from the following list:

- CAP 5415 Computer Vision (3 credit hours)
- CAP 5610 Machine Learning (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- COM 6467 Studies in Persuasion (3 credit hours)
- EDF 6141 Human Intelligence (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)

- EGI 6305 Theory and Development of Creativity (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)
- EME 6646 Learning, Instructional Design, and Cognitive Neuroscience (3 credit hours)
- ENC 6740 Topics in Rhetoric and Composition (3 credit hours) NOTE: Where topic is appropriate; topic should be cleared in advance with the Cognitive Sciences Certificate program director.
- EXP 6257 Human Factors II (3 credit hours)
- EXP 6541 Advanced Human-Computer Interaction (3 credit hours)
- INP 5825 Human-Computer Interface (HCI) Design: A Team Approach (3 credit hours)
- IDS 6504 Adult Learning (3 credit hours)
- IDS 7657 Professional Collaboration Around Language Issues (3 credit hours)
- SOP 5059 Advanced Social Psychology (3 credit hours)
- SPA 6437 Communication Foundations and Assistive/Instructional Technology for Communication (3 credit hours)

NOTE: It is the policy of the College of Graduate Studies not to allow course substitutions for graduate certificate programs. All elective courses listed above have been approved for inclusion by the chair or director of the relevant program. However, it is the student's responsibility to ensure that all course prerequisites are met. Students without the appropriate prerequisites to courses will need to contact the instructor to inquire about the possibility of registration.

From: **Jay Hoffman** Jay.Hoffman@ucf.edu
Subject: RE: Adding EME 6646 to Cognitive Sciences Graduate Certificate program
Date: March 3, 2015 at 9:11 AM
To: Mason Cash Mason.Cash@ucf.edu
Cc: Atsusi Hirumi Atsusi.Hirumi@ucf.edu, Glenda Gunter Glenda.Gunter@ucf.edu

JH

Dr. Cash,

I see no issue with this and we appreciate your support for our program.

Sincerely,

Dr. Hoffman

Jay R. Hoffman, Ph.D., FACSM, FNSCA
Director, Institute of Exercise Physiology and Wellness
Chair, Education and Human Sciences
Professor, Sport and Exercise Science
College of Education and Human Performance
University of Central Florida

From: Mason Cash
Sent: Tuesday, March 03, 2015 12:00 AM
To: Jay Hoffman
Cc: Atsusi Hirumi; Glenda Gunter
Subject: Adding EME 6646 to Cognitive Sciences Graduate Certificate program

Dear Dr. Hoffman,

I'm am writing to ask your permission, as chair of the Department of Educational and Human Sciences, to add one of your department's courses (offered in the Instructional Design and Technology MA program) to the list of elective courses available to students taking the Graduate Certificate in Cognitive Sciences.

This certificate program already lists as electives two other Instructional Design and Technology courses offered by your department:

- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)

We would like to also add the following course, taught by Dr. Hirumi, to this list of elective courses:

- EME 6646: Learning, Instructional Design and Cognitive Neuroscience.

Of course, certificate students would be responsible for satisfying any prerequisites for the course. Since this is one of more than a dozen elective courses, and there are about a dozen students/year taking the certificate, we do not anticipate that this would add many students to this course (perhaps one student/year).

More information about the Graduate Certificate in Cognitive Science can be found here.

Thank you.

Mason Cash.

--

Dr. Mason Cash
Associate Professor
Department of Philosophy
Director, Cognitive Sciences Graduate Certificate Program

University of Central Florida
Orlando, FL
USA 32816-1352

Office: PSY 246 (Campus Map)
http://pegasus.cc.ucf.edu/~mcash

Phone: 407-823-6857
Facebook: http://www.facebook.com/p/Mason_Cash/5138115

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"If people did not sometimes do silly things,
nothing intelligent would ever get done."
--Ludwig Wittgenstein (*Culture and Value*, 50e)
==========

From: **Atsusi Hirumi** Atsusi.Hirumi@ucf.edu
Subject: Re: Adding EME 6646 to Cognitive Sciences Graduate Certificate program
Date: March 3, 2015 at 5:39 AM
To: Mason Cash Mason.Cash@ucf.edu, Jay Hoffman Jay.Hoffman@ucf.edu
Cc: Glenda Gunter Glenda.Gunter@ucf.edu, Richard Hartshorne Richard.Hartshorne@ucf.edu, Chad Rawls crawls@aera.com

AH

Dear Dr. Cash:

I'd be happy to have students from your program take EME6646 with Dr. Hoffman's approval.

It's a relatively new course that focuses on a particular area of personal research interest as well as importance to the field of instructional design and learning sciences.

There are not pre-requisites to EME6646. It applies the 5E instructional strategy to help make the course relevant for students with little to no biology background as well as for those with considerable biology background.

However, please note: EME6613 is pre-requisite to both EME6601 and EME6614. Student who do not take EME6613 before or concurrently may have challenges keeping up with some of the content (although we do post remedial information).

Thanks again for your time and interest. We are honored by the fact that others across the university are interested in taking our courses.

2c

Sent from Windows Mail

From: Mason Cash
Sent: Tuesday, March 3, 2015 12:00 AM
To: Jay Hoffman
Cc: Atsusi Hirumi, Glenda Gunter

Dear Dr. Hoffman,

I'm am writing to ask your permission, as chair of the Department of Educational and Human Sciences, to add one of your department's courses (offered in the Instructional Design and Technology MA program) to the list of elective courses available to students taking the Graduate Certificate in Cognitive Sciences.

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courses:

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Of course, certificate students would be responsible for satisfying any prerequisites for the course. Since this is one of more than a dozen elective courses, and there are about a dozen students/year taking the certificate, we do not anticipate that this would add many students to this course (perhaps one student/year).

More information about the Graduate Certificate in Cognitive Science can be found here.

Thank you.

Mason Cash.

--

Dr. Mason Cash
Associate Professor
Department of Philosophy
Director, Cognitive Sciences Graduate Certificate Program

University of Central Florida
Orlando, FL
USA 32816-1352
Please consider use of resources. Don't print this e-mail unless you really need to.

Office: PSY 246 (Campus Map)
http://pegasus.cc.ucf.edu/~mcash

Phone: 407-823-6857
Facebook: http://www.facebook.com/p/Mason_Cash/5138115

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"If people did not sometimes do silly things,
nothing intelligent would ever get done."
--Ludwig Wittgenstein (*Culture and Value*, 50e)
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UNIVERSITY OF CENTRAL FLORIDA
COLLEGE OF GRADUATE STUDIES

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: COHPA- Health Management and Informatics

Proposed Effective Term/Year: Fall 2015

Unit(s) Housing Program: Health Management and Informatics

Name of program, track and/or certificate: MS- Health Services Administration

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?)

December 1st/July 15th

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

n/a

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

Dr. Kourtney Nieves kourtney.nieves@ucf.edu 407-823-3264

4000 Central Florida Blvd. HPA 2 room 206 Orlando, FL 32816

Please check one: this action effects 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:

applies only to the MS general track, not the executive track

☐ 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) Dr. Reid Oetjen (Signature) _____ Date 11/5/2015

College Academic Standards (Print) Ross Wolf (Signature) _____ Date 2/26/15

College Dean (Print) Michael Frumkin (Signature) _____ Date 2/3/15

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 effects the unit and faculty teaching in and students enrolled in the program, track or certificate.)

Our accreditation board, CAHME, has indicated that we are lacking the informatics competency that is required for accreditation. As such, we propose swapping one of our current core classes (HSA 6126- Health Services Management) with the current elective version of the informatics course (HSA 6195- Management and Health Information Systems) to satisfy accreditation standards. Content of the HSA 6128 course, while relevant to accreditation competencies, is also covered in other core courses as well, thus making it the logical course to move to make room for a core informatics course. By moving this to our elective options we will be satisfying accreditation standards and still offering this course as an option for students who desire further knowledge of health services management over and above what is offered in the core curriculum.

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.)

- Add HSA 6195- Management and Health Information Systems (3 credit hrs.) to the core curriculum
- Remove HSA 6128- Health Services Management (3 credit hrs.) from the core curriculum and add to the approved elective options

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.)

[illegible]

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

No, this will only apply to incoming students for the Fall 2015 admissions cycle and beyond

Rhonda Nelson

From: Kourtney Nieves
Sent: Tuesday, March 10, 2015 9:30 AM
To: Rhonda Nelson
Cc: Michele Pozdoll
Subject: RE: RE: Changes to the HSA program

Hi

Sorry about that! The faculty who teach in the MS-HSA program are as follows:

Latarsha Chisholm
Donna Davis
Albert Liu
Donna Malvey
Kuurtney Nieves
Dawn Oetjen
Reid Oetjen
Bernardo Ramirez
Tim Rotarius
Lynn Unruh
Kendall Cortelyou-Ward
Phil Wessel
Larry West

Please let me know if you need anything else :)

Kourtney

Kourtney Nieves, PhD, MSHS
Lecturer/Program Director MS-HSA
University of Central Florida
Department of Health Management & Informatics
HPA II Room 206
Orlando, FL 32816-2205
Phone: (407) 823-3264 Fax: (407) 823-6138

From: Rhonda Nelson
Sent: Monday, March 09, 2015 3:27 PM
To: Kourtney Nieves
Cc: Michele Pozdoll
Subject: RE: Changes to the HSA program

Hello Dr. Nieves,
Your item will be on the agenda of the Graduate Council Curriculum Committee that will be held on March 16. We are having trouble reading page 5 which lists all of the faculty involved in your program. Could you possibly email this list of names to me on a separate sheet and we could add this to the end of the document? Thanks for your help with this.

Rhonda L. Nelson
Senior Administrative Assistant to

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- no change from current curriculum or likely student jobs upon graduation

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)

CURRICULUM

Total Credit Hours Required:

51 Credit Hours Minimum beyond the Bachelor's Degree

The Health Services Administration track in the Health Sciences MS program requires a minimum of 51 credit hours beyond the bachelor's degree. This includes 42 credit hours of required courses, including the capstone course, 6 credit hours of electives, and 3 credit hours of an internship. The degree program also requires 6 credit hours of prerequisite courses, which may be taken after admission into the program. Knowledge of personal computers is also required.

Most required courses alternate between Fall, Spring, and Summer semesters and are not offered every term. The term each course is regularly offered is indicated in the course listing below. Students must meet with their academic adviser to develop a plan of study. A schedule of the program's curriculum can be found at the program website above.

The Master of Science in Health Services Administration program offers courses in both mixed-mode and face-to-face formats. This program cannot be completed online. Students with professional healthcare experience who are interested in an entirely online program can pursue the Executive Health Services Administration track in the Health Sciences MS Program.

Prerequisites

Students must complete prerequisite course work, including knowledge of finance and economics. Upon admission to the MS-HSA program, students will be required to complete 2 prerequisite assessment tests. Students that receive a passing score of a 70% or higher will be exempt from taking the prerequisite in the respective area. These prerequisite courses may be taken after admission to the program.

- HSA 5177 Foundation of Health Care Finance (3 credit hours)
- HSA 5436 Foundation of Health Care Economics (3 credit hours)

Required Courses—42 Credit Hours

Core—39 Credit Hours

- HSA 5198 Health Care Decision Sciences and Knowledge Management (3 credit hours) - *offered Spring*
- HSA 6119 Health Care Organization and Management I (3 credit hours) - *offered Spring*
- ~~HSA 6128 Health Care Services Management (3 credit hours) - *offered Spring*~~
- HSA 6195 Management and Health Information Systems (3 credit hours)
- HSA 6155 Health Economics and Policy (3 credit hours) - *offered Spring*
- HSA 6342 Health Care Human Resources Management (3 credit hours) - *offered Fall*
- HSA 6385 Health Care Quality Management (3 credit hours) - *offered Summer*

- HSC 6636 Issues and Trends in the Health Professions (3 credit hours) - *offered every semester*
- HSC 6911 Scientific Inquiry in the Health Professions (3 credit hours) - *offered Fall*
- PHC 6000 Managerial Epidemiology (3 credit hours) - *offered Summer*
- PHC 6146 Health Planning and Policy (3 credit hours) - *offered Fall*
- PHC 6160 Health Care Finance I (3 credit hours) - *offered Fall*
- PHC 6164 Health Care Finance II (3 credit hours)- *offered Spring*
- PHC 6420 Case Studies in Health Law (3 credit hours) - *offered Spring*

Capstone—3 Credit Hours

A final written examination experience is required of all students in the program. This requirement will be met through successful completion of the capstone course (HSA 6925). To successfully pass this course, students must earn a grade of "A" or "B." There is one exception: students who earn no other "C" grades while in the HSA program will be permitted to pass this course with a grade of "C."

