# Graduate Council Curriculum Committee February 6, 2012 12:00 p.m., MH 395

### **Agenda**

- 1. Welcome and call to order
- 2. Revisions to the Applied Learning & Instruction MA program, CED
- 3. Inactivation of the MSME Computer-Aided Mechanical Engineering track, CECS
- 4. Inactivation of the MSME Miniature Engineering Systems track, CECS
- 5. Inactivation of the MSME Professional track, CECS
- 6. Inactivation of the HVAC Engineering Certificate, CECS
- 7. Inactivation of the CAD/CAM Technology Certificate, CECS
- 8. Revisions to the MS in Aerospace Engineering, CECS
- 9. Revisions to the MS Mechanical Engineering Mechanical Systems track, CECS
- 10. Review of Graduate Courses Not Offered for 5 years
- 11. Courses and special topics
- 12. Adjournment

#### **Members of the Graduate Council Curriculum Committee:**

Tosha Dupras, COS
Cristina Fernandez-Valle, COM
Charles Kelliher, CBA
Kerry Purmensky, CAH
Art Weeks, CECS
Deborah Breiter, RCHM
Naim Kapucu, COHPA
Joyce Nutta, CED
Terrie Sypolt, LIB
Julee Waldrop, CON
Boris Zeldovich, COP
Jay Jay Stroup, GSA
Ross Hinkle, EX Officio
Max Poole, CGS Liaison



# **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 this type of change.

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

College/Unit(s) Submitting Proposal:
Proposed Effective Term/Year:
Unit(s) Housing Program:
Name of program, track and/or certificate:
Brief description of program (this description will show up in the graduate catalog copy): Do not add complete catalog copy here.
DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery  Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)
Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)
Program Director(s) and contact information: (name, email, phone, campus address, program website address)

Page 2 of UCF Program Recommendation Form
Please check one: this action affects a:  Program Track Certificate
Please check one: this action is a(n):
Addition. Please proceed to Part A.
Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:
☐ 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.
<b>Inactivation:</b> 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**

COMMENI	DATIONS			
Yes		No	Department Chair:	Date:
Yes		No	College Curriculum Committee Chair:	Date:
Yes		No	College Dean:	Date:
Yes			Chair or GSC:	
Yes		No	Dean, College of Graduate Studies:	Date:
PROVAL				
vost and	Vice Pres	sident	t for Academic Affairs:	Date:

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

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Part A – For additions or revisions of programs, tracks or certificates
Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)
For Revisions:
Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other require-
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□ Yes □ No
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Headcount				
SCHs				
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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.)

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Year 2					
Year 3					

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Fall 2010	Spring 2011	Summer 2011	Fall 2011	Spring 2012			
Checklist of items to be provid	led:						
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#### PROGRAM DESCRIPTION

The Master of Arts in Applied Learning and Instruction program is designed for students from diverse academic majors who have an interest in the application of psychological theories and research to improving learning, instruction, and training, in a variety of instructional contexts.

#### Read More ▼▲

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

#### **CURRICULUM**

The Applied Learning and Instruction MA (ALIMA) program requires a minimum of 33 credit hours beyond the bachelor's degree including 15 credit hours of core courses, 12 credit hours of specialization, and 6 credit hours of a research component. The research component can be completed by choosing the thesis option or a nonthesis option that requires two alternative courses. The program of study can be tailored to meet the specific needs of each student.

#### **Total Credit Hours Required:**

33 Credit Hours Minimum beyond the Bachelor's Degree

In addition to the course work, students are expected to meet the Continuous Attendance policy for graduate students. Please see the <u>Continuous Attendance and Special Leave of Absence</u> policies in the Graduate Catalog.

#### **Required Courses—27 Credit Hours**

#### Core—15 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDP 6213 Applied Learning and Instruction Seminar I (3 credit hours)
- EDP 6217 Applied Learning and Instruction Seminar II (3 credit hours)
- EDF 6216 Motivation in Learning and Performance (3 credit hours)
- EDF 6155 Lifespan Human Development and Learning (3 credit hours)

#### Specialization—12 Credit Hours

Students have the choice of taking specialization courses in multiple areas. Specialization courses may be taken within one specialization, or from multiple specializations. The purpose of this choice is to provide course offerings which appeal to student interest, but concurrently facilitate depth of knowledge in a particular discipline.

The student, program director and student advisers together determine a course of study to meet the student's needs while simultaneously developing core knowledge in a specific area with the adviser's approval. In addition, the adviser may approve courses taken as part of a UCF certificate program for this area of the MA (up to 12 credit hours). The adviser must approve all specialization courses.

#### Psychological Foundations\*

- DEP 5057 Developmental Psychology (3 credit hours)
- EDF 6259 Learning Theories Applied to Classroom Instruction and Management (3 credit hours)
- EDF 6141 Human Intelligence (3 credit hours)
- SPS 6225 Behavioral and Observational Analysis of Classroom Interactions in Schools (3 credit hours)
- SPS 6700 Advanced Educational Psychology (3 credit hours)
- EGC 6431 Guiding Human Relations I (3 credit hours)
- EGC 6432 Guiding Human Relations II (3 credit hours)

#### Business/Training\*

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

#### **Instructional Design\***

- EME 6607 Planned Change in Instructional Technology (3 credit hours)
- EME 6602 Integrating Technology into Curriculum (3 credit hours)
- EME 6601 Instructional Simulation Design (3 credit hours)
- EME 6457 Distance Education (3 credit hours)
- EME 6507 Multimedia For Learning I (3 credit hours)
- EME 6613 Instructional Systems Design (3 credit hours)
- EME 6405 Application Software (3 credit hours)
- EME 6614 Instructional Game Design (3 credit hours)
- EME 6705 Administration of Instructional Systems (3 credit hours)
- EME 6055 Current Trends in Instructional Technology (3 credit hours)

#### Teaching\*

- EDF 6237 Principles of Learning and Introduction to Classroom Assessment (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)
- EDF 6233 Analysis of Classroom Teaching (3 credit hours)
- ESE 6217 Curriculum Design (3 credit hours)

• EME 5053 Electronic Resources in Education (3 credit hours)

#### **Program Evaluation\***

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDG 6285 Evaluation of School Programs (3 credit hours)
- ESE 6416 Curriculum Evaluation (3 credit hours)

#### Thesis Option—6 Credit Hours

• EDF 6971 Thesis (6 credit hours)

#### Steps for Completing a Master's Thesis

- Submit a 2–3 page thesis prospectus and preliminary bibliography on a topic to their thesis adviser. Prior to enrollment into thesis credit hours, the student will identify a Thesis Committee to be further approved by the College Graduate Dean and the College of Graduate Studies. This committee is chaired by the adviser and includes two or more additional faculty members from the Department of Educational Studies (minimum of 3 committee members required).
- 2. The formal thesis is initiated by the preparation of a proposal that meets both departmental and university requirements for the thesis. The members of the student's thesis committee review the proposal as the preliminary step to beginning the thesis. Students are responsible for sending their proposal to all committee members at least three weeks before the end of the semester. This committee must approve the Thesis Proposal before academic credit can accrue.
- 3. Once the proposal is approved by both the committee and the UCF Institutional Review Board, students should begin collecting and analyzing their data. Students should expect to defend their proposal during the semester in which they are enrolled for thesis credits.
- 4. The thesis is a formal written document. The introduction cites similar, related, and antecedent work. The body explains the purposes of the project, the method of its production, and any evaluation that was performed. The conclusion includes plans for future work. The thesis also includes an archival copy of the resulting creative product. Both the thesis and the creative product must be delivered in digital form, acceptable by the College of Graduate Studies and UCF library according to standards for digital dissertations and theses.

