

Cover Sheet: Request 12314

EML4147C Thermo-Heat Transfer Design and Laboratory - name change and catalog description change

Info

Process	Course Modify Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Bruce Carroll bfc@ufl.edu
Created	2/19/2018 8:54:01 AM
Updated	9/6/2018 10:42:20 AM
Description of request	Request change of catalog description, catalog name, and transcript name for the course EML4147C Thermo-Heat Transfer Design and Laboratory.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	ENG - Mechanical and Aerospace Engineering 011902000	Bruce Carroll		2/19/2018
No document changes					
College	Approved	ENG - College of Engineering	Heidi Dublin	Approved by HWCOE Curriculum Committee 4/24	4/30/2018
No document changes					
University Curriculum Committee	Commented	PV - University Curriculum Committee (UCC)	Andrew Figueroa	Added to September agenda.	8/30/2018
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			8/30/2018
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Course|Modify for request 12314

Info

Request: EML4147C Thermo-Heat Transfer Design and Laboratory - name change and catalog description change

Description of request: Request change of catalog description, catalog name, and transcript name for the course EML4147C Thermo-Heat Transfer Design and Laboratory.

Submitter: Bruce Carroll bfc@ufl.edu

Created: 2/19/2018 8:37:25 AM

Form version: 1

Responses

Current Prefix

Enter the current three letter code (e.g., POS, ATR, ENC).

Response:

EML

Course Level

Select the current one digit code preceding the course number that indicates the course level at which the course is taught (e.g., 1=freshman, 2=sophomore, etc.).

Response:

4

Number

Enter the current three digit code indicating the specific content of the course based on the SCNS taxonomy and course equivalency profiles.

Response:

147

Lab Code

Enter the current lab code. This code indicates whether the course is lecture only (None), lab only (L), or a combined lecture and lab (C).

Response:

C

Course Title

Enter the current title of the course as it appears in the Academic Catalog.

Response:

Thermo-Heat Transfer Design and Laboratory

Effective Term

Select the requested term that the course change(s) will first be implemented. Selecting "Earliest" will allow the change to be effective