- HSA 6925 Capstone in HSA (3 credit hours) - *offered every semester*

Elective Courses—6 Credit Hours

Choose two courses from the following list:

- HSC 6656 Health Care Ethics (3 credit hours)
- HSA 6112 International Health Care (3 credit hours)
- HSA 6128 Health Care Services Management (3 credit hours) - *offered Spring*
- HSA 6512 Health Care Leadership (3 credit hours)
- ~~HSA 6195 Management and Health Information Systems (3 credit hours)~~
- HSA 6536 Health and Medical Terminology for Health Administrators (3 credit hours)
- HSA 5509 Health Care Risk Management (3 credit hours)
- PUP 6607 Politics of Health Care (3 credit hours)
- NGR 5660 Health Disparities: Issues and Strategies (3 credit hours)
- ENC 5237 Writing for the Business Professional (3 credit hours)
- GEY 5648 Gerontology: An Interdisciplinary Approach (3 credit hours)
- Or an alternative graduate-level course at the discretion of the Program Director

Internship—3 Credit Hours

As a requirement for the Master of Science in Health Services Administration, students must complete an internship within the administrative realm of an actual health care organization. Students will work directly with the Director of Internships to select an organization of interest. Students are required to fulfill 240 contact hours within their selected organization over the course of the semester, or approximately 18-20 hours per week.

Many health care organizations will require that students complete a background check, which may include, but is not be limited to, law enforcement finger printing, state driving records,

credit reports, and criminal records check. The cost of the back ground check is the student's responsibility. Background checks may take time to complete and, subsequently, could delay the student's internship placement. It is advised that, in the semester prior to the internship, the student contact the organization directly to obtain further information on the organization's background check requirements. Students who have potential background issues must contact the Director of Internships to schedule an interview in order to discuss the impact on field placement. The Health Services Administration Program cannot guarantee internship placement or subsequent degree completion for students who do not pass background checks

- HSA 6946 Internship (3 credit hours) - *offered every semester*

Students with 3 or more years of relevant health care management experience may qualify for a research-based internship option and are advised to contact the Director of Internships.

Syllabus

DIG 5XXX Game Production and Design

Fall 2014
Credit Hours: 3

INSTRUCTOR

Office Location:	Rick Hall FIEA Building 500 W. Livingston, Room #115l
Phone:	Rick Hall 407-235-3614
Fax:	Rick Hall 407-317-7094
Email:	Rick Hall rhall@fiea.ucf.edu

OFFICE HOURS

All day, every day, except Tues & Thurs from 1:30pm – 4:30 pm

CLASS DAY/TIME

Tuesday and Thursday: 3:00 PM to 4:30 PM

CLASS LOCATION

FIEA Building: Classroom The Bridge

COURSE OBJECTIVE

To provide a fundamental understanding of the entire game development process, from pre-production to scheduling, budgeting, production, alpha, staffing, planning, and essential documentation. This cycle will view the development process across multiple delivery platforms. The class will focus on giving the Game Development student the knowledge and experience to operate in a professional and realistic environment.

COURSE DESCRIPTION

This will be a project-based experiential learning class. The class will have three components: lecture & discussion, practical examples (samples of games production planning), and hands-on production planning. The course will require Game Development students to create a complete Development Plan based a game of their own choosing. Although the game itself will not be constructed, this course will provide practical experience in the various stages of planning and documentation that go into any development project.

GOALS

- Knowledge of the practical aspects of planning out a Game Development project in order to work within a budget and schedule
- The ability to analyze a development plan and understand why various choices were made and how to improve them
- The ability to organize and communicate within an environment consisting of multiple kinds of creative disciplines

Syllabus

DIG 5XXX Game Production and Design

COURSE OUTLINE

	Lecture Topic	Homework Assigned	Homework Due
Class 1	Course Intro, Iconic Characters	Iconic Characters	
Class 2	Industry Overview	Industry Metrics	Iconic Characters
Class 3	Game Review		
Class 4	Information Superiority – Pt 1		Industry Metrics
Class 5	Game Review		
Class 6	Information Superiority – Pt 2	Info. Superiority	
Class 7	Pre-Production Phase		
Class 8	Game Review		Info. Superiority
Class 9	Time Management		
Class 10	Production Phase		
Class 11	Game Review		
Class 12	Risk Assessment	Risk Assessment	
Class 13	Alpha and Beta Phases		
Class 14	Game Review		Risk Assessment
Class 15	Projections & Justifications		
Class 16	Team Culture	Team Culture	
Class 17	Game Review		
Class 18	Pipelines		Team Culture
Class 19	Dependencies		
Class 20	Game Review		
Class 21	Development Methodologies Pt 1		
Class 22	Development Methodologies – Pt 2		
Class 23	Game Review		
Class 24	Localization		
Class 25	Development Methodologies – Pt 3	Dev. Methods	
Class 26	Game Review		
Class 27	Localizations		Dev Methods
Class 28	Global Markets		
Class 29	Game Review		
Class 30	Monetization Methods		
Class 31	Assembling a Team	Assembling Teams	
Class 32	Game Review		Assembling Teams

Syllabus

DIG 5XXX Game Production and Design

CLASS PARTICIPATION

Demonstrate your interest and knowledge by engaging in discussions, asking questions, providing information, opinions and feedback. Make your positive presence known.

GRADING CRITERIA

Homework assignments	40%
Class Participation	20%
Final Project	40%

Plus/minus policy

A	94 - 100
A-	90 - 93
B+	87 - 89
B	84 - 86
B-	80 - 83
C+	77 - 79
C	74 - 76
C-	70 – 73
D+	67 - 69
D	64 - 66
D-	60 - 63

INCOMPLETE GRADE REQUESTS

No incompletes will be given

REQUIRED TEXTBOOKS AND MATERIALS

There are no required texts for this course. Required software provided on laptops.

ATTENDANCE, LATE POLICY & SCHEDULING MAKEUP WORK

Students are expected to come to class on time. There will be no excused absences except for documented medical reasons or other serious emergencies. If a student has any urgent need to be absent due to an unavoidable illness, injury or emergency, he/she must notify (via phone or email) the faculty member prior to the class or event that he/she will be missing. Excused absences do not relieve the student to meet all requirements of the course. Makeup work must be scheduled with the instructor.

Attendance will factor in the determination of course grades in the following way:

- Each unexcused absence will result in lowering the course grade by one full grade.

FINAL Project DATE AND TIME

Tuesday December 2, 10:00 AM – to be confirmed

Syllabus

DIG 5XXX Game Production and Design

NOTE: Syllabus is subject to change at the instructor's discretion. Students should be aware of this, and will be notified if changes are made.

Title: Game Programming Fundamentals
DIG 5XXX

Course Description: An introduction to real-time game programming fundamentals, including computer architecture and low-level programming and optimization. Specific attention to game consoles and cross-platform software development.

Course Description: An introduction to real-time game programming fundamentals, including computer architecture and low-level programming and optimization. Specific attention to game consoles and cross-platform software development.

Course Goals: Students develop working knowledge in the following areas:

1. Computer architecture concepts related specifically to developing and debugging real-time game software, such as memory types and usage, pointer arithmetic and data structure mapping.
2. C language fundamentals and common game frameworks, and leveraging high-level programming language to facilitate developing real-time cross-platform game software.
3. Concepts in profiling and optimization, including high-level algorithmic, as well as low-level optimizations.
4. Console development, specifically for XBOX gaming console, using industry standard tools and software interfaces.

Objectives: Students should be able to:

1. Use common tools to develop and debug interactive real-time game software.
2. Develop, debug and optimize a cross-platform game designed to run on both PC and console.

Required Reading: Note these are recommended, not required

1. *The C Programming Language*, Kernighan and Richie
2. *Game Engine Architecture*, Gregory
3. *Memory as a Programming Concept in C and C++*, Franck
4. *Code Complete*, McConnell
5. *Write Great Code*, Volumes 1 and 2, Hyde

DIG 5XXX Game Asset Creation
Fall Credit Hours: 3

Game Art Faculty
Brian Salisbury 115L
bsalisbury@fiea.ucf.edu 407-235-3615

Office Hours
Brian Salisbury Tues/Thurs 3:00 pm 5:00 pm or by appointment

Class Day/Time

Game Art
Monday & Wednesday 4:30pm – 5:50pm
Life Drawing
Friday 2:30 – 5:00

Other workshops by notification

Class Locations
FIEA Campus, Center for Emerging Media 500 W. Livingston, Orlando, Florida.
The Bridge, Mario & Classrooms or as specified by instructor.

COURSE OBJECTIVE

The objective of this course is to immerse the student with a fundamental understanding of a variety of game art concepts, techniques, and visual and technical problem solving skills utilizing industry standard digital content creation tools and game engines. Knowledge and skills gained in semester one will be applied to team based projects in later semesters, and enable the student to identify areas of aptitude, interest and focus for specialization.

COURSE DESCRIPTION

The Art Track student will be exposed to foundational concepts within 4 core areas of game art composed of 2 Dimensional Art, 3 Dimensional Art, Animation, and general Technical Art which will be taught as sequential modules. Figure drawing workshops and a focused concurrent Technical Art class will be considered components of the course.

All students are initially enrolled in the concurrent Technical Art class, and must pass an assessment exam after the first four weeks to officially continue in that class. Upon passing the assessment and electing to continue, the student will be designated as a "Technical Artist", and will be learning technical and programming constructs along with the 4 art modules. The grade will be 50% core art modules and 50% Tech Art for the Tech Artist, where the remainder of the artists will receive 100% of the grade through the core modules.

COURSE GOALS

The goal of the class is to arm the student with a broad understanding of a variety of topics, enabling them with the ability to contribute effectively at any basic level on team projects in later semesters. Having been exposed to a variety of topics, the student will be more prepared to identify areas of aptitude, interest and specialization that they will carry into team projects and portfolio concentration in later semesters.

COURSE STRUCTURE

The primary means of communication will be through email. The student is responsible for all email communications from faculty and adjuncts. Course material will be delivered via lectures, video content and other media.

Class Participation

The class is treated as a studio environment, thus teamwork, collaboration, attitude and attendance are essential for success. Maintaining a class blog, participation in technique demos, discussion, critiques, and assigned material such as instructor authored videos, tutorials, assigned readings, etc. is required. It is expected that your full attention is paid to the topic at hand during class time (not engaging in work or viewing material on laptops/phones/tablets outside of present class topic & discussion).

Materials and Textbooks

Instructional materials, such as instructor authored videos, tutorials, assigned readings, etc. are required.

Areas of Specialization

The FIEA Art Track is divided into 4 areas of instruction and specialization:

- 2 Dimensional Art
- 3 Dimensional Art
- Animation
- Technical Art

In this class, the 4 specializations will be covered sequentially as modules for all FIEA students enrolled in the art track, exposing them to fundamentals of each discipline. By the end of the semester, the student will declare a discipline(s) of specialization demonstrated by the completion of a final portfolio piece in that area of study.

Grade Distribution for the Art Class

2D art	20%
3D Modeling	20%
Animation	20%
Technical Art	20%
Final Portfolio	20%

Life Drawing will be incorporated into the final portfolio grade.

Grade Scale

A	94 – 100
A-	90 - 93.99
B+	87 - 89.99
B	84 - 86.99
B-	80 - 83.99
C+	77 - 79.99
C	74 - 76.99
C-	70 - 73.99
FAIL	Below 70

Grading Standards

- A high ***A***, 95 percent or above is considered professional quality, suitable for a portfolio website. A low ***A***, 90 – 94 is acceptable quality or effort for the assignment with room for polish and improvement.
- A ***B*** represents average quality and effort. This is considered passing an assignment but not the kind of work that would lead to or maintain employment in the entertainment or related industries.
- A ***C*** represents poor quality and minimal effort.
- Below ***C*** represents unacceptable quality and effort

Grading Notes

Substantial effort toward the completion of any assignment may be invested by the student, however, unforeseeable technical challenges and issues may arise. Though the effort may be recognized, the grading criteria of any assignment or portfolio work is based upon meeting professional quality aesthetics and technical execution as outlined by the portfolio goals of the student or the assignment by the instructor.

CLASS POLICIES

Late Work

Outside of emergencies, or extenuating circumstances, late work will not be accepted for full credit. Make up work is at the discretion of the instructor.