#### **Nonthesis Option—6 Credit Hours**

Six credit hours of additional courses is required to give the student a foundation in conducting research.

EDF 6918 Directed Research (3 credit hours) AND

**Comment [mc1]:** Replace with EDP 6XXX: Capstone in Applied Learning & Instruction

<sup>\*</sup>Other electives to be determined by adviser with program approval.

• Approved Research Elective (3 credit hours)

#### **Scholarly Product Requirement (Review 1)**

Before the end of two years in the ALIMA program, students are required to submit evidence of their ability to conduct a scholarly examination of research in a chosen area in the field of educational psychology. They will demonstrate this ability by producing a scholarly review of literature to present a thorough overview of research surrounding a particular problem involving learning and/or instruction. As part of the review, students will present a list of research and theory-based potential solutions to the identified problem. This project will be introduced in the Seminar in Applied Learning and Instruction I and completed the following semester in Seminar in Applied Learning and Instruction II.

#### **Comprehensive Exams (Review II)**

The comprehensive exams serve as the culminating experience of the ALIMA program.

#### **Nonthesis Option**

For students electing not to write a thesis, the comprehensive exam will consist of five questions, of which three will be selected by the student to answer. The student will have one week to answer the questions in a take-home, extended essay file format. Students must cite all instances where their ideas are directly or indirectly related to outside sources. Students may not consult with other students or use Wikipedia or other online sources to complete their exams. Exams will be graded based on a pass, marginal pass, or fail basis. Students who pass the exam marginally may be asked to rewrite specific questions. Students who fail the exam will not be eligible to receive their master's degree.

#### **Thesis Option**

For students electing to submit a thesis, their comprehensive exam will take place as an oral exam no less than 3 weeks after the final version of their thesis is submitted to their committee. During the course of the oral exam, students will be asked to defend their thesis, as well as respond to questions that require them to integrate and synthesize information learned in their core courses.

#### INDEPENDENT LEARNING

The MA program requires the completion of a research project. Research projects are independent learning activities in which students must apply, reflect upon, and refine knowledge and skills required in the program. By the end of the fourth semester in this program, each student must satisfy a scholarly product requirement (Review I). This requirement can be met in one of two ways: students can submit a research study to a refereed journal, or submit a proposal for a presentation at an annual conference of a national or local organization. The student must be primarily responsible for conceptualizing, carrying out, and reporting the results in both of

these options. The student is responsible for obtaining approval of master's committee.	the product from his or her	



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

# **Signature Page**

ECOMMEN	DATIONS	3		
Yes		No	Department Chair:	Date:
Yes		No	College Curriculum Committee Chair:	Date:
Yes		No	College Dean:	Date:
Yes			Chair or GSC:	
Yes		No	Dean, College of Graduate Studies:	Date:
PPROVAL rovost and	Executiv	e Vice	e President:	Date:
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Part A - Continued				

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Year 2					
Year 3					

# Page 7 of UCF Program Recommendation Form Checklist of items to be provided: Electronic graduate catalog copy for additions; track changes included if there are revisions. (required) Attach all appropriate course action requests that will be necessary to implement the changes. (required) Emails showing consultation with other units. (if applicable) If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish. If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog. Part B - For inactivations or suspensions of programs, tracks, or certificates Are students currently enrolled in the program? 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 2010	Spring 2011	Summer 2011	Fall 2011	Spring 2012
Checklist of items to be provid	led:			
Attach all appropriate cou	urse action requests that will b	e necessary to implement the o	changes. (required)	
☐ E-mails showing consulta	ation with other units. (if applic	able)		



# **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 this type of change.

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

College/Unit(s) Submitting Proposal:
Proposed Effective Term/Year:
Unit(s) Housing Program:
Name of program, track and/or certificate:
Brief description of program (this description will show up in the graduate catalog copy): Do not add complete catalog copy here.
DELIVERY - Will program be delivered:   Face to face   Completely online   Mixed delivery
Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)
Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)
Program Director(s) and contact information: (name, email, phone, campus address, program website address)

Page 2 of UCF Program Recommendation Form
Please check one: this action affects a:   Program Track Certificate
Please check one: this action is a(n):
Addition. Please proceed to Part A.
Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:
☐ Inactivation
☐ Temporary Suspension of Admissions. Give Length of Suspension:
Temporary suspension of admissions: The program will be removed from the online application. A notation will be entered in the graduate catalog indicating the length of the suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.
<b>Inactivation:</b> 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**

ECOMMEN	DATIONS	6		
Yes		No	Department Chair:	Date:
Yes		No	College Curriculum Committee Chair:	Date:
Yes		No	College Dean:	Date:
Yes			Chair or GSC:	
Yes		No	Dean, College of Graduate Studies:	Date:
PPROVAL rovost and	Executiv	e Vice	e President:	_Date:
atribution.	After an	orova	I 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

# Page 4 of UCF Program Recommendation Form

Part A – For additions or revisions of programs, tracks or certificates
Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)
For Revisions:
Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other require-
ments, please state those changes. Remember to attach the catalog copy showing changes, using Track Changes in Word.)
Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?
□ Yes □ No
Managed a literature of the consequence of the literature of the consequence of the Police of the literature of the consequence
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?
Name Change
Are you changing the name of an existing program, track, or certificate?   Yes   No
The job officing the fame of an extensity program, track, or certificate: — 165 — 160

# Page 5 of UCF Program Recommendation Form 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? ☐ 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?

## Page 6 of UCF Program Recommendation Form

f applicable, provide a writte ertificate. Please attach the o	n agreement (email is fine) from all ir correspondence and also list the units	volved units that they are in support of, varieties.	will provide courses to, or will participate	n the program, track,
f an addition, provide a state ollowing table.	ement of who is likely to enroll and wh	y. Please state if there is licensure or ce	rtification that depends upon this educati	on, etc. Also, complete
	Year 1	Year 2	Year 3	
Headcount				
SCHs				
i an addition, indicate likely	career or student outcomes upon cor	npletion: (What will students do? What w	ill 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 fel- lowship)	No. tuition remissions	Source of funds
Year 1					
Year 2					
Year 3					

# Page 7 of UCF Program Recommendation Form Checklist of items to be provided: Electronic graduate catalog copy for additions; track changes included if there are revisions. (required) Attach all appropriate course action requests that will be necessary to implement the changes. (required) Emails showing consultation with other units. (if applicable) If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish. If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog. Part B - For inactivations or suspensions of programs, tracks, or certificates Are students currently enrolled in the program? 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 2010	Spring 2011	Summer 2011	Fall 2011	Spring 2012		
Checklist of items to be provid	led:					
Attach all appropriate course action requests that will be necessary to implement the changes. (required)						
☐ E-mails showing consulta	ation with other units. (if applic	able)				



# **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 this type of change.

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

College/Unit(s) Submitting Proposal:
Proposed Effective Term/Year:
Unit(s) Housing Program:
Name of program, track and/or certificate:
Brief description of program (this description will show up in the graduate catalog copy): Do not add complete catalog copy here.
DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery  Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)
Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)
Program Director(s) and contact information: (name, email, phone, campus address, program website address)

Page 2 of UCF Program Recommendation Form
Please check one: this action affects a:   Program Track Certificate
Please check one: this action is a(n):
Addition. Please proceed to Part A.
Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:
☐ Inactivation
☐ Temporary Suspension of Admissions. Give Length of Suspension:
Temporary suspension of admissions: The program will be removed from the online application. A notation will be entered in the graduate catalog indicating the length of the suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.
<b>Inactivation:</b> 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**