For every day that an assignment is late, a 10 % grade reduction will occur.

Attendance

Students are expected to attend class and arrive prepared and on time. Students are required to notify the instructor for absences due to unavoidable circumstances, illness, injury or emergency. Habitual absence due to medical issues will require documentation. Attendance is considered part of the class participation grade.

For every missed class, a 1 % grade reduction will occur. For every late class, a 1/2 % grade reduction will occur.

COURSE CONTENT AND SCHEDULE

Art Class Sequential Modules (4 Weeks per module)

2D Art

The 2 Dimensional Art portion of Semester 01 will be a focus on foundational art principals that will carry with the artist for the duration of their career as an artist. A strong focus on Shape, Design, Proportion, Lighting and Composition will be the core learning experience for this section. When students complete this proportion they will be able to demonstrate that they have a foundational level understanding of these topics.

Assignments will flow from in class lecture and video e-learning.

Week 01 Understanding Shape and Proportions

> **Outcomes for this section:** Students will learn **shape language** to help create strong designs in everything design and create.
>
> **Shapes Assignment** – 20 minimum Shape studies for artist. 10 minimum Shape studies for tech artist.
>
> Students will learn how to take **combinations of shapes** to make objects, characters, or environments.

Week 02 Values and Composition

> **Outcomes for this section:** Students will learn how to create **shapes** within silhouette by creating **value differences.** They will learn to create strong readable designs with a limited value range and no lighting.
>
> **Value Assignment** – 10 minimum value studies for artist. 5 minimum value studies for tech artist.

Outcomes for this section: Students will learn to create **interesting composition** scenes by combining strong shape language and readable values together to create a compelling scene.

Week 03 Lighting and Color

Outcomes for this section: Students will learn how **light functions** in a space and how it interacts with objects.

Lighting Assignment – 8 minimum light studies for artist. 4 minimum light studies for tech artist.

Outcomes for this section: Students will learn about **relationships of color** and how to use them to **create** a multitude of **moods in an image**.

Week 04 Creating an Original Design

Outcomes for this section: Students can **choose** to create a **character, object, environment**, or **scene** by using all the fundamentals of art taught in previous weeks.

Proper presentation skills for both online and print formats will be shown and expected for the final delivery of this art piece.

Design assignment – Choose either 1 character, 1 vehicle, or 1 environment as a minimum for artist. If an artist chooses to do an object, prop, or weapon, the artist must have at minimum 4 designs for that group.

A tech artist may choose to do any of the design categories listed above for the artist, however it will be very difficult to reduce the work load if a character, vehicle or environment is chosen. If a tech artist chooses to do an object, prop, or weapon, the tech artist must have at minimum 2 designs for that group.

3D Art

The 3 Dimensional Art portion of Semester 01 will be a focus on foundational art principals in game art creation that will carry with the artist for the duration of their career as an artist. A strong focus on shape creation, creating good, clean and efficient models, textures and shaders will be the core learning experience for this section. When students complete this proportion they will be able to demonstrate that they have a foundational level understanding of these topics.

Assignments will flow from in class lecture and video e-learning.

Week 05 **Modeling Fundamentals** – Silhouettes, Shape, Proportion, various modeling tools and techniques

Outcomes for this section: All artist will be able to build proxy level art.

Artist Assignment -Create 10 different proxy weapons, props and a vehicle. (5 weapons, 4 props and 1 vehicle)

Tech Artist Assignment - Create 5 of the 10 proxy pieces. (2 weapons, 2 props and 1 vehicle)

Week 06 Introduction to Creating 3D Game Art – Character and Environment (Artist will have 3 weeks to complete this assignment. Time will be broke into modeling, Texturing and Final Presentation)

Outcomes for this section: All artist will have an understanding of the most important aspects of character and environment creation. All artist will be required to choose either a character or an environment to create. This will include hand painted textures and basic material and lighting set up for each.

Artist Assignment –Choose to create either a character or an environment. Requirements are listed below.

If an artist chooses to do an environment and they wish to do a vehicle as well, they can do the vehicle in combination with 4 of the 9 required elements for the environment.

Tech Artist Assignment - Choose to create either a character or an environment. Requirements are listed below.

If a tech artist chooses a character related project, they should choose the characters pet and a weapon/prop.

If a tech artist chooses to create and environment they may choose 4 of the 9 required elements for the environment.

If a tech artist chooses to create a vehicle, they will need to add a completed weapon, prop, or 1 of the environment required pieces.

Technical Requirements:

1 Character *– (Polycount 5,000 – 7000) (Texture Budget 1 512 X 512)*

a. ¾ view (Beauty shot) concept art will be provided.
b. Simple Line work Model Sheet will be provided.

1 Environment *– (Polycount 15,000 – 20,000) (Texture Budget 3 1024 X 1024)*

Required assets for full environment:

a. 1 modular wall piece
b. 1 large tiling UV section on a larger wall.
c. Grass

d. *Wood*
e. *Stone*
f. *Metal*
g. *Water in some place*
h. *Plant*
i. *Rock structures*

1 Character Pet – (Polycount 2,000 – 3,000) (Texture Budget 1 256 X 256)
a. Pet is about ¼ the size of the Character

5 weapons - (Polycount 2,000 – 3,000) (Texture Budget 1 256 X 256)
a. 1 that the character holds.
b. 1 that lives in the environment (could be hung on a wall or stuck in a tree)
c. 1 design that could be incorporated into the vehicle.

4 props - (Polycount 1,000 – 2,000) (Texture Budget 1 128X 128)
a. 1 that the character holds.
b. 1 that lives in the environment (could be hung on a wall or stuck in a tree)
c. 1 design that could be incorporated into the vehicle.

1 vehicle (Polycount 5,000 – 7000) (Texture Budget 1 1024 X 1024)
a. Something that the character rides.

Week 07 Introduction to Digital Sculpting and digital Painting

Outcomes for this section: All artist will have an understanding of the most important aspects of Digital Sculpting and Painting.

Artist Assignment - Artist will be required to take 2 assets from the previous section, pull them into a digital sculpting package (ZBrush) and create a high resolution version of their assets. They will also be required to fully texture these assets.

Tech Artist Assignment - will be required to take 1 assets from the previous section, pull them into a digital sculpting package and create a high resolution version of their assets. They will also be required to fully texture these assets.

Week 08 Map Baking and More Advanced Shader Creation

Outcomes for this section: Part of the texture and model creation process is baking information from a high resolution mesh to a game resolution mesh to capture the look and quality of the high resolution asset but maintain a performance that runs in real-time.

All artist will have an understanding of the baking process and how to create high quality textures from a high resolution asset.

Artist Assignment - Artist will be required to take 2 assets from the previous section, bake out an ambient occlusion map, a normal map, vertex color, base color map and bake out lighting and shading.

Tech Artist Assignment - will be required to take 1 assets from the previous section, bake out an ambient occlusion map, a normal map, vertex color, base color map and bake out lighting and shading.

Animation

Introduction to the principles of animation in 2D & 3D key frame animation with a deep focus on basic body mechanics and locomotion. Motion capture shoot planning, capture sessions, data processing and motion capture animation editing and game engine implementation. Assignments will flow from in class lecture and video e-learning.

Week 09 2D Animation

Outcomes for this section: Demonstrate an understanding of the principles of animation through a traditional animation approach, drawing every frame using digital tools, arriving at an entertaining and creative piece.

Assignment – Design and animate a game character, similar in complexity of an "Angry Bird", interacting with the environment or other characters. 3 to 10 seconds.

Tech Artist Assignment – minimum 3 seconds of animation.

Weeks 10 - 11 2.5D & 3D Animation

Outcomes for this section: Demonstrate an understanding of the principles of animation through 2D & 3D dimensional key-framed animation exercises with a focus on locomotion. Character rigs will be provided.

Assignments – Idle, walk, jog, jump, and run cycles for game animation, followed by a parkour style move. Using a 2D game engine such as Unity and Maya.

Week 12 Motion Capture

Outcomes for this section: Demonstrate an understanding of planning a motion capture shoot, process and edit motion capture data suitable for game engines.

Assignment – Plan a simple game animation motion tree for basic game ready animation. Participate in a motion capture shoot and edit the data for seamless transition in a game engine. Minimum 5 edited moves.

Tech Artist Assignment – Minimum 3 edited moves.

Technical Art

Introduction to basic game character rigging and simple facial rigs. Real-time shader networks, and particles.

Weeks 13 & 14 Character Rigging

Outcomes for this section: Demonstrate an understanding of rigging a character for game animation and motion capture editing.

Assignment – Rig a biped with advanced controllers.

Tech Artist Assignment – Rig a biped with advanced controllers.

Week 15 Shader Networks

Outcomes for this section: Demonstrate an understanding of real-time shader networks for visual development and effects.

Assignments – Advanced shader networks in UE4.

Tech Artist Assignment – Minimum 50% of the volume assigned to artists.

Week 16 Real Time visual Effects

Outcomes for this section: Demonstrate an understanding of basic real time effects and particle systems. The resultant work should convey plausible, technical and aesthetic components.

Assignments – Complete assigned exercises and plan a final game ready visual effect in UE4.

Life Drawing Class

All artists including technical artists are required to attend a weekly life drawing class with a focus on visually constructing human anatomy with live models. Materials used must be mess free such as pencil & paper or digital.

The goal of the class is to end up with 3 strong figure studies that can be added to your portfolio. At the end of Semester 01, all students will be required to turn in 3 quality figure studies from their time in the Life Drawing Class. If these drawings are not turned in it will result in the loss of up to 5% of the student final portfolio grade.

Portfolio Final

All artists including technical artists are required to submit a final portfolio piece in their area of specialty. A portfolio piece is considered to be your best work that would be included on a professional website. Portfolio pieces will require independent student research and instructor approval. The portfolio piece will be due on the last day of regularly scheduled classes.

Advanced Students

Advanced students with a demonstrable mastery of skills pertaining to particular assignments may have the option for alternate assignments at the discretion of the instructors.

NOTE

Syllabus and schedule are subject to change at the instructor's discretion, via notification by email.

DIG 6XXX ADVANCED GAME ASSET CREATION
SPRING CREDIT HOURS: 3

GAME ART FACULTY

Brian Salisbury FIEA Campus 500 W. Livingston, 115L
bsalisbury@fiea.ucf.edu 407-235-3615 Cell: 321-695-2901

OFFICE HOURS - FACULTY

Brian Salisbury Monday & Wednesday 3:00 pm until 5:00 pm.

CLASS DAY/TIME

Lecture

Tuesday & Thursday 3:00pm - 4:20pm

CLASS LOCATION

UCF Center for Emerging Media 500 W. Livingston, Mario Classroom/FIEA Cohort Art Space

COURSE OBJECTIVE

To arm the student with a fundamental understanding of advanced digital art content creation techniques, processes, problem solving, technical skills, programming languages and time management abilities pursuant to capstone game production and portfolio development.

COURSE DESCRIPTION

This course provides a rigorous concentration in advanced industry based content creation projects, concepts, principles, methods, and exercises using industry standard tools, programming languages and game engines. Students are expected to create professional quality art assets, pipeline processes, tools and solutions at a demanding pace. Instruction will be categorized in concept art drawing, traditional sculpting, modeling, animation, and technical art. Capstone class related artwork will also be supervised and supported through the art class, tech art class, art lab and concept art workshops and support.

Students will be required to complete weekly class assignments and create 4 portfolio projects during the semester for credit. With faculty or adjunct approval, the student will have a great deal of latitude in choosing portfolio projects from assignments, tech art projects, capstone work or personal projects. If a classwork assignment is chosen for portfolio credit, in most cases the work would need to be polished to a higher degree of quality than the minimum requirements for the assignment.

Students who are electing the tech art option will be required to attend all classes and complete all assignments. Due to the imbalance in class work assignments for technical artists versus other disciplines, scope considerations will be made to balance the workload. For example, modelers, animators, concept artists, etc. may need to put in considerably more time on classwork or portfolio pieces pertaining directly within their discipline than a tech artist.

Due to the broad range of portfolio projects, coursework and professional development goals, student progress will be evaluated on an individual basis. The student is responsible to

ensure that his or her progress is satisfactory from periodic input from instructors. The faculty is available, here to help and are genuinely interested in your progress.

The first 2 portfolio pieces will be due at midterm, date TBD, and the final 2 pieces will be due at the end of the semester.

Students with advanced subject matter expertise may request alternate assignments and grading criteria at the discretion of the instructors.

COURSE GOALS

- Develop skills in core areas of game art including concept and 2D art, traditional sculpting, digital sculpting and 3D modeling and texturing, animation, motion capture, rigging for animation, problem solving, scripting, lighting & real time rendering.
- Identify areas of specialization for capstone & portfolio development.
- Produce professional quality portfolio pieces for website portfolio.
- Learn to provide and receive feedback from peers, industry and other guests and instructors through regular progress critiques.
- Develop time management skills and become responsible for future career opportunities through adequate discipline and portfolio preparation.
- Learn to set realistic and achievable goals and believe in yourself and learn to work well with others to achieve common objectives.

WORKSHOPS/TECHNICAL CLASSES

Concept art, traditional sculpting class and technical art classes from industry professionals and other faculty will be scheduled as pertaining to area of specialization. Attendance is considered part of the overall course requirements. Concept art and Sculpture will be held during the Lab time slot.

CLASS PARTICIPATION

Arrive to class on time and prepared. Professional courtesy in avoiding social networks, cell phones, websites & other distractions is expected. Tardiness and absences must be communicated ahead of time to the instructors or consultants. Have fun! Make your positive attitude and presence known by participating in class exercises, discussions, and critiques.

GRADING BREAKDOWN

Class Assignments	50% of grade
Portfolio Works (4)	50% of grade

2 Portfolio works are due at midterm. Date TBD
2 Portfolio works are due April 29.

Portfolio works may come from polished capstone projects, weekly assignments, concept art workshops, sculpture class, technical art class or personal projects. Portfolio works need to be at a polished and finished state of quality. Portfolio projects must be approved by an instructor.

Assignments and tutorials from technical art will be counted and averaged with regular art class assignments. The same holds true for technical art finals or portfolio pieces.

GRADING CRITERIA
Assignments are graded from the standpoint of what would be expected from a production artist in a game studio:

- Timeliness and following directions explicitly.
- Artistic style and creativity within exact guidelines and specifications.
- Technical competency and execution.
- Finished level of quality in work and perceived effort & individual ability.
- Class participation and positive attitude towards team.
- Code and other work must be original.

GRADING SCALE
Graduate students are expected to maintain a minimum B average.

A	94 - 100
A-	90 - 93.99
B+	87 - 89.99
B	84 - 86.99
B-	80 - 83.99
C+	77 - 79.99
C	74 - 76.99
C-	70 - 73.99
FAIL	Below 70

MATERIALS AND TEXTBOOKS
Instructional materials, such as instructor authored videos, tutorials, assigned readings, etc. are required.

ATTENDANCE, LATE POLICY & SCHEDULING MAKEUP WORK
Students are expected to attend class and arrive prepared and on time. Students must notify instructor for absences due to unavoidable illness, injury or emergency. Unexcused absences may result in a grade penalty. Late work is subject to grade penalty at the discretion of the instructor. Make up work or extra credit is at the discretion of the instructor.

ART CLASS SCHEDULE

January 7 - February 7 Character Animation

January 7 Principles of animation exercises
- Key-framing techniques

- Rigging techniques
- Physics Properties – Inertia, momentum, mass, gravity
- Squash and stretch
- Anticipation
- Staging
- Appeal
- Follow Through and overlapping action
- Secondary Animation
- Exaggeration
- Arcs
- Timing and Spacing
- Straight Ahead and Pose to Pose
- Solid Drawing
- Slow in Slow Out

Assignment - Bouncing Ball Angry Bird style character animation

January 14 Principles of animation exercises continued

- Rigging Techniques
- Animation Critiques

Assignment - Walk Cycle

January 21 Principles of animation exercises continued
Assignment - Runs, Jumps, Combat

January 28 Motion Builder

- Motion Capture and data cleanup
- Motion Builder editing techniques
- Animation cycles

Assignment - Runs, Jumps, Combat cycles

February 4 Game engine animation trees.

- Game engine integration
- Animation trees

Assignment - Importing and testing animations in game engine(s)

February 11 - March 21 ZBrush Organic Series

February 11 Roughing out your model

- Using ZSpheres to generate rough models
- A look at subdivision levels
- Using Standard, Clay Tubes, Move brush, DamStandard

Assignment - Create an organic model using ZSpheres and the techniques learned for the week

February 18 ZBrush Techniques

- Creating your own Custom Brushes
- Creating Custom Alphas
- Creating Custom Insert Brushes
- Creating Polygroups

Assignment - Build upon your organic model and add more detail via custom brushes

February 25 Resurfacing Techniques

- Resurfacing in ZBrush using ZRemesher
- Resurfacing in ZBrush using ZSpheres
- Resurfacing in Maya using Modeling toolkit

Assignment - Resurface your model using each method and discover a workflow for your taste.

March 3 - 7 SPRING BREAK

March 11 Texture Maps

- Creating UVs in ZBrush using UV Master
- Creating UVs in Maya
- Baking Normal Maps in ZBrush using subdivision levels
- Baking Normal Maps in Maya
- Baking Normal Maps in XNormal
- Starting the texturing process in Photoshop

Assignment - Create UVs and bake normal maps

March 18 Textures Continued

- Creating textures in ZBrush, Photoshop, and Mudbox

Assignment - Finish textures for your model

March 25 - April 11 Facial Rigging and Animation

March 25 Facial rigging

- Facial Rigging techniques
- Scripted Rigs

Assignment – Begin rigging a digital head or equivalent anthropomorphic element

April 1 Facial rigging continued

- Facial Rigging techniques
- Scripted Rigs

Assignment – Continue rigging a digital head or equivalent anthropomorphic element

April 8 Facial Animation continued

- Facial animation techniques

Assignment – Animate face to a soundtrack.

April 15 - 29 Hard Surface Modeling in ZBrush

April 15 Hard Surface modeling techniques

- Hard surface brushes and techniques in ZBrush

Assignment - Add hard surface component to your previous organic model

April 22 Rendering in Zbrush

- Rendering in ZBrush

Assignment - Crate a beauty shot in Zbrush and compose the final image in Photoshop

NOTE

Syllabus is subject to change at the instructor's discretion.

DIG 6XXX GAME ASSET PORTFOLIO DEVELOPMENT
Summer Credit Hours: 3

Brian Salisbury 115L
bsalisbury@fiea.ucf.edu 407-235-3615

Nick Zuccarello 115P
nzuccarello@fiea.ucf.edu 407-235-3589

OFFICE HOURS
Brian Salisbury Tues/Thurs 3:00 pm 5:00 pm or by appointment
Nick Zuccarello TBD or by appointment

CLASS DAY/TIME
Monday & Wednesday 1:30pm – 2:50pm
Workshop times by notification

Concept Art Consultant
Ryoma Tazi rtazi@fiea.ucf.edu

CLASS LOCATIONS
FIEA Campus, Center for Emerging Media 500 W. Livingston, Orlando, Florida.
The Bridge, Mario & Classrooms or as specified by instructor.

COURSE OBJECTIVE
This course is geared towards developing a professional portfolio for entry into the field of interactive entertainment and related fields. Topics include rendering, real time rendering, compositing, special effects and presentation acumen. Breakout workshops, presentations and meetings within individual disciplines such as technical art, modeling and animation will also be held regularly and are considered part of the overall class.

COURSE STRUCTURE
- The student will identify and analyze professional game artist portfolios to serve as visual & technical quality target bars in setting portfolio goals with instructor guidance.
- The course will consist of weekly constructive feedback and critique sessions in order to assess student portfolio progress.
- Students will participate in technique demonstrations, class discussion and critiques, assignments, breakout sessions, workshops and meetings pertaining to individual specialties pursued by the student.
- The student will document progress on a weekly blog and present portfolio work through a portfolio website.
- The class will address art related needs and issues pertaining to the Capstone production class.

COURSE GOALS AND OUTCOMES
- Building upon previously learned skills and techniques, the student will develop a professional quality portfolio consisting of industry driven art work in the areas of individual chosen specializations.

- Demonstrate competency in techniques and principles taught through the course, supplemental materials, breakout workshops, presentations and meetings within individual disciplines.

SPECIALIZATIONS

Breakout workshops, presentations, meetings and critiques within individual disciplines will be scheduled as pertaining to the student area of specialization. Attendance based on area of specialization is considered as a component of the overall course.

For the purposes of this class, specializations are categorized as follows:

- **Technical Art**
  Tools, languages, shaders, effects, rigging, procedural content creation
- **Modeling**
  Modeling, texturing, concept art, mobile art, UI
- **Animation**
  Key-frame animation, rigging, motion capture processing, editing and implementation

GRADING DISTRIBUTION

Grades will be distributed as follows

Portfolio Works (3)

- #1 Due June 16
- #2 Due July 14
- #3 Due July 30

Portfolio (grades weighted evenly)	50%	
Assignments	25%	
Class Participation	25%	(Weekly)

Portfolio

The student is responsible for creating 3 Portfolio projects approved by an instructor. The student is expected to be prepared to show weekly progress.

Portfolio works will be graded on artistic style and creativity, technical competency, execution, polish and quality based on professional game artist portfolios identified and analyzed by the student.
Submitted works must fall within the overall scope of the approved project.
Portfolio works may originate from capstone, class assignments, workshops or personal projects.

Assignments

Demonstrate competency in techniques that are demonstrated in class or through instructional material or workshops. The student will be expected to participate in class

exercises using specified tools and complete assignments as outlined in class or through email by instructors. Tech art assignments are averaged into the overall assignment grade.

Class Participation
Attendance, maintaining a class blog, participation in technique demos, discussion, critiques, is required. It is expected that your full attention is paid to the topic at hand during class time (not engaging in work or viewing material on laptops/phones/tablets outside of present class topic & discussion).

Materials and Textbooks

Instructional materials, as instructor authored videos, tutorials, assigned readings, etc. is required.

Class Blog
Maintain a class blog to communicate weekly objectives and progress.

- The blog will state the student's specialization
- State and provide examples of portfolio goals and objectives
- Layout a weekly schedule of tasks and objectives
- Provide a weekly summary of works in progress via scans, screenshots, or videos.
- Where specified, understanding of class concepts will be demonstrated through work posted on blog.

Portfolio Web Site
Develop a portfolio website to display portfolio quality work.

Tech Art
Artists pursuing Tech art classes will have their participation grades factored into the overall art class. Tech art portfolio works count as overall class portfolio projects.

Grade Scale

A	94 – 100
A-	90 - 93.99
B+	87 - 89.99
B	84 - 86.99
B-	80 - 83.99
C+	77 - 79.99
C	74 - 76.99
C-	70 - 73.99
FAIL	Below 70

Grading Standards

- A high ***A***, 95 percent or above is considered professional quality, suitable for a portfolio website. A low ***A***, 90 – 94 is acceptable quality or effort for the assignment with room for polish and improvement.
- A ***B*** represents average quality and effort. This is considered passing an assignment but not the kind of work that would lead to or maintain employment in the entertainment or related industries.
- A ***C*** represents poor quality and minimal effort.
- Below ***C*** represents unacceptable quality and effort

Grading Notes
Substantial effort toward the completion of any assignment may be invested by the student, however, unforeseeable technical challenges and issues may arise. Though the effort may be recognized, the grading criteria of any assignment or portfolio work is based upon meeting professional quality aesthetics and technical execution as outlined by the portfolio goals of the student or the assignment by the instructor.

CLASS POLICIES

Late Work
Outside of emergencies, or extenuating circumstances, late work will not be accepted for full credit. Make up work is at the discretion of the instructor.

Attendance
Students are expected to attend class and arrive prepared and on time. Students are required to notify the instructor for absences due to unavoidable circumstances, illness, injury or emergency. Habitual absence due to medical issues will require documentation. Attendance is considered part of the class participation grade.