COMMENI	DATIONS						
Yes		No	Department Chair:	Date:			
Yes		No	College Curriculum Committee Chair:	Date:			
Yes		No	College Dean:	Date:			
Yes			Chair or GSC:				
Yes		No	Dean, College of Graduate Studies:	Date:			
PROVAL							
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 Research; Academic Services; Faculty Senate; University Analysis and Planning Support; College of Graduate Studies

# Page 4 of UCF Program Recommendation Form

Part A – For additions or revisions of programs, tracks or certificates
Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)
For Revisions:
Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other require-
ments, please state those changes. Remember to attach the catalog copy showing changes, using Track Changes in Word.)
Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?
□ Yes □ No
Managed a literature of the consequence of the literature of the consequence of the Police of the literature of the consequence
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?
Name Change
Are you changing the name of an existing program, track, or certificate?   Yes   No
The job officing the fame of an extensity program, track, or certificate: — 165 — 160

# Page 5 of UCF Program Recommendation Form 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? ☐ 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?

# Page 6 of UCF Program Recommendation Form

f applicable, provide a writte certificate. Please attach the	en agreement (email is fine) from all ir correspondence and also list the units	volved units that they are in support of, v s here.	vill provide courses to, or will participate	in the program, track, o
f an addition, provide a state ollowing table.	ement of who is likely to enroll and wh	y. Please state if there is licensure or ce	rtification that depends upon this educati	on, etc. Also, complete
	Year 1	Year 2	Year 3	
Headcount				
SCHs				
f an addition, indicate likely	career or student outcomes upon cor	npletion: (What will students do? What w	ill 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 fel- lowship)	No. tuition remissions	Source of funds
Year 1					
Year 2					
Year 3					

# Page 7 of UCF Program Recommendation Form Checklist of items to be provided: Electronic graduate catalog copy for additions; track changes included if there are revisions. (required) Attach all appropriate course action requests that will be necessary to implement the changes. (required) Emails showing consultation with other units. (if applicable) If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish. If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog. Part B - For inactivations or suspensions of programs, tracks, or certificates Are students currently enrolled in the program? 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 2010	Spring 2011	Summer 2011	Fall 2011	Spring 2012				
Checklist of items to be provid	led:							
Attach all appropriate cou	urse action requests that will b	e necessary to implement the o	changes. (required)					
☐ E-mails showing consulta	ation with other units. (if applic	able)						



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College/Unit(s) Submitting Proposal:					
Proposed Effective Term/Year:					
Unit(s) Housing Program:					
Name of program, track and/or certificate:					
Brief description of program (this description will show up in the graduate catalog copy): Do not add complete catalog copy here.					
DELIVERY - Will program be delivered: Face to face Completely online Mixed delivery  Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)					
Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)					
Program Director(s) and contact information: (name, email, phone, campus address, program website address)					

Page 2 of UCF Program Recommendation Form
Please check one: this action affects a:  Program Track Certificate
Please check one: this action is a(n):
Addition. Please proceed to Part A.
Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:
☐ 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.
<b>Inactivation:</b> 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**

COMMENI	DATIONS						
Yes		No	Department Chair:	Date:			
Yes		No	College Curriculum Committee Chair:	Date:			
Yes		No	College Dean:	Date:			
Yes			Chair or GSC:				
Yes		No	Dean, College of Graduate Studies:	Date:			
PROVAL							
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 Research; Academic Services; Faculty Senate; University Analysis and Planning Support; College of Graduate Studies

# Page 4 of UCF Program Recommendation Form

Part A – For additions or revisions of programs, tracks or certificates
Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.)
For Revisions:
Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other require-
ments, please state those changes. Remember to attach the catalog copy showing changes, using Track Changes in Word.)
Will students be moved from an existing program, track, or certificate into this new program, track, or certificate?
□ Yes □ No
Managed a literature of the consequence of the literature of the consequence of the Police of the Consequence of the Consequenc
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?
Name Change
Are you changing the name of an existing program, track, or certificate?   Yes   No
The job officing the fame of an extensity program, track, or certificate: — 165 — 160

# Page 5 of UCF Program Recommendation Form 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? ☐ 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?

# Page 6 of UCF Program Recommendation Form

f applicable, provide a writte certificate. Please attach the	en agreement (email is fine) from all ir correspondence and also list the units	volved units that they are in support of, v s here.	vill provide courses to, or will participate	in the program, track, o
f an addition, provide a state ollowing table.	ement of who is likely to enroll and wh	y. Please state if there is licensure or ce	rtification that depends upon this educati	on, etc. Also, complete
	Year 1	Year 2	Year 3	
Headcount				
SCHs				
f an addition, indicate likely	career or student outcomes upon cor	npletion: (What will students do? What w	ill 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 fel- lowship)	No. tuition remissions	Source of funds
Year 1					
Year 2					
Year 3					

# Page 7 of UCF Program Recommendation Form Checklist of items to be provided: Electronic graduate catalog copy for additions; track changes included if there are revisions. (required) Attach all appropriate course action requests that will be necessary to implement the changes. (required) Emails showing consultation with other units. (if applicable) If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish. If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog. Part B - For inactivations or suspensions of programs, tracks, or certificates Are students currently enrolled in the program? 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 2010	Spring 2011	Summer 2011	Fall 2011	Spring 2012				
Checklist of items to be provid	led:							
Attach all appropriate cou	urse action requests that will b	e necessary to implement the o	changes. (required)					
☐ E-mails showing consulta	ation with other units. (if applic	able)						



# **Program Recommendation Form**

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College/Unit(s) Submitting Proposal: Engineering and Computer Science
Proposed Effective Term/Year: Fall 2012
Unit(s) Housing Program: Mechanical, Materials and Aerospace Engineering
Name of program, track and/or certificate: Aerospace Engineering, Master Program
Brief description of program (this description will show up in the graduate catalog copy): Do not add complete catalog copy here.
The Master of Science in Aerospace Engineering (MSAE) is designed to prepare students for careers as engineers in aerospace. Students may choose from three tracks: Accelerated BS to MSAE, Space Systems Design and Engineering, and Thermofluid Aerodynamic Systems Design and Engineering.
DELIVERY - Will program be delivered;
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)  Dr. Alain Kassab, Alain.Kassab@ucf.edu, (407) 823-5778, http://www.mmae.ucf.edu/

# Page 2 of UCF Program Recommendation Form

Ple	ase check one: this action affects a: Program 🗖 Track 📮 Certificate
Ple	ase check one: this action is a(n):
	Addition. Please proceed to Part A.
Z T	Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A: Thermofluid Aerodynamic Systems Design and Engineering; Space Systems Design and Engineering
0	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

RECOMMEN	DATIONS	8 20 1		
Yes Yes	☐ No	Department Chair:	Date:	12/7/10
Yes	☐ No	College Curriculum Committee Chair. Churles H / July	Date:	1/19/12
Yes	☐ No	College Dean: Charles H July	Date:	Vialie
Yes	☐ No	Chair or GSC:	Date:	
Yes	☐ No	Dean, College of Graduate Studies:	Date:	
APPROVAL Provost and	Evecutive Vic	o Procident		,
Frovost and	Executive vic	e President.	Date:	····
				· · · · · · · · · · · · · · · · · · ·
Distribution:	After approva	Il is received from the Provost, distribution will be to:		
		istrar, Associate Registrar, Institutional Research; Academic Services; Faculty Senate;		