ART SUMMER 2014 SCHEDULE

Mon 5/12 Class Intro (BS), Sculpture (NZ)

Wed 5/14 Viewport 2.0 (NZ)

Mon 5/19 Portfolio review/critique, 2D Topics (RT)

Wed 5/21 Mental Ray lighting, shadows, IBL, global illumination, final gather (BS)

Mon 5/26 Memorial Day UCF Holiday

Wed 5/28 Texturing techniques, nDo2, Substance, Paint FX, Fur, (BS)

Mon 6/2 Portfolio review/critique, 2D Topics (RT)

Wed 6/4 Mental Ray shaders, MIA X shader, lens shaders, Paint FX, Fur (BS)

Mon 6/9 Portfolio review/critique, Sculpture (NZ)

Wed 6/11	Mental Ray render passes, wireframes, compositing (BS)
Mon 6/16	PORTFOLIO 1 DUE
Wed 6/18	Game hair style techniques (NZ) EA & TK2 snowboarder models (NZ) (BS)
Mon 6/23	Portfolio review/critique, 2D Topics (RT)
Wed 6/25	AfterFX Topics (RT)
Mon 6/30	Portfolio review/critique, Sculpture (NZ)
Wed 7/2	UE4 Materials (NZ)
Mon 7/7	Portfolio review/critique, 2D Topics (RT)
Wed 7/9	UE4 skeletal idle animation (NZ)
Mon 7/14	PORTFOLIO 2 DUE
Wed 7/16	UE4 Lighting, Blueprint turntable (NZ)
Mon 7/21	Portfolio review/critique, Sculpture (NZ)
Wed 7/23	UE4 Matinee turntable (NZ)
Mon 7/28	Portfolio review/critique, 2D Topics (RT)
Wed 7/30	PORTFOLIO 3 DUE
Friday 8/1	Classes End, Capstone Presentation
Wed 8/6	Grades Due at UCF

TECHNICAL ART WORKSHOP SCHEDULE

Wed 5/14	Schedule/Facial Rigging
Wed 5/21	Pitch Portfolio 1 ideas, Houdini - Must be installed and licensed by class.
Wed 5/28	Houdini
Fri 5/30	Portfolio/Lab
Wed 6/4	Houdini

Wed 6/11 Pitch Portfolio 2 ideas, Houdini

Fri 6/13 Portfolio/Lab

Wed 6/18 Portfolio 1 Presentation, Python for Houdini

Wed 6/25 Unreal Cascade

Fri 6/27 Portfolio/Lab

Wed 7/2 Unreal Cascade

Wed 7/9 Pitch Portfolio 3 Ideas, Intro to C#

Fri 7/11 Portfolio/Lab

Wed 7/16 Portfolio 2 Presentation, Intro to C#

Wed 7/23 C++ for Maya

Fri 7/25 Portfolio/Lab

Wed 7/30: Portfolio 3 Presentation, It's a party, bring snacks

Wed 8/6 Grades Due at UCF

Note
Syllabus and schedule are subject to change at the instructor's discretion, via notification by email.

Syllabus

DIG 6XXX Game Production and Design II

CREDIT HOURS: 3

INSTRUCTOR

Ron Weaver

Office Location:	FIEA Building 500 W. Livingston, Room #115H
Phone:	407-235-3590
Fax:	407-317-7094
Email:	rweaver@fiea.ucf.edu

OFFICE HOURS

TUE and THU: 3:00 pm – 5:00 pm

CLASS DAY/TIME

LECTURE – MON and WED: 3:00 pm – 4:30 pm
LAB – MON and WED: 4:30 pm – 6:00 pm
CREDIT HOURS: 3

CLASS LOCATION

LECTURE - FIEA Building: The Bridge classroom or Mario classroom

COURSE OBJECTIVE

This course empowers you to become a gameplay programmer or level designer. Both topics are thoroughly explored and students have the opportunity to choose which of these specialties to focus on through their assignments. This approach enables concentration in the discipline better suited to each student, thus customizing the course in a unique way.

The technical curriculum equips you with the software engineering fundamentals you need to implement your own game concepts and become a fruitful contributor on team projects. The primary objective is to afford you the talent to prototype ideas on your own.

The level design curriculum involves multiple level design assignments in various genres. The main focus is to craft worlds and missions with an eye for aesthetic quality and thoughtful articulation. Attention to strong narrative, backstory, and plot progression is also heavily encouraged.

COURSE DESCRIPTION

Project work dominates as you will create several games and levels within games; sometimes as a solo effort and sometimes in teams. The programming curriculum will assume familiarity with scripting and higher level programming languages. These assignments will culminate in the production of small scale casual games.

The level design assignments will test your ability to create levels within a professional grade industry tool. The elements of pace, flow, learning curve, narrative, tutorial, and consistency

will be stressed. All assignments will be supported with lectures and workshops to teach programming and level design principles.

For solo assignments in the class, you are permitted to explore mature themes and illicit content provided that such material is lawful and shows respect for the university and its ideals. But within assignments that involve multiple team members, you are encouraged to maintain a respectful "PG-13 rating" so as not to inhibit other students' comfort level when working on the project and showing said work in a portfolio.

The projects themselves can involve any content that you choose and should utilize unique game interactions. The platform of this course is much more open to taking risks and experimentation than the industry. You should take advantage of this opportunity to try things that nobody else is doing.

GOALS

- Learn programming fundamentals and best practices
- Gain comfort programming gameplay and implementing your own ideas
- Develop a quality small scale game
- Create customized level designs with attention to pace, flow, narrative, and aesthetic quality
- Take risks and explore creative ideas and experiments
- Become a productive game developer with many skills to contribute

COURSE OUTLINE

You will work with at least two different tools over the course of the semester. The first platform, Unity, will serve as a perfect learning curve for gaining familiarity with game programming and implementing small scale games. The second tool is an industry grade level editor such as UDK or CryEngine.

COURSE ASSIGNMENT DESCRIPTIONS

One page designs: Utilizing a new technique for creating well organized and easily readable documentation, you will create one or more examples of a one page design document/diagram. This approach is a highly effective way to quickly communicate gameplay concepts and features. It also demonstrates the fundamentals of a game design in a visually compelling way which showcases the designer in a favorable light.

Programming assignments: You will build your own complete game prototypes from scratch using Unity, sometimes solo and sometimes in teams depending on the needs of each project. Eventually these projects will grow into high quality small scale games.

Solo level design: You must create your own level with an industry grade editor.

Team projects: Students will be divided into teams to develop a game/level with an industry grade editor. The foci will be on pacing, flow, narrative, and aesthetic quality.

The instructor reserves the right to form and rearrange teams for assignments. Students are however invited to provide feedback where team arrangements can be improved.

COURSE SCHEDULE

WEEK 01: One page designs; scripting fundamentals
WEEK 02: DUE – One page designs; advanced scripting; documentation
WEEK 03: DUE – Interim solo game; level design fundamentals
WEEK 04: DUE – Solo game; advanced level design
WEEK 05: DUE – Interim solo level; software design & debugging
WEEK 06: DUE – Solo level; design patterns
WEEK 07: DUE – Interim team project 1, advanced design patterns
WEEK 08: DUE – Interim team project 2; Guest lecture on level design
WEEK 09: SPRING BREAK
WEEK 10: DUE – Interim team project 3; Guest lecture on design
WEEK 11: Level design examples;
WEEK 12: DUE – Interim team project 4; Open world design
WEEK 13: 3D viewing pipeline
WEEK 14: DUE – Interim team project 5; Team communication
WEEK 15: Open discussion forum; Course postmortem
WEEK 16: DUE – Final team project

COURSE REQUIREMENTS

Several texts are optionally recommended for the course. These are listed on the course wiki:
http://fiea-intranet/fieawiki/index.php/Prod2

You should already demonstrate a core proficiency in the skills of game design and production and be well versed in the process of creating prototypes.

All faculty members are required to document students' academic activity at the beginning of each course. In order to document that you began this course, please complete the following academic activity by the end of the first week of classes, or as soon as possible after adding the course. Failure to do so will result in a delay in the disbursement of your financial aid. Academic Activity: Take the Quiz titled "Academic engagement" in Canvas (https://webcourses.ucf.edu/).

CLASS PARTICIPATION

You will be expected to provide feedback in class on other student's work. You must also explain why you made particular choices in your own work and be prepared to defend those choices. There will also be numerous periods of formal and informal class discussion.

GRADING CRITERIA

The nature of the work implies subjective grading. However, here is an ordered list of the most important aspects the professor will evaluate when grading assignments:

1> Is the work of quality craftsmanship?
2> Is this something unique or innovative?
3> How well does the game/program accomplish its goal?
4> Does the concept show promise?

For team projects, all team members will start with the same grade by default. Then individual grades will be modified if a team member demonstrates a clearly higher (or lower) investment of time/energy. Assignment percentages break down as follows:

One page designs	5%
Solo program	15%
Solo level design	15%
Team project (multiple interim grades)	65%

There is one opportunity for extra credit of three total grade points. The assignment is to make significant upgrades or enhancements to a previous assignment, such as adding a key new feature, additional artwork, fixing complex bugs, etc. For team projects, you can work in conjunction with other students to incorporate the work or do so yourself. The instructor reserves the right to award these points based on the quality of the work and level of effort to achieve.

Grading scale:

A	93 - 100
A-	90 - 92.9
B+	87 - 89.9
B	83 - 86.9
B-	80 - 82.9
C+	77 - 79.9
C	73 - 76.9
C-	70 - 72.9
FAIL	Below 70

INCOMPLETE GRADE REQUESTS

Incomplete grades will only be given in situations of duress or extreme circumstance. In order to complete the grade, all work must be finished within one month of the end of the semester.

REQUIRED TEXTBOOKS AND MATERIALS

All text will be online, handouts, or optional (see course outline above for specific texts). Required hardware and software will also be provided except when students chose tools outside of those commonly supported by the school. In this case, every effort will be made for reasonable purchases on behalf of the students.

ATTENDANCE, LATE POLICY & SCHEDULING MAKEUP WORK

Students are expected to come to class on time and there is a grade penalty for excessive tardiness. There will be no excused absences except for documented medical reasons or other serious emergencies. If a student has any urgent need to be absent due to an unavoidable illness, injury or emergency, he/she must notify (via phone or email) the faculty member prior to the class or event that he/she will be missing. Excused absences do not relieve the student from meeting all requirements of the course. Makeup work must be scheduled with the instructor.

Attendance and tardies will factor in the determination of course grades in the following way:

- Each *unexcused* absence will result in lowering the course grade by 1 point (out of 100).
- Each *unexcused* tardy will result in lowering the course grade by 1/3 of a point.

FINAL EXAM DATE AND TIME

There is no official final exam for the class as the team projects serve as an appropriately scaled assignment. A normally scheduled final class period may take place during finals week to cover any material not addressed during the prior weeks.

MAKEUP EXAM POLICY

This is an assignment based class and does not contain exams. Late assignments accrue a 10% grade penalty for each day late.

Disclaimer: This syllabus is subject to change at the instructor's discretion. Students should be aware of this, and will be notified if changes are made.

Syllabus

DIG 6XXX Media Distribution

Summer 2014
Credit Hours: 3

INSTRUCTOR

Rick Hall

Office Location:	Rick Hall FIEA Building 500 W. Livingston, Room #115l
Phone:	Rick Hall 407-235-3614
Fax:	Rick Hall 407-317-7094
Email:	Rick Hall rhall@fiea.ucf.edu

CLASS LOCATION

FIEA Building: Classroom Mario

COURSE OBJECTIVE

Students will grasp a thorough understanding of game development industry from a marketing perspective, as well as develop additional organizational and communication skills. Students will learn about marketing requirements and best practices through class lectures, writing a marketing plan, creating a creative brief and press releases for their capstone projects as well as developing online advertising campaigns, Web sites and promotional videos and posters. Students will also become proficient in listening metrics common in advertising through scheduled focus group testing and the management of a small marketing budget. Students will also learn basic organizational skill through lectures and creation of a case study, as well as targeted advanced design through two design assignments.

COURSE DESCRIPTION

This will be a project-based experiential learning class. The course will be divided into two parts: 1) Students will form teams with individual members each assuming one of the marketing roles that are detailed later in this syllabus, with each team preparing the marketing and promotional materials that are necessary for their respective capstone projects. These materials will consist of packaging, promotional videos, websites, user manuals, and digital communication materials. 2) The 2nd part of the class will consist of students learning management and organizational skills that are used in the operational side of game development.

GOALS

1) Understand the philosophies and best practices of marketing and communication, particularly as it relates to video games (see Outcome 1)
2) Understand how listening metrics like focus groups and analytics are used to improve both design and marketing efficacy (see Outcome 2)
3) Grasp the basics of effective, actionable focus group tests (see outcome 3)
4) Master two advanced creativity skills for game design (see Outcome 4)

5) Master organizational & communication skills needed for a game development studio (see Outcome 5)
6) Master, manage and develop a cohesive and coherent marketing plan across multiple platforms (due at midpoint and final)

OUTCOMES

1) Students will produce a marketing plan, metrics plan, influencer list, press release, trailer, promotional poster and creative brief for each team
2) Students will produce web sites or online stores for their games and use listening metrics like google analytics and alerts to evaluate their marketing efforts
3) Students must organize and conduct two focus group tests during the course of the semester. The purpose of the first focus group will be the identification of specific, targetable areas for improvement of the capstone game. The second focus group test will be conducted to validate that the targeted areas actually improved.
4) Two game designs will be required during the course of the semester. These designs will focus on specific aspects of games, as identified in the lectures, and will be graded according to the degree to which they meet those requirements
5) Students must provide a case study that demonstrates techniques being used in the gaming industry for effective forms of communication.

CLASS PARTICIPATION

Demonstrate your interest and knowledge by engaging in discussions, asking questions, providing information, opinions and feedback. Make your positive presence known. The most consistent personality trait of any producer/designer in the games industry is the ability to analyze a project strategically and objectively.

ATTENDANCE, LATE POLICY & SCHEDULING MAKEUP WORK

Students are expected to come to class on time. There will be no excused absences except for documented medical reasons or other serious emergencies. If a student has any urgent need to be absent due to an unavoidable illness, injury or emergency, he/she must notify (via phone or email) the faculty member prior to the class or event that he/she will be missing. Excused absences do not relieve the student to meet all requirements of the course. Makeup work must be scheduled with the instructor.

Attendance will factor in the determination of course grades in the following way:

- Each unexcused absence will result in lowering the course grade by one full grade.

GRADING CRITERIA

Management, Organizational, & Creative Skills Assignment	45%
Marketing material Assignment	45%

Syllabus

DIG 6XXX Media Distribution

Class Participation 10%

Plus/minus policy

A	94 - 100
A-	90 - 93
B+	87 - 89
B	84 - 86
B-	80 - 83
C+	77 - 79
C	74 - 76
C-	70 - 73
FAIL	Below 70

COURSE OUTLINE

May 13	Advanced Game Design - Narrative
May 15	Marketing Roles Assigned; The Creative Brief
May 20	Clarifying Vision Communication
May 22	Marketing Plans & Influencer Lists
May 27	Conducting Focus Groups
May 29	Media & Public Relations
June 3	Metrics as a design
June 5	Concrete Writing; Useful Marketing Metrics tool
June 10	Development Process Analysis – Pt 1
June 12	Effective game trailers & status updates
June 17	Development Process Analysis – Pt 2
June 19	Looks like assignments; poster design; status updates
June 24	Quality Assurance – Pt 1
June 26	Poster concepts; metrics plans; status updates
July 1	Quality Assurance – Pt 2
July 3	No Class
July 8	Gaming industry Business Models
July 10	Animatics and metrics plan review
July 15	Management and Communication
July 17	Complete digital presence and trailers due
July 22	Advanced Game Design – Designing around monetization
July 24	Press Releases & Effective Online Writing
July 29	Case Studies Due
July 31	All Final Marketing Materials Due

INCOMPLETE GRADE REQUESTS

No incompletes will be given

Syllabus

DIG 6XXX Media Distribution

FINAL EXAM DATE AND TIME

N/A

REQUIRED TEXTBOOKS AND MATERIALS

There are no required texts for this course. Required software provided on laptops. It is strongly recommended that students become familiar with Word, Power Point, and Excel.

Title: Game Programming Fundamentals
DIG 5XXX

Course Description: An introduction to real-time game programming fundamentals, including computer architecture and low-level programming and optimization. Specific attention to game consoles and cross-platform software development.

Course Description: An introduction to real-time game programming fundamentals, including computer architecture and low-level programming and optimization. Specific attention to game consoles and cross-platform software development.

Course Goals: Students develop working knowledge in the following areas:

1. Computer architecture concepts related specifically to developing and debugging real-time game software, such as memory types and usage, pointer arithmetic and data structure mapping.
2. C language fundamentals and common game frameworks, and leveraging high-level programming language to facilitate developing real-time cross-platform game software.
3. Concepts in profiling and optimization, including high-level algorithmic, as well as low-level optimizations.
4. Console development, specifically for XBOX gaming console, using industry standard tools and software interfaces.

Objectives: Students should be able to:

1. Use common tools to develop and debug interactive real-time game software.
2. Develop, debug and optimize a cross-platform game designed to run on both PC and console.

Required Reading: Note these are recommended, not required

1. *The C Programming Language*, Kernighan and Richie
2. *Game Engine Architecture*, Gregory
3. *Memory as a Programming Concept in C and C++*, Franck
4. *Code Complete*, McConnell
5. *Write Great Code*, Volumes 1 and 2, Hyde

Syllabus

DIG 6XXX: Applied Programming Mechanics

Summer 2014
Credit Hours: 3

INSTRUCTORS

Paul Varcholik
Office Location: FIEA Building 500 W. Livingston, Room #115J
Phone: 407-235-3581
Fax: 407-317-7094
Email: pvarcholik@fiea.ucf.edu

Tom Carbone
Office Location: FIEA Building 500 W. Livingston, Room #115K
Phone:
Fax: 407-317-7094
Email: tcarbone@fiea.ucf.edu

OFFICE HOURS

Tuesday & Thursday: 2:00am to 4:00pm - also by appointment

CLASS DAY/TIME

Tuesday & Thursday: 10:30am to 11:50am

CLASS LOCATION

FIEA Building: Room 115T (Mario)

COURSE OBJECTIVE

A deep understanding of modern graphics programming using DirectX 11 and HLSL, model and animation rendering in C++, and memory management. Ability to demonstrate that understanding through an extensive code base of shaders and a C++ rendering engine, as well as converse in detail on the subject of modern 3D rendering.

COURSE DESCRIPTION

You will implement a large library of vertex and pixel shaders using HLSL. These shaders will encompass various lighting and texture mapping techniques, and will be incorporated into a custom C++ rendering engine. This rendering system will be used to draw static and animated models to exercise your shaders "in-game" and allow for the creation and manipulation of lights. In the last section of this course you will implement a custom memory management system.

Syllabus

DIG 6XXX: Applied Programming Mechanics

GOALS & OUTCOMES

Goal/Outcome	Measurement
A solid understanding of modern 3D rendering techniques	Converse on graphics related topics in face-to-face interviews with course professors and potential employers. Develop a set of graphics applications demonstrating modern rendering techniques.
Thorough knowledge of shader programming using HLSL	Complete (with a passing grade) numerous shader programming assignments.
Comprehensive knowledge of the Direct3D 11 API	Complete (with a passing grade) numerous C++ programming assignments that focus on the employment of the Direct3D 11 API.
A deeper understanding of the C++ programming language	Complete (with a passing grade) numerous assignments that employ C++, the STL, the C++ 11 specification, and modern programming patterns.
An understanding of computer memory management	Complete (with a passing grade) an assignment that implements a custom memory management system using C++.

COURSE ACCESSIBILITY

It is my goal that this class be an accessible and welcoming experience for all students, including those with disabilities that may impact learning in this class. If anyone believes the design of this course poses barriers to effectively participating and/or demonstrating learning in this course, please meet with me (with or without a Student Disability Services (SDS) accommodation letter) to discuss reasonable options or adjustments. During our discussion, I may suggest the possibility/necessity of your contacting SDS (407-823-2371; sds@ucf.edu) to talk about academic accommodations. You are welcome to talk to me at any point in the semester about course design concerns, but it is always best if we can talk at least one week prior to the need for any modifications.

Syllabus

DIG 6XXX: Applied Programming Mechanics

COURSE OUTLINE

Week	Topic
1	Introduction Overview of the Direct3D 11 graphics pipeline 3D/Math Primer Hello, Shaders! Hello, Structs! Texture Mapping Ambient Lighting Diffuse Lighting
2	Specular Highlighting Phong Blinn-Phong Intrinsics Point Lights Spot Lights Multiple Lights Fog
3	Texture Cubes Skybox Rendering Environment Mapping Color Blending Normal Mapping Displacement Mapping
4	Rendering Framework • Project Setup • Window Initialization • Direct3D Initialization
5	Rendering Framework • Supporting Systems • Cameras
6	Rendering Framework • Model Rendering
7	Rendering Framework • Materials
8	Rendering Framework • Lights
9	Skeletal Animation
10	Skeletal Animation
11	Memory Management
12	Memory Management

Syllabus

DIG 6XXX: Applied Programming Mechanics

RECOMMENDED TEXTBOOKS

Real-Time 3D Rendering with DirectX and HLSL Paul Varcholik
Programming Vertex & Pixel Shaders *Wolfgang Engel*
Introduction to 3D Game Programming with DirectX 11 *Frank Luna*

CLASS PARTICIPATION

Demonstrate your interest and knowledge by engaging in erudite discussions, asking incisive questions and providing relevant information, opinions and feedback.

GRADING CRITERIA

The student's final grade is derived from a pool of points from all assignments and attendance. There are 8 major assignments planned, evenly weighted. Grades will be made available online through the FIEA Intranet.

Grading Scale (%)	
94-100	A
90-93	A-
87-89	B+
84-86	B
80-83	B-
77-79	C+
74-76	C
70-73	C-
67-69	D+
64-66	D
60-63	D-
0 - 59	F

Details on individual assignments will be provided during the course and may alter how an assignment is graded. In general, however, grading is based upon the following criteria:

Criteria	General Weighting
Completeness	25%
Correctness	25%
Design	10%
Testing	10%
Documentation	10%
Absence of failure • Run-time • Memory leaks	10%
Coding Style • Consistency	10%

• Readability	

Grade deductions for these criteria are commensurate with the severity of the error. Partial credit is commonly provided.

NOTES ON VALID ASSIGNMENT SUBMISSION

Programming assignments must compile and link without warning or error. Warnings are treated as errors, and all errors in compilation or link are subject to the following penalties:

Occurrence	% Deducted
1st occurrence	10%
2nd occurrence	25%
3rd occurrence	50%
4th and subsequent occurrences	100%

Thus, the first occurrence of a compilation/link warning/error, on an assignment, will result in a maximum grade of 90% of the total points available for that assignment. A student's actual grade may be further reduced by normal grading procedures (i.e. other problems with the submission that are not related to the compilation/link warning/error). After the 3rd occurrence, subsequent submissions that contain compile or link errors will result in a 0% grade on those assignments.

In order to prevent compile/link warnings/errors from persisting, the student is encouraged to verify their submission through a build performed on the "build machine".

ATTENDANCE, LATE POLICY & SCHEDULING MAKEUP WORK

Students are expected to come to class on time. There will be no excused absences except for documented medical reasons or other serious emergencies. If a student has any urgent need to be absent due to an unavoidable illness, injury or emergency, he/she must notify (via phone or email) the faculty member prior to the class or event that he/she will be missing. Excused absences do not relieve the student to meet all requirements of the course. Makeup work must be scheduled with the instructor.

Attendance will factor in the determination of course grades in the following way:

- Each unexcused absence will result in lowering the course grade by 3%
- Each unexcused tardy will result in lowering the course grade by 1%

Grades for late assignments will be reduced by 10% per day late. Assignments later than one week will receive no credit, unless pre-approved by the instructor.

FINAL EXAM DATE AND TIME

There is no scheduled final exam.

UCF CREED

Integrity, scholarship, community, creativity, and excellence are the core values that guide our conduct, performance, and decisions.

Integrity
I will practice and defend academic and personal honesty.

Scholarship
I will cherish and honor learning as a fundamental purpose of my membership in the UCF community.

Community
I will promote an open and supportive campus environment by respecting the rights and contributions of every individual.

Creativity
I will use my talents to enrich the human experience.

Excellence
I will strive toward the highest standards of performance in any endeavor I undertake.

ETHICS STATEMENT

UCF faculty support the UCF Creed. Integrity - practicing and defending academic and personal honesty - is the first tenet of the UCF Creed. This is in part a reflection of the second tenet, Scholarship: - I will cherish and honor learning as a fundamental purpose of membership in the UCF community. - Course assignments and tests are designed to have educational value; the process of preparing for and completing these exercises will help improve your skills and knowledge. Material presented to satisfy course requirements is therefore expected to be the result of your own original scholarly efforts.

Plagiarism and cheating - presenting another's ideas, arguments, words or images as your own, using unauthorized material, or giving or accepting unauthorized help on assignments or tests - contradict the educational value of these exercises. Students who attempt to obtain unearned academic credentials that do not reflect their skills and knowledge can also undermine the value of the UCF degrees earned by their more honest peers.