# Part A - For additions or revisions of programs, tracks or certificates Brief statement of rationale: (Please indicate the rationale, how it affects the unit and faculty teaching in and students enrolled in the program, track or certificate.) The revision will provide students solid understanding of the basic and broad spectrum of topics covered throughout the Aerospace program. For Revisions: Brief listing of Program Changes: (Please indicate the changes in bullet format. If there are changes to the credit hours of the program, required courses or other requirements, please state those changes. Remember to attach the catalog copy showing changes, using Track Changes in Word.) Will students be moved from an existing program, track, or certificate into this new program, track, or certificate? If yes, state the name of the program or track where students are currently enrolled and provide a list of students if possible: Name Change The core courses required by the graduate students in the Aerospace MS program are revised: Thermal & Fluid Track: EML 5060 Math Methods EML 5713 Intermediate Fluid Mechanics EML 5152 Intermediate Heat Transfer and one from the following classes (EML 5311 System Control, EML 5271 Intermediate Dynamics, EML 5237 Intermediate Mechanics) Space System Track EML 5060 Math Methods EML 5311 System Control EML 5271 Intermediate Dynamics,

and one from the following classes (EML 5237 Intermediate Mechanics, EML 5713 Intermediate Fluid Mechanics, EML 5152 Intermediate Heat Transfer)

N/A	me of the program, track, or ce	,				
		<i>:</i>				
Provide the name of the c Aerospace Engine	urrent program, track, or certific eering, Masters Progran	cate:	· 			
brodiging go of the effective	e effective? Please note: A na e date of this change.	me change will apply to the re	ecord of all studen	its who are currently	enrolled, readmitted o	r newly admitted into
N/A		<u> </u>				
		,				
Will students have the o	ption to stay in their existing	program, track, or certificat	e? 🗌 Yes	□ No		
		į				
f you are requesting a C	IP Code change for an existin	ng program, track, or certific	ate, please provi	ide:		
old CIP:						
new CIP:						
iow on ,		•				
				·		
f a name change is your	only revision, stop here. Othe	erwise, complete the rest of	Part A.		•	. • • »
art A - Continued	* . · · · · · · · · · · · · · · · · · ·					
Decify the faculty who w	ill participate in the program,	track or certificate and the	ir cradentials to	da sau (Listfasultus	nd a beiaf navarrast a	(4b-1
,,	par no paro ne mo programi	THOR OF COMMONIC WING MIC	ii creaciidas to t	uo so. (List laculty a	nd a briei paragraph o	r their credentials.)
Dr. Kuo-Chi Li	n, Dr. Larry Chev	v; Dr. Yunjun Xu	; Dr. Ruey	/-Hung Che	n; Dr. Seeth	a
Raghavan; Dr.	Marcel Ilie	•				* * * * .
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Page 5 of UCF Program Recommendation Form

# Page 6 of UCF Program Recommendation Form

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# Page 7 of UCF Program Recommendation Form

Checklist of items to be provided:				
Electronic graduate catalog copy for additions; tra	ck changes included if there a	re revisions. (required)		
Attach all appropriate course action requests that				
☐ Emails showing consultation with other units. (if ap		300 (04400)		
If an addition, list of 1-3 students and 1-3 faculty fo to write profiles and take photos). You may provide draft	r profiles in the graduate catal	og (provide email address s	so Graduate Studies	can contact them
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# **Aerospace Engineering MSAE**

## Accelerated BS to MSAE

#### TRACK DESCRIPTION

The Accelerated BS to MS track in the Aerospace Engineering MSAE program allows highly qualified undergraduate students in Aerospace Engineering to begin taking graduate-level courses that will count toward their master's degree while completing their baccalaureate degree program.

Read More ▼▲

#### **CURRICULUM**

#### **Total Credit Hours Required:**

30 Credit Hours Minimum beyond the Bachelor's Degree

The BSAE is awarded after completion of 128 total undergraduate student credit hours including 71 hours of engineering courses and all other university requirements, and the MSAE is awarded upon completion of the master's program. Courses designated in General Education Program and Common Program Prerequisites are usually completed in the first 60 hours (see engineering major requirements in the Undergraduate Catalog).

Up to 12 credit hours of approved 5000- and 6000-level courses of grades "B" (3.0) or better may be counted toward the BS and MS degrees. Additional notes on the Accelerated Undergraduate and Graduate Program in Aerospace Engineering:

- Students who change degree programs and select this major must adopt the most current catalog.
- Students must earn at least a "B" (3.0) in each undergraduate and graduate engineering course for them to be counted toward the major.

#### **Undergraduate Requirements**

Please see the current edition of the Undergraduate Catalog and the College of Engineering website listed above for additional information about academics and accelerated programs.

#### **Graduate Requirements**

For thesis option students, at least 18 credit hours beyond the 12 credit hours counted toward the undergraduate degree are required and must include 6 credit hours of thesis (EAS 6971); for the nonthesis option, the 18 credit hours need to include either EML 6085 Research Methods in MMAE (3 credit hours) or EML 6918 Directed Research (3 credit hours). The remaining credit hours can be selected from courses from other tracks.

#### **Equipment Fee**

Students in the Aerospace Engineering MSAE program pay a \$90 equipment fee each semester that they are enrolled.

#### INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis or EML 6085 Research Methods in MMAE. The nonthesis option independent learning experience is provided by the required course EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, EAS 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EAS 6918 is approved, a letter must be provided by the member of the faculty superivising the directed research certifying independent learning.

#### APPLICATION REQUIREMENTS

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

The Accelerated BS to MS program in Aerospace Engineering allows highly qualified University of Central Florida undergraduate majors in Aerospace Engineering to begin taking graduate level courses that will count toward their master's degree while completing their baccalaureate degree program. Students apply for admission to the accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to either the Space Systems Design and Engineering or Thermofluid Aerodynamic Systems Design and Engineering Track instead. Additional information about this track may be located at:http://www.cecs.ucf.edu/academics/acceleratedbstomsprograms.

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

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

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.
- Bachelor's degree in Aerospace Engineering or closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

# **Application Deadlines**

Accelerated BS to MSAE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	-
International Applicants	Jan 15	Jan 15	Jul 1	-
International Transfer Applicants	Jan 15	Mar 1	Sep 1	-

#### **FINANCIALS**

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see <a href="Funding for Graduate School">Funding for Graduate School</a>, which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The <a href="Financial Information">Financial Information</a> 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 <u>Fellowships</u>, which includes descriptions of UCF fellowships and what you should do to be considered for a fellowship.

#### **Program PROFILE**

#### **Program Stats**

#### View more stats

#### Contact INFO

#### **Graduate Program**

Alain Kassab PhD

Professor

gradmmae@ucf.edu

Telephone: 407-823-5778 Engineering 313

#### **Graduate Admissions**

**Admissions Counselor** 

gradadmissions@ucf.edu

Telephone: 407-823-2766 ext. 254

Millican Hall 230 Map

Online Application

**Graduate Admissions** 

Mailing Address

UCF College of Graduate Studies

Millican Hall 230

PO Box 160112

Orlando, FL 32816-0112

Institution Codes

GRE: 5233

GMAT: RZT-HT-58 TOEFL: 5233 ETS PPI: 5233

#### **Graduate Fellowships**

**Sharon Preston** 

Telephone: 407-823-6497 **LaVonda Walker** 

Telephone: 407-823-0127 gradfellowship@ucf.edu www.graduate.ucf.edu

#### **Graduate Financial Aid**

**UCF Student Financial Assistance** 

Millican Hall 120

Telephone: 407-823-2827 Appointment Line: 407-823-5285

Fax: 407-823-5241

# **Space Systems Design and Engineering**

#### TRACK DESCRIPTION

The Master of Science in Space Systems Design and Engineering (MSAE) is designed to prepare students for careers as engineers in aerospace.

Read More ▼▲

#### **CURRICULUM**

#### **Total Credit Hours Required:**

 $30\ \text{Credit}$  Hours Minimum beyond the Bachelor's Degree

All students must identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. The program of study must be approved by the department and therefore students should consult with the MMAE Graduate Director for assistance in filling out their program of study.

A student with an undergraduate degree outside of the selected departmental discipline may also be required to satisfy an articulation program. Substitutions to the program of study must meet with the approval of the adviser and the department.

#### **Prerequisites (or equivalent)**

- MAP 2302 Differential Equations
- EML 3034C Modeling Methods in Mechanical and Aerospace Engineering
- EAS 4134 High-Speed Aerodynamics
- EAS 4105 Flight Mechanics or EAS 4400 Spacecraft Attitude Dynamics
- EAS 4200 Flight Structures or EAS 4210 Space Structural Dynamics

#### **Required Courses—12 Credit Hours**

- EML 5060 Math Methods
- EML 5311 System Control
- EML 5271 Intermediate Dynamics,
- and one from the following classes ( EML 5237 Intermediate Mechanics, EML 5713 Intermediate Fluid Mechanics, EML 5152 Intermediate Heat Transfer)
- EAS 5407 Mechatronic Systems (3 credit hours)
  - EAS 6507 Topics of Astrodynamics (3 credit hours)
  - EML 5060 Mathematical Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
  - EML 6067 Finite Elements in Mechanical, Materials, and Aerospace Engineering I EML 5311 System Control) (3 credit hours)

#### **Elective Courses—12 Credit Hours**

All students, both thesis and nonthesis, must complete at least 12 credit hours of electives .The following list are suggested electives to be taken in the program of study.

- EAS 6403C Attitude Determination and Control (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)
- EAS 6415 Guidance, Navigation and Control (3 credit hours)
- EEL 6616 Adaptive Control (3 credit hours)
- EEL 6621 Nonlinear Control Systems (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 5211 Continuum Mechanics (3 credit hours)
- EML 6233 Fundamentals of Fatigue Analysis (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 6155 Convention Heat Transfer (3 credit hours)
- EML 6157 Radiation Heat Transfer (3 credit hours)
- EAS 6808 Space Environment and Payload Instrumentation (3 credit hours)
- EML 5311 System Control (3 credit hours
- EEL 5432 Satellite Remote Sensing (3 credit hours)
- EEL 5542 Random Processes I (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)

### **Thesis Option—6 Credit Hours**

The thesis option requires 30 credit hours, at least half of which must be at the 6000 level and will include 6 credit hours of thesis credit. A student pursuing the thesis program may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

• EAS 6971 Thesis (6 credit hours)

#### **Nonthesis Option—6 Credit Hours**

The nonthesis option is primarily designed to meet the needs of part-time students and requires 30 credit hours of course work, at least one-half of which must be at the 6000 level. Students pursuing the nonthesis option are required to take one additional elective and take either EML 6085 Research Methods in MMAE (or EAS 6918 Directed Research, with approval)\* as part of their 30-credit-hour course requirement.

- Elective (3 credit hours)
- EML 6085 Research Methods in MMAE (3 credit hours)

\*For students who are not on campus and upon prior approval from the graduate coordinator, EAS 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of EAS 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

EML 6085 and EAS 6918 fulfill the independent learning requirement and either course is required for nonthesis students.

#### INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis for the thesis option. The non-thesis option independent learning experience is provided by the required course, EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, EAS 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EAS 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

#### **APPLICATION REQUIREMENTS**

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

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (<a href="https://www.cecs.ucf.edu/prescreen">www.cecs.ucf.edu/prescreen</a>) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who

are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

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.
- Bachelor's degree in Aerospace Engineering or closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- 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 <u>World Education Services (WES)</u> or <u>Josef Silny and Associates</u>. <u>Inc.</u> only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

# **Application Deadlines**

Space Systems Design and Engineering	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	-
International Applicants	Jan 15	Jan 15	Jul 1	-
International Transfer Applicants	Jan 15	Mar 1	Sep 1	-

#### **FINANCIALS**

Graduate students may receive financial assistance through fellowships, assistantships, tuition support, or loans. For more information, see <a href="Funding for Graduate School">Funding for Graduate School</a>, which describes the types of financial assistance available at UCF and provides general guidance in planning your graduate finances. The <a href="Financial Information">Financial Information</a> 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 Fellowships, which includes descriptions of UCF fellowships and what you should do to be considered for a fellowship.

#### **Program PROFILE**

#### **Program Stats**

#### View more stats

#### Contact INFO

#### **Graduate Program**

Alain Kassab PhD

Professor

gradmmae@ucf.edu

Telephone: 407-823-5778 Engineering 313 Map

#### **Graduate Admissions**

**Admissions Counselor** 

gradadmissions@ucf.edu

Telephone: 407-823-2766 ext. 254

Millican Hall 230 Map

Online Application

**Graduate Admissions** 

Mailing Address

UCF College of Graduate Studies

Millican Hall 230

PO Box 160112

Orlando, FL 32816-0112

**Institution Codes** GRE: 5233

GMAT: RZT-HT-58 TOEFL: 5233

ETS PPI: 5233

#### **Graduate Fellowships**

**Sharon Preston** 

Telephone: 407-823-6497 LaVonda Walker Telephone: 407-823-0127 gradfellowship@ucf.edu

www.graduate.ucf.edu

#### **Graduate Financial Aid**

**UCF Student Financial Assistance** 

Millican Hall 120

Telephone: 407-823-2827 Appointment Line: 407-823-5285

Fax: 407-823-5241

# Thermofluid Aerodynamic Systems Design and Engineering

#### TRACK DESCRIPTION

The Thermofluid Aerodynamics Systems Design and Engineering track in the Aerospace Engineering MSAE program is designed to prepare students for careers as engineers in aerospace.

#### Read More ▼▲

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

### **CURRICULUM**

#### **Total Credit Hours Required:**

30 Credit Hours Minimum beyond the Bachelor's Degree

All students must identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. The program of study must be approved by the department and therefore students should consult with the MMAE Graduate Director for assistance in filling out their program of study. Both thesis and nonthesis options require 30 credit hours of courses and at least half of the credit hours in the program of study must be at the 6000 level.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program. Substitutions to the program of study must meet with the approval of the adviser and the department.

## **Prerequisites (or equivalent)**

- MAP 2302 Differential Equations
- EML 3034C Modeling Methods in Mechanical and Aerospace Engineering
- EAS 4134 High-Speed Aerodynamics
- EAS 4300 Aerothermodynamics of Propulsion Systems or EML 4703 Fluid Mechanics II
- EAS 4105 Flight Mechanics
- EML 4142 Heat Transfer

# **Required Courses—12 Credit Hours**

- EML 5060 Math Methods
- EML 5713 Intermediate Fluid Mechanics
- EML 5152 Intermediate Heat Transfer
- and one from the following classes (EML 5311 System Control, EML 5271 Intermediate Dynamics,
   EML 5237 Intermediate Mechanics)
- EAS 6138 Advanced Gas Dynamics (3 credit hours)
- EML-5060 Mathematical Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5131 Combustion Phonomena (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)

#### **Elective Courses—12 Credit Hours**

All students, both thesis and nonthesis, must complete at least 12 hours of electives from the list below after conferring with their adviser.