ACADEMIC INTEGRITY/PLAGIARISM

Plagiarism and Cheating of any kind on an examination, quiz, or assignment will result at least in an "F" for that assignment (and may, depending on the severity of the case, lead to an "F" for the entire course) and may be subject to appropriate referral to the Office of Student Conduct for further action. See the UCF Golden Rule for further information. I will assume for this course that you will adhere to the academic creed of this University and will maintain the highest standards of academic integrity. In other words, don't cheat by giving answers to others or taking them from anyone else. I will also adhere to the highest standards of academic integrity, so please do not ask me to change (or expect me to change)

your grade illegitimately or to bend or break rules for one person that will not apply to everyone.

Many incidents of plagiarism result from students' lack of understanding about what constitutes plagiarism. However, you are expected to familiarize yourself with UCF's policy on plagiarism. All work you submit must be your own scholarly and creative efforts. UCF's Golden Rule defines plagiarism as follows: "**whereby another's work is used or appropriated without any indication of the source, thereby attempting to convey the impression that such work is the student's own.**"

University of Central Florida
Florida Interactive Entertainment Academy
M.S. Interactive Entertainment

Course:	**DIG 6944C - Venture**
Class Location:	**Monday 11:30am – 1:15pm - The Bridge** (Room 127)
	UCF Center for Emerging Media – 500 W. Livingston St Orlando, FL 32801
Workshop Time:	Periodic through semester
Instructors:	Ben Noel with FIEA Faculty & Staff
	bnoel@fiea.ucf.edu
	407-235-3612
Office Hours:	By Appointment

Course Reading Material (required): ***The Lean Startup*** by Eric Ries (2011)
The objective of the reading is two-fold. First, the Lean Startup is about a value system for innovation and growth. We want to open our minds to the endless possibilities for success in the new digital age, while at the same time allow us to recognize the systems of iteration and educated guesswork involved in any meaningful new thing. Second, we need a framework or system to complete the coursework. The Lean Startup provides the flexibility to measure and move accordingly.

Course Description: Simulate a start-up venture, whether it is a small team or a sole proprietorship. Provide an environment whereby students can learn through experimentation and feedback from peers and target market sampling. The final will include an investor business plan and product presentation.

Course Outcomes: help student understand the many moving parts of a legal entity or business; whether the market and distribution complexities, software licensing choices, fixed assets, IP, contract and financial management. Assist students in building a discipline of continuous testing and improvement.

Grading Rubric

- Individual Assignments – 20% (4 assignments)
- Team Presentations – 20% (8 assignments)
- Product/Prototype Development – 30% (includes artist portfolio reviews)
- Final Presentation – 30%

Note: Development prototypes may have a faculty advisor
Note: Final presentation criteria will include Business Plan & Product or Prototype Presentation
Note: Absences from a team presentation or class will result in a 10 point reduction for any individual grade for the specified assignment

Grading Scale

- A 90-100
- B 80-89
- C 70-79
- F Below 70

Calendar
August 18: Course Overview – What is a start-up?
Individual Assignment: Executive Critique (1-2 pages) of *The Lean Startup* (**due Aug 20**)

August 25: Product Idea
Team Assignment: Team members identified and potential product areas of interest (5 min Q&A)
Individual Assignment: 1 page summary of potential venture through your eyes (**due Aug 27**)

September 8: **Market** and Product Idea
Team Assignment: Teams present market analysis (10 min). You need to identify if you are penetrating an existing market or pioneering new territory. Existing markets have growth and efficiency opportunities and emerging markets bring a lot of unknowns but many times less barriers to entry. How does this market fit with your company DNA?

September 15: Intellectual Property & Software Development
Presentation Q&A – *IP and digital rights, John Miner & Sandra Sovinski, UCF Commercialization*

September 22 – Start-Up Capital
Presentation Q&A – *Funding in Today's World, Ben Noel, FIEA*
Individual Assignment: Identify potential areas of funding for venture product - 2 page summary (**due Sept 24**)

September 29: Market and **Product** Idea 2
Team Assignment: Teams present market and product analysis (10 min). Why this product? Why now? Why this team?

October 6: Start-Up Testimonial
Presentation Q&A – *Dan O'Leary, President, n-Space*

October 13: Financial Management
Team Assignment: Team presents Money Q&A - seed funds, bootstrapping, incentives, legal & admin, revenue, cost; what is the team's understanding of how to get to a minimum viable product? (10 min)

October 20: Prototype Review
Team Assignment: Present prototype update and design & testing schedule

October 27: Contracting
Presentation Q&A – Realities and Advantages of Contracting, Ben Noel & Brian Salisbury, FIEA
Individual Assignment: Draft a 2-3 page generic contract of your services (**due Oct 29**)

November 3: Marketing & Distribution Review
Team Assignment: Present options for distribution and monetization

November 7 (Friday) – *Tour of downtown Orlando studios*

November 10: Prototype Review (5 project teams)
Team Assignment: Present prototype and testing data

November 17: Prototype Review (remaining project teams)
Team Assignment: Present prototype and testing data

November 24: Business Plan Review
Team Assignment: Draft presentation (soft copy submission due Nov 21)

Week of December 1 – Final Presentation

Network Science
COT 5XXX

Pre-requisites:
Bachelors degree in EE, CS, CpE, (or equivalent), or CI.

Background and Objective:
The course seeks to introduce fundamental elements of the emerging science of complex networks and their applications. Network science is a relatively new discipline that investigates the topology, structural properties, evolution dynamics, and vulnerabilities of complex networks, with an aim to better understand the variant and invariant properties of the underlying systems. The applications of network science span a wide variety of areas: Internet, physical, biological, ecology, and social systems. This course will emphasize on the algorithmic, computational, and statistical methods of network science, with special emphasis on information and social networks. Students will be taught algorithms, mathematical theories, and computational methods to analyze complex networks, and predict the behavior and evolution of networked systems. Students will also have the opportunity to work on a semester project based on the current research in the field.

Course Syllabus:
Overview of basic concepts and history of network science, paths, components, degree distribution, clustering, degree correlations, centrality metrics, small-world property, scale-free property, heavy-tailed degree distributions, network motifs, Poisson networks, Watts-Strogatz model, preferential attachment and its variants, applications in communications and social networks, community identification and detection algorithms , percolation, vulnerabilities, resilience to random and targeted attacks, epidemics, immunization strategies, influence identification, games on networks, strategic network formation, evolution due to cooperation and non-cooperation on social networks.

Required/Preferred Skills for Students:
This course is for computer science and engineering students. Analytical background, particularly graph theory and distribution functions, will be required. Some programming and scripting skills will be essential.

Books and references:
[*Required*] A. Barabasi and M. Martino, Network Science, Available online at
http://barabasilab.neu.edu/networksciencebook/
[*References*]

M.E.J. Newman, Networks: An Introduction, Oxford University Press, 2010.
D. Easley and J. Kleinberg, Networks, Crowds and Markets, Cambridge Univ Press, 2010.

Assessment and grading policy:
Students will be evaluated on two homeworks (2 X 20%), an exam (30%), and a project (30%). The homeworks will be theoretical in nature with some programming and/or scripting required. An in-class final exam with be given at the end of the semester. As for the project, a student must work towards a topic approved by the instructor. Each student will make an in-class presentation and submit a final report at the end of the semester.

Course Agenda
March 16, 2015

1. Course Additions

College of Arts and Humanities Course Additions

DIG 5XXX **CAH-FIEA** **3(3,0) Game Production and Design I**: PR: Admission to FIEA MS in Interactive Entertainment program or C.I. Theory and methodology for creation and communication of video game designs. *Fall.*
Abbrev: (23 of 30 chars) Game Product & Design 1
Discussion with others: No conflict.
Rationale: To create a distinctive class previously listed as a lab section of DIG 5045C. There are enough students to justify creating a unique course that is specific to the specialization covered, Game Production. We are revising the program to better clarify all specializations. Creation of the course is also at the recommendation of the Academic Program Review.
Majors taking course: MS in Interactive Entertainment

DIG 5XXX **CAH-FIEA** **3(3,0)**
Game Programming Fundamentals: PR: Admission to FIEA MS in Interactive Entertainment program or C.I. An introduction to real-time game programming fundamentals, including computer architecture and low-level programming and optimization. Specific attention to game consoles and cross-platform software development. *Fall.*
Abbrev: (25 of 30 chars) Game Program Fundamentals
Discussion with others: No conflicts.
Rationale: To create a distinctive class previously listed as a lab section of DIG 5045C. There are enough students to justify creating a unique course that is specific to the specialization covered, Game Programming. We are revising the program to better clarify all specializations. Creation of the course is also at the recommendation of the Academic Program Review.
Majors taking course: MS in Interactive Entertainment

DIG 5XXX **CAH-FIEA** **3(3,0)**
Game Asset Creation: PR: Admission to FIEA MS in Interactive Entertainment program or C.I. Introduction to real-time art asset creation fundamentals, including figure drawing, digital painting, 3d modeling, animation, character setup, technical art and contemporary game engine topics. *Fall.*
Abbrev: (19 of 30 chars) Game Asset Creation
Discussion with others: No Conflict
Rationale: To create a distinctive class previously listed as a lab section of DIG 5045C. There are enough students to justify creating a unique course that is specific to the specialization covered, Game Art or Asset Creation. We are revising the program to better clarify all specializations. Creation of the course is also at the recommendation of the Academic Program Review.

Majors taking course: MS in Interactive Entertainment

DIG 6XXX CAH-FIEA 3(3,0)
Advanced Game Asset Creation: PR: DIG 5XXX: Game Asset Creation or C.I. Advanced techniques in game asset specializations such as 2d art, mobile application art, 3d modeling and texturing, animation, lighting and effects and technical art topics. *Spring.*
Abbrev: (27 of 30 chars) Advance Game Asset Creation
Discussion with others: No conflict.
Rationale: To create a distinctive class previously listed as a lab section of DIG 5046C. There are enough students to justify creating a unique course that is specific to the specialization covered, Game Art or Asset Creation. We are revising the program to better clarify all specializations. Creation of the course is also at the recommendation of the Academic Program Review.
Majors taking course: MS in Interactive Entertainment

DIG 6XXX CAH-FIEA 3(3,0)
Game Asset Portfolio Development: PR: DIG 6XXX: Advanced Game Asset Creation or C.I. Concentration in professional game artist portfolio development in specializations such as 2d art, mobile application art, 3d modeling and texturing, animation, lighting and effects and technical art topics. *Summer.*
Abbrev: (28 of 30 chars) Game Asset Portfolio Develop
Discussion with others: No conflict
Rationale: To create a distinctive class previously listed as a lab section of DIG 6785C. There are enough students to justify creating a unique course that is specific to the specialization covered, Game Art or Asset Creation. We are revising the program to better clarify all specializations. Creation of the course is also at the recommendation of the Academic Program Review.
Majors taking course: MS in Interactive Entertainment

DIG 6XXX CAH-FIEA 3(3,0) Game
Production and Design II: PR: DIG 5XXX Game Production and Design I or C.I. Advanced principles of game design and production including integrating development skills into level designs and complete games. *Spring.*
Abbrev: (29 of 30 chars) Game Production and Design II
Discussion with others: No conflict.
Rationale: To create a distinctive class previously listed as a lab section of DIG 5046C. There are enough students to justify creating a unique course that is specific to the specialization covered, Game Production. We are revising the program to better clarify all specializations. Creation of the course is also at the recommendation of the Academic Program Review.
Majors taking course: MS in Interactive Entertainment

DIG 6XXX CAH-FIEA 3(3,0)
Media Distribution: PR: DIG 6XXX Game Production and Design II or C.I. Theory and practical application of video game messaging, advertisement and distribution. *Summer.*
Abbrev: (18 of 30 chars) Media Distribution
Discussion with others: No conflicts.