- EAS 5123 Intermediate Aerodynamics (3 credit hours)
- EAS 6185 Turbulent Flow (3 credit hours)
- EAS 5315 Rocket Propulsion (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 51316XXX Combustion Phenomena (3 credit hours)
- EML 6712 Viscous Flow (3 credit hours)
- EML 5402 Turbomachinery (3 credit hours)
- EML 5105 Gas Kinetics and Statistical Thermodynamics (3 credit hours)
- EML 6155 Convection Heat Transfer (3 credit hours)
- EML 6725 Computational Fluid Dynamics and Heat Transfer I (3 credit hours)

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- EAS 5302 Direct Energy Conversion (3 credit hours)
- EAS 6807 Aerospace Measurements/Instrumentation (3 credit hours)
- EML 6124 Two-Phase Flow (3 credit hours)
- EML 6726 Computational Fluid Dynamics and Heat Transfer II (3 credit hours)
- EML 6154 Conduction Heat Transfer (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 6157 Radiation Heat Transfer (3 credit hours)
- EAS 5123 Intermediate Aerodynamics (3 credit hours)
- EML 5211 Continuum Mechanics (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5532C Computer-Aided Design for Manufacture (3 credit hours)
- EML 5546 Engineering Design with Composite Materials (3 credit hours)
- EML 6547 Engineering Fracture Mechanics in Design (3 credit hours)

#### **Thesis Option—6 Credit Hours**

The thesis option requires 6 credit hours of thesis in addition to the required and elective courses listed above. A student pursuing the thesis program may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

• EAS 6971 Thesis (6 credit hours)

#### **Nonthesis Option—6 Credit Hours**

The nonthesis option is primarily designed to meet the needs of part-time students and requires one additional elective and EML 6085Research Methods in MMAE (or EAS 6918 Directed Research, with approval)\* as part of their 30-credit-hour course requirement.

- Elective (3 credit hours)
- EML 6085 Research Methods in MMAE (3 credit hours)
- \* For students who are not on campus and upon prior approval from the graduate coordinator, EAS 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of EAS 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research.

EML 6085 (or EAS 6918) fulfills the independent learning requirement for nonthesis students.

#### INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis for the thesis option. The nonthesis option independent learning experience is provided by the required course EML

6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, EAS 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EAS 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

#### **APPLICATION REQUIREMENTS**

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The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (<a href="https://www.cecs.ucf.edu/prescreen">www.cecs.ucf.edu/prescreen</a>) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

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- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor's degree in Aerospace Engineering or closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- 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 <u>World Education Services (WES)</u> or <u>Josef Silny and Associates</u>, <u>Inc.</u> only.

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#### **Application Deadlines**

Thermofluid Aerodynamic Systems Design and Engineering	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	-
International Applicants	Jan 15	Jan 15	Jul 1	-
International Transfer Applicants	Jan 15	Mar 1	Sep 1	-

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#### **Graduate Program**

Alain Kassab PhD

Professor

gradmmae@ucf.edu

Telephone: 407-823-5778 Engineering 313 Map

#### **Graduate Admissions**

Admissions Counselor

gradadmissions@ucf.edu

Telephone: 407-823-2766 ext. 254

Millican Hall 230

Online Application

Graduate Admissions

**Mailing Address** 

**UCF** College of Graduate Studies

Millican Hall 230

PO Box 160112

Orlando, FL 32816-0112

Institution Codes

GRE: 5233 GMAT: RZT-HT-58 TOEFL: 5233 ETS PPI: 5233

# **Graduate Fellowships**

**Sharon Preston** 

Telephone: 407-823-6497 **LaVonda Walker** Telephone: 407-823-0127 <u>gradfellowship@ucf.edu</u> <u>www.graduate.ucf.edu</u>

#### **Graduate Financial Aid**

**UCF Student Financial Assistance** 

Millican Hall 120 Telephone: 407-823-2827 Appointment Line: 407-823-5285

Fax: 407-823-5241 finaid@ucf.edu http://finaid.ucf.edu



# **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 this type of change.

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 <u>showing changes</u> (use Track Changes in Word).

College/Unit(s) Submitting Proposal: Engineering and Computer Science
Proposed Effective Term/Year: 2012-2013
Unit(s) Housing Program: Mechanical, Materials & Aerospace Engineering
Name of program, track and/or certificate: Mechanical Systems Track
Brief description of program (this description will show up in the graduate catalog copy): Do not add complete catalog copy here.
The Master of Science degree in Mechanical Engineering is primarily intended for students with a bachelor's degree in Mechanical or Aerospace engineering or a closely related discipline obtained from a recognized accredited institution. The program offers Computer-Aided Mechanical Engineering, Mechanical Systems, Miniature Engineering Systems, Professional, Thermofluids and Accelerated BS to MS tracks.
DELIVERY - Will program be delivered:  Face to face  Completely online  Mixed delivery  Admissions deadlines: (Please specify if you have a different deadline for the track than for the program?)
Application requirements: (Please specify if you have different application requirements for the track than for the program? Will you admit directly to the track?)
Program Director(s) and contact information: (name, email, phone, campus address, program website address)  Dr. Alain Kassab, Alain.Kassab@ucf.edu, (407) 823-5778, http://www.mmae.ucf.edu/

# Page 2 of UCF Program Recommendation Form

Plea	ase check one: this action affects a: Program 🔼 Track 🔲 Certificate	
Plea	ease check one: this action is a(n):	2
	Addition. Please proceed to Part A.	•
Z.	Revision. If a revision applies to multiple tracks, please list them here and then proceed to Part A:	
0	Inactivation	
O	Temporary Suspension of Admissions. Give Length of Suspension:	i
Tem	nporary 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	of the

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.

suspension of admissions. Currently enrolled students will not experience any issues with continued enrollment.

# Signature Page

REC	OMMENDAT Yes	TIONS	, No	Department Chair:	Date:	12/7/16
3	Yes		No	College Curriculum Committee Chair: Charles H July	Date:	4/14/12
	Yes		No	College Dean: Charles H July	Date:	4/14/12
	Yes		No.	Chair or GSC:	Date:	
	Yes		No	Dean, College of Graduate Studies:	Date:	
	ROVAL		. Vii	, Provident	,	,
PIOV	ost and exe	CULIVE	vice	President:	Date:	
						•
Distri	bution: Afte	er app	roval	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 <u>additions or revisions</u> of programs, tracks or certificates  Brief statement of rationale: (Please indicate the rationale, how it affects the unit and	d faculty teaching in and students	enrolled in the program,	track or certifica	ate.)
The revision will provide students solid underst topics covered throughout the Mechanical Syst	anding of the basic ems track.	c and broad s	pectrum	of
The revision will provide students solid under opics covered throughout the Mechanical Systems Track  students be moved from an existing program, track, or certificate into this yes state the name of the program or track where students are currently enrolled a fechanical Systems Track	· .		. •	
For Revisions: Brief listing of Program Changes: (Please indicate the changes in bullet format. If the ments, please state those changes. Remember to attach the catalog copy showing or	ere are changes to the credit hours changes, using Track Changes	s of the program, require in Word.)	: d courses or oth	ner require-
<ul> <li>Removal of EML 6067: Finite Elements I as a</li> <li>Addition of EML 5237: Intermediate Mechanic</li> <li>Require update Continuum Mechanics prefix a</li> <li>6XXX</li> </ul>	s of Materials as a	required cour from EML 52	rse 211 to El	ML
Will students be moved from an existing program, track, or certificate into this net ☐ Yes ☑ No	w program, track, or certificate?	?		
If yes, state the name of the program or track where students are currently enrolled and Mechanical Systems Track	provide a list of students if possib	ıle:		rae - *
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?	es 🛭 No			· .

1 ago 5 of GGI 1 rogium Recommendation 1	orm.			
If yes, provide the new name of the program, track, or certificat N/A	te:			
				/
Provide the name of the current program, track, or certificate: Mechanical Systems Track				
•				
When is the name change effective? Please note: A name change as of the effective date of this change.  N/A	nange will apply to the record of all studen	ts who are currently en	olled, readmitted or newly	admitted into this
		<u> </u>		<u> </u>
Will students have the option to stay in their existing progra	am, track, or certificate?	□ No		
	1			ı
If you are requesting a CIP Code change for an existing proold CIP:	ogram, track, or certificate, please prov	ide:		
new CIP:				· .
If a name change is your only revision, stop here. Otherwise	e, complete the rest of Part A.			
Part A - Continued Specify the faculty who will participate in the program, track	Cor certificate and their credentials to	<b>do so:</b> (List faculty and	a hriaf naragraph of their o	
				recentials.)
Dr. Faissal Moslehy; Dr. Yuanli Ba Raghavan; Dr. Alain Kassab; Dr. A	ii; Dr. Jihua Gou; Dr. C Ni Gordon	hengying Xu;	Dr. Seetha	
<u> </u>				
mpact of changes on students: Will current students be impac	cted by the addition or revision of a progra	ım, track or certificate? I	if so, how?	
The change should not affect stude courses will still be offered.	ents currently enrolled	in the prograi	n as their requ	ired
				1

# Page 6 of UCF Program Recommendation Form

N/A		•				;	
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n addition, provide a stat	tement of who is	s likely to enroll and	d why. Please st	ate if there is licensure	or certification that	depends upon this educa	tion, etc. Also.
owing table.	,	•		•			
I/A		·		, .			
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n addition indicate likely		-tt					
n addition, indicate likely	career or stude	nit outcomes upon	completion: (vvn	at will students do? wi	rat will their job title	s De?)	<del></del>
I/A .			•		-	•	
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Service of the servic				e trans		* * * * * * * * * * * * * * * * * * * *	
t A - Continued			·	•			
n addition or there are so	uhstantial RFV	ISIONS to existing	tracks or certific	ates niesse complete	the following table o	an financial cunnot: /Sno	nifu all forms of
istantships, fellowships, ar	nd tuition remiss	sion.)	·	atos, piedec complete	are following table t	· Intericial support: (ope	any an ionnis or
	Vo. assistantsh	ip. Source	of funds	No: fellowship 😘	No. tuition	remissions Source	of funds
	ludenis			students (specify lowship)	(da)		
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ar 2	,						

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Checklist of items to be provided:
Electronic graduate catalog copy for additions; track changes included if there are revisions. (required)
Attach all appropriate course action requests that will be necessary to implement the changes. (required)
☐ Emails showing consultation with other units. (if applicable)
If an addition, list of 1-3 students and 1-3 faculty for profiles in the graduate catalog (provide email address so Graduate Studies can contact them to write profiles and take photos). You may provide draft copy of profiles if you wish.
If an addition, what disciplines does this program, track or certificate belong to? What other UCF graduate programs, tracks, or certificates are related to it? This information will be used to provide additional links for prospective students to search in the online graduate catalog.
Part B – For inactivations or suspensions of programs, tracks, or certificates
Are students currently enrolled in the program?  Ves   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.
Required courses and electives will be offered as part of the graduate program offering for the next 3 years.  No other units are affected. These are internal MMAE tracks. Classes within these tracks are not eliminated; tracks will be consolidated in the mechanical systems track.
Sample teach out plan: Enter the terms and courses that will be taught for each term throughout the last semester. Please delete course prefixes and numbers in this section if no teach out plan is required.
Fall 2010 4 Spring 2011 8. Summer 2011 2 Fall 2011 (B) 5 Spring 2012 36 339 350
See graduate course offering
(attached 5 yr plan)
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)

Mechanical Systems - Solid Mechanics Track

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COURSE NUMBER/NAME Frequency			SP12		SP13		SP14		SP15		SP16		SP17		Current	Potential	1
ML 6xxx Continuum Mechanics	1													Req	Moslehy	Bai	1
EML 5271 Int. Dynamics	1		1		1		1		1		1		1	1,04	Moslehy	Lin, C, Xu	1
EML 5237 Int. Mechanics	1		1		1	a a	1		1		1		1	<del> </del>	Gou	Raghavan, B	
EML 5060 Math Methods	1					Ĭ,								<del> </del>	Kassab	Ragilavali, D	ar, Mosii
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ML 6296 MEMS Mechanisms	2		1				1			Unit 100 100 100 100 100 100 100 100 100 10	1	Patricular Lands and A		† <del></del>	Q. Chen	<del> </del>	1
ML 6297 MEMS Characterization	2				. 1				1				1		Q.Chen	<del> </del>	1
EML 5291 MEMS Materials	2		1				1				1				Cho	<del> </del>	1
ML 6299 Advanced Miniaturiation	2				1				1	NA CAR			1	-	Cho	<del> </del>	1
ML 6295 Sensors & Actuators (2)	2+												i	<del> </del>	- Ono	Q. Chen, C.	.i ∨
ML5292 Scaling Law All All Scales	2+							Committee of the section of	ii	فيسوع التحاقبه		Marathania .		<del></del>	<del>                                     </del>	Kapat	î
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ML 5546 Design with Composites	1.5	_		1	1	8 1		87 13.5 7			1	-		<del> </del>	Raghavan	Bai	-
EML 6547 Fracture Mechanics	2				· ·					-	'				Gou		4
ML 6233 Fatigue	2			37-7-						- 1		12 ° 1			Gordon	<b> </b>	. ·
ML 6035 Experimental Mechanics	2		1			prin rei	1			er er eng	1	* **** ( \$757		<del></del>	Gordon		j
ML 6068 Finite Element II	2+	- Variet and a contraction of the contraction of th	<u> </u>	<u> </u>	<u> </u>	Name and the second		فياتياتك وعشاب سأما				فكواستسعا	1		t	Moslehy, Go	
ML 6238 Plates and Shells	2+			100	1	4			-	-		-			-	Bai, Raghava	an ·
ML 55/2 Probablistics Methods (48.5 kg)	2+												····	<del> </del>		Bai	Į
ML-5224 Accustics	2+			- Maria 1								-		<del> </del>	<del>- </del>	Gordon, C. X	.u 1
ML 5245 Tribology	2+									•					<del>- </del>	TBD	1
ML 6062 Boundary Elements	2+		<del></del>	1.7	1				1	-			.1	<u> </u>	<del></del>	Q. Chen	1
ML 6xxx Turbomachinery Design	2+		1		<u> </u>	9	1			-	1			<del>                                     </del>	<del></del>	Kassab	1
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EML 5066 Computational Methods	2		1				1			-	1	. +	·	<del>}</del>	-	Gou	ł
MIV5228 Modal Analysis (###################################	20		1				1				1			w/thrm	Kassab		]
ML 6223 Advanced Vibrational Systems (e.g.,											1				<del> </del>	Moslehy, Jay	
ML 6226 Analytical Dynamics (* 1886) 48 34 34				43.1	1								<u> </u>			Moslehy, Jay	2
ML 6227 Non-linear Vibrations (%) Processor	24.01				<del></del>						<del></del>			<del> </del>		Moslehy, Bai	4
ML 6808 Robot Manipulators @ 2 king springer				27.	·									<del> </del>	<del> </del>	Moshley, Jay	
ML 6085 Research Methods	1		1		1		1			-	1		4	<del> </del>	<del> </del>	C. Xu, Y. Xu,	T. Das
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ML 55880 Mechanics of Biostructure II Assence	2+			) - · ·								- 11		<del>                                     </del>	+	TBD	
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Notes: Two new courses will be added to Mechanical Systems in Spring 2012 with the commitment of New Florida Grant.

Course 1: Turbomachinery Design for Mechnical Integrity and Reliability, Instructor: A. Gordon

Course 2: Turbomachinery Manufacturing, Instructor: J. Gou

# Graduate Council Curriculum Committee Course Agenda for 02-06-2012

# **Engineering & Computer Science Course Action Deletions**

EML 5605 ECS-Mechanical/Matrls/Aerosp 3(3,0)

**Applied HVAC Engineering:** PR: EML 5606; CR: EML 4142. Applications of HVAC systems design with the objective of optimizing energy efficiency, humidity control, ventilation and indoor air quality. *Spring*.

Rationale: Split level no longer requested by MMAE department.

Effect on majors: ----1/18/2012: This course is not used as a prerequisite.

# EML 5606 ECS-Mechanical/Matrls/Aerosp 3(3,0)

**HVAC Systems Engineering:** PR: EGN 3343; CR: (EML 3701 or EAS 3101), and EML 3101. Heating, ventilation, air conditioning and refrigeration principles, system design and analysis. *Fall.* Rationale: Split level option no longer requested by MMAE.

<u>Effect on majors:</u> -----1/18/2012: This course is a prerequisite for the following course, which will need a course action revision form; EML 5605

# College of Education Course Action Additions

EDP 6XXX ED-Teach, Learn & Leadership 1-6(1-6-0)

**Capstone in Applied Learning & Instruction:** PR: EDP 6213, EDP 6217, EDF 6216, or C.I. Students use critical thinking and written communication skills to integrate and apply material learned in courses in learning, instruction, and motivation. Graded S/U. Variable credit, 1-6. May be used in the degree program a maximum of 2 times. *Fall, Spring*.

27 of 30 character abbreviation: **Capstone in Ap Learn & Inst**\_\_\_

<u>Rationale:</u> Currently, completion of the requirement has been done by the program coordinator voluntarily supervising students as EDF 6918 Directed Research. Program volume necessitates the course be offered as a formal course, EDP 6XXX, which would replace EDF 6918. The new course would meet the same requirements as the previous course but allow more time with students to address the application of program content collectively and within individual directed research projects.

<u>Discussion with others:</u> There is no overlap with any other program as this course is exclusive to the ALIMA program.

Effect on majors: Applied Learning and Instruction MA

# Health & Public Affairs Course Action Additions

Tabled. Check for approval from Psychology and Education. Received approval from Education. Have not heard from Psychology.

SOW 6XXX HPA-Social Work 3(3,0)

**Core Concepts of Child and Adolescent Trauma:** PR: Graduate status or C.I. Trauma informed concepts applied to practice with children and adolescents. *Fall, Spring*.

30 of 30 character abbreviation: Core Cncpts Child &Adol Trauma

<u>Rationale:</u> Participating in national faculty learning collaborative sponsored by Fordham University and the National Center for Social Work Trauma Education and Workforce Development to train faculty on courses that focus on trauma informed practice. Two key conceptual frameworks provide the overarching organization principles: 1) the Trauma paradigm and 2) Problem-based learning. Effect on majors: Social Work, Childhood Education, Sociology, Psychology

# Engineering & Computer Science Course Action Revisions

**CAP 5512 Evolutionary Computation** 

3(3,0)

PR: CAP 4630 or <del>C.I.</del> COP 3503C or C.I.

This course covers the field of evolutionary computation, focusing on the theory and application of genetic algorithms.

#### CDA 5532 Network-Centric Computing

3(3,0)

COP 6XXX Cloud Computing

PR: Graduate standing. PR: CDA 5106 or CDA 5215 or C.I.

Concepts in network-centric computing and process coordination in information grids.

This class introduces cloud computing, infrastructure, applications, architecture, resources management, security, cloud storage systems and networks for computer clouds.

30 character abbreviation: Cloud Computing

# Health & Public Affairs Course Action Revisions

SPA 6327 Aural Habilitation/Rehabilitation 3(3,0)

PR: SPA 6204, SPA 6402. PR: Admission to Communication Sciences and Disorders master's program or C.I.

Principles and procedures involved in speech and language acquisition, management, utilization of residual hearing, speech reading, and the use of hearing aids.

# PAD 6207 Public Financial Management 3(3,0)

PR: Admission to Master of Public Administration or Master of Nonprofit Management PR: PAD 6227 and PAD 6700, or C.I.

Survey of financial management functions in local government, such as accounting, fund structures, debt and case management, and financial reporting.

<u>Rationale:</u> Adding prereq of PAD 6227: Completing PAD 6227, Public Budgeting, will improve the student's understanding of financial management in the public sector and lead to greater success in completing the course PAD 6207, Financial Management.

#### PAD 6227 Public Budgeting

3(3,0)

PR: Graduate standing or C.I. PR: PAD 6700.

Budgets as planning programming documents, stressing the relationships of policy and budgetary decisions, problems in grantsmanship and revenue decision making, program budgeting, PPBS, and incrementalism.

<u>Rationale:</u> To ensure that MPA students have correct knowledge of research methods earlier in the program for successful course completion.

# PAD 6335 Strategic Planning and Management 3(3,0)

PR: Admission to any degree or certificate program offered by the Department of Public Administration or C.I. PR: PAD 6700.

An examination and analysis of planning, goal setting, and strategic management in public sector organizations.

<u>Rationale:</u> To ensure that MPA students have correct knowledge of research methods earlier in the program for successful course completion.

Effect on majors: MPA

### PAD 6417 Human Resource Management 3(3,0)

PR: Admission to any degree or certificate by Public Administration or Criminal Justice certificate or C.I. PR: PAD 6700.

Administrator as manager and motivator of public employees with particular emphasis on organizational behavior and contemporary public service legislation.

<u>Rationale:</u> To ensure that MPA students have correct knowledge of research methods earlier in the program for successful course completion.

Effect on majors: MPA

# PAD 6700 Analytic Techniques for Public Administration I 3(3,0) Research Methods in Public Administration

PR: Admission to MPA program.

Statistical methodology and use of computers as a tool for decision making in the public sector.

22 of 30 character abbreviation: **Research Methods in PA**\_

Rationale: The changes of the name will help students identify the distinction between the two courses. PAD 6700 Research Methods in Public Administration (Currently Analytic techniques for Public Administration I) focuses on research methods and application to public policy and administration. PAD 6701 Analytic Techniques for Public Administration II focuses on quantitative and statistical methods in public policy and administration. Students are trying to keep both courses toward the end of their Masters of Public Administration (MPA) degree. We made the method course as prerequisite to additional three courses to make sure they take it as early in the program as possible. This name change and adding the method course as prerequisite will help them design their coursework accordingly and benefit from the method course earlier in the degree program. Research methods course will cover graduate level writing and academic integrity modules as well. We hope that this change will help our student in their major assignments for other courses in the program. The proposed change will impact students positively.

Effect on majors: MPA