Rationale: To create a distinctive class previously listed as a lab section of DIG 6785C. There are enough students to justify creating a unique course that is specific to the specialization covered, Game Production. We are revising the program to better clarify all specializations. Creation of the course is also at the recommendation of the Academic Program Review.
Majors taking course: MS in Interactive Entertainment

DIG 6XXX **CAH-FIEA** **3(3,0)**
Advanced Game Programming: PR: DIG5XXX: Game Programming Fundamentals or C.I. Advanced principles of software development for interactive entertainment. *Spring.*
Abbrev: (25 of 30 chars) Advanced Game Programming
Discussion with others: No conflicts.
Rationale: To create a distinctive class previously listed as a lab section of DIG 5046C. There are enough students to justify creating a unique course that is specific to the specialization covered, Game Programming. We are revising the program to better clarify all specializations. Creation of the course is also at the recommendation of the Academic Program Review.
Majors taking course: MS in Interactive Entertainment

DIG 6XXX **CAH-FIEA** **3(3,0)**
Applied Programming Mechanics: PR: DIG 6XXX Advanced Game Programming or C.I. Application of advanced software development principles for interactive entertainment. *Summer.*
Abbrev: (29 of 30 chars) Applied Programming Mechanics
Discussion with others: No conflicts.
Rationale: To create a distinctive class previously listed as a lab section of DIG 6785C. There are enough students to justify creating a unique course that is specific to the specialization covered, Game Programming. We are revising the program to better clarify all specializations. Creation of the course is also at the recommendation of the Academic Program Review.
Majors taking course: MS in Interactive Entertainment

DIG 6XXX **CAH-FIEA** **6(6,0)**
Venture Practicum: PR: DIG 6718 Interactive Entertainment Project or C.I. Principles and application of business development, IP rights, market research, iterative production, monetization, support and distribution as it relates to a start-up entity in game design. *Fall.*
Abbrev: (17 of 30 chars) Venture Practicum
Discussion with others: No conflict.
Rationale: This lecture based course on gaming entrepreneurship is intended for students not taking an internship in their final semester at FIEA. Creation of the course is also at the recommendation of the 10-11 Academic Program Review.
Majors taking course: MS in Interactive Entertainment

College of Education and Human Performance Course Additions

Tabled. Needs additional rigor and specificity. Keep wording "in literacy" for clarification.
LAE 7XXX **ED-TL&L** **3(3,0)**

Seminar on Writing for Professional Publication ~~**in Literacy**~~ : PR: Doctoral student standing and IDS 7501. Designed to enhance doctoral-level publication possibilities, this course focuses on establishing students' research trajectories early on and culminates in a manuscript publication. *Summer.*
Abbrev: (21 of 30 chars) Seminar Writ Prof Pub
Discussion with others: I am unaware of any duplications or conflicts across departments or colleges. The Ph.D. in Exceptional Education track has a course on Grant Writing; however, I have spoken to the Ph.D. Coordinator, Dr. Lisa Dieker, and we see no overlap or conflicting goals across these two courses. Likewise, I have spoken with Dr. Glenn Lambie who noted that the Counselor Education track did not have any overlapping or conflicting courses.
Rationale: This course is designed to enhance the scholarly writing skills and the research trajectories of doctoral level students in fields related to literacy. In addition to exploring academic publishing, current issues in literacy across the fields of reading education, writing, language arts, ESOL, communication disorders, school psychology, exceptional education, and fields related to literacy will be highlighted. Most academics become proficient at communicating their ideas and research through trial and error. The thrust of this course is to inform students in ways that might enhance their chances of publishing their manuscripts as Ph.D. students and subsequently as junior faculty.
Majors taking course: PhD in Elementary Education; recommended for PhD in Reading Education Track.

College of Engineering and Computer Science Course Additions

COT 5XXX **ECS-ECE** **3(3,0) Network Science**: PR: Undergraduate degree in CS, EE, or CpE. The emerging science of complex networks and their applications. Focus will be on algorithms, mathematical theories, and computational methods that analyze complex networks and predict their behavior. *Even Fall.*
Abbrev: (15 of 30 chars) Network Science
Discussion with others: This course was offered for the first time in Fall 2014 as a Special Topics course after the approval of the Department Chairs of Statistics, Sociology, Mathematics and Political Science (Profs. David Nickerson, Jana L. Jasinski, Piotr Mikusinski, and Kerstin Hamann). None of them have any concern or any overlap with the courses in their department.

The proposed course will be taught from a Computer Science perspective and will focus on algorithms, graph theory, game theory and computational methods that analyze communication and social systems.
Rationale: Studying the science of various (social, technological, biological, physical, transportation, etc.) networks is important for their analysis, understanding, and predicting their evolution. With the availability of large scale data, such studies have become possible in recent years. Some universities have just started offering similar courses. This course will equip the students with the knowledge and tools required to handle the needs of both industry and academia.
Majors taking course: Required for MS in Data Analytics (to be introduced in 2015)

College of Medicine Course Additions

Tabled. Consult with Spanish Department regarding the syllabus and to ensure no overlap. Consult on possible collaboration.

MDE 8XXX **COM-MED** **6(6,0)**

Medical Spanish Elective: PR: At least two years of high school Spanish or equivalent language exposure. Designed for medical students with at least basic Spanish knowledge to improve their understanding of medical Spanish. *Spring, Summer, Fall.*

Abbrev: (24 of 30 chars) Medical Spanish Elective

College of Sciences Course Additions

Tabled. Syllabus needs additional rigor and specificity.

POS 7XXX **COS-POLS** **3(3,0)**

Research Design in Security Studies: PR: Consent of instructor. Develop the ability to produce and critique research in the field of Security Studies. *Occasional.*

Abbrev: (30 of 30 chars) Research Design in Sec Studies

Discussion with others: The following departments have been contacted (see attached): English, Writing and Rhetoric, Sociology, Anthropology, Statistics, Public Administration, Criminal Justice. To see approval emails contact Tonya Walker - COS Dean's Office. Rationale: The course will help advanced doctoral students develop their research skills. Majors taking course: None require; recommended: PhD program in security studies

2. Special Topics Additions

College of Education and Human Performance Special Topics Additions

EEX 6938 **ED-CFCS** **3(3,0)**

Advanced Behavior Analytic Approaches to Communication: PR: EEX 6612 Methods for Behavior Management. This course prepares practitioners to use the principles of ABA to assess and teach communication skills/procedures to individuals with disabilities. *Occasional.*

Abbrev: (12 of 30 chars) Advanced ABA

Discussion with others: There are currently no advanced behavior analysis courses on any existing roster focusing on students with Autism and/or Severe or profound disabilities. Rationale: All of the students enrolling in this course will be funded Project ASD students.

Tabled. Discuss with Department of Social Work for possible conflicts.

MHS 6XXX **ED-CFCS** **3(3,0)**

Psychopharmacology for Mental Health Professionals: PR: N/A. Students will learn about medication treatment of psychiatric disorders. In addition, the examination of the efficacy of psychoactive drugs will be discussed. *Occasional.*

Abbrev: (30 of 30 chars) Psychopharmacomentalhealthprof

Discussion with others: Dr. Gulnora Hundley (Counselor Education) contacted Dr. Deborah

Beidel (Psychology Department) who indicated that the psychology department does not offer a psychopharmacology course for its students. Furthermore, Dr. Beidel indicated that the department would be interested in allowing its students to enroll in the course. The Social Work Department offers a similar course; however, that course is available to Social Work majors only.

Tabled. Syllabus needs additional rigor and specificity.

LAE 7939 **ED-TL&L** **3(3,0)**

Seminar on Writing for Professional Publication in Literacy: PR: Doctoral student standing and IDS 7500. Designed to enhance doctoral-level publication possibilities, this course focuses on establishing students' research trajectories early on and culminates in a manuscript submission. *Occasional.*

Abbrev: (22 of 30 chars) Seminar Writ Prof Pubs

Rationale: I am unaware of any duplications or conflicts across departments or colleges. The PhD in Exceptional Education track has a course on Grant Writing; however, I have spoken tot he PhD Coordinator, Dr. Lisa Dieker, and we see no overlap or conflicting goals across these two courses. Likewise, I have spoken with Dr. Glenn Lambie who noted that the Counselor Education track did not have any overlapping or conflicting courses.

College of Sciences Special Topics Additions

Tabled. Syllabus needs additional rigor and specificity.

POS 7939 **COS-POLS** **3(3,0)**

ST: Research Design in Security Studies: PR: Consent of instructor. Develop the ability to produce and critique research in the field of Security Studies. *Occasional.*

Abbrev: (30 of 30 chars) Research Design in Sec Studies

Rationale: The following departments have been contacted (see attached): English, Writing and Rhetoric, Sociology, Anthropology, Statistics, Public Administration, Criminal Justice. Approval available upon request from Tonya Walker - COS Dean's Office.

3. Course Revisions

College of Arts and Humanities Course Revisions

~~**DIG 5549C**~~ ~~**Rapid Prototype Production Experimentation, Application and Innovation in Games**~~ **Experimentation, Application, and Innovation in Games**

DIG 5549

PR: DIG ~~5548C~~ 5529C or C.I.

~~**3(1,3)**~~ **3(3,0)**

~~Students engage~~ Survey and development of games being used in ~~interdisciplinary teams to create advanced rapid development projects.~~ non-traditional applications, such as medical simulation, education and research.

Abbrev (28 of 30): ~~**Rapid Prototype Production II**~~ **Experiment, App, Innov Games**

Term Offered: ~~Fall~~ Spring
Discussion with others: No conflicts.
Rationale: This course is intended to encourage and motivate our students to explore and create interactive entertainment technologies outside of games. Such topics and expectations will include educational, military and medical simulations. Revision of the course is also at the recommendation of the 10-11 Academic Program Review.
Majors taking course: MS in Interactive Entertainment
There are no programs that list DIG 5549C.

College of Engineering and Computer Science Course Revisions

~~Machine Learning Methods for Bioinformatics~~
CAP 6545 **3(3,0)**
Machine Learning Methods for Biomedical Data
PR:CAP 5510 or C.I.
~~Machine~~ Summarize computational techniques for bridging two fields: machine learning ~~methods~~ and ~~their applications~~ biomedical science to illustrate successful data mining and knowledge discovery in ~~Bioinformatics.~~ an interdisciplinary context.
Rationale: Here we request the title and prerequisite change to accommodate the the emerging research theme change in this "Big Data" era. Compared to "Bioinformatics", "Biomedical data" is more general and accurate in terms of describing the applicational scope of machine learning methods taught in this course.
There are no programs that list CAP 6545.

College of Medicine Course Revisions

Tabled. Split Class. The graduate syllabus should clearly demonstrate more advanced subject matter, expectations, and rigor. Objectives should be more rigorous, all additional projects should be listed, and the assessments should be more advanced with examples given.

MCB 5225 **Molecular Biology of Disease** **3(3,0)**
PR: Graduate standing or C.I.
An in-depth study of the molecular biological mechanism of diseases in experimental animal models and human populations.
Rationale: This course provides students with an in-depth knowledge of current advances in the molecular mechanisms underlying human diseases. Topics include autoimmunity, neurodegeneration, aging, drug addiction, obesity, and cancer. The course format will consist of lectures, discussions, and student presentations. The aim of this course is to demonstrate how various disciplines can be integrated into modern medicine and how the information can be used for drug discovery in the treatment or cure of human diseases.
Majors taking course: Biomedical MS, Biotechnology MS, Biomedical Ph.D.
There are 3 programs that list MCB 5225: Biotechnology (B.S.),Biomedical Sciences (B.S.),Biomedical Sciences - Preprofessional Concentration (B.S.)

College of Sciences Course Revisions

Applied Behavior Analysis with Children and Youth
EAB 5765

3(3,0)
PR: ~~DEP 5057 and EXP 5445, and graduate~~ Graduate status or senior standing or C.I.
Advanced survey of principles, procedures, and techniques of applied behavior analysis, with special attention to applications with children and youth.
Rationale: Prerequisite updated to remove EXP 5445 which was deleted. There are no programs that list EAB 5765.

4. Course Deletions

College of Education and Human Performance Course Deletions

College of Sciences Course Deletions

SYD 6515 COS-SOC 3(3,0)Race, Class and Environmental Justice PR: Graduate standing or C.I. The sociological study and analysis of the distributional impacts of environmental degradation on poor people and people of color.
Discussion with others: Public Administration approved course deletion.
Rationale: Course not offered in 5-years.
There are no programs that list SYD 6515.

SYD 6516 COS-SOC 3(3,0)
Human Dimensions of Natural Resource Management PR: Graduate standing or C.I. The dynamic relationship between social and ecological systems, and the integral role of natural resource agencies.
Discussion with others: Public Administration approved course deletion.
Rationale: Course not offered in 5-years
There are no programs that list SYD 6516.

5. Course Continuations

College of Sciences Course Continuations

STA 6662 COS-STAT 3(3,0)
Statistical Methods for Industrial Practice Variance components, PCRs, autocorrelation structures, charting, EVOP, design strategies, calibration, standards, and associated awards.
Rationale: Course will be used in PhD program being developed.
There are no programs that list STA 6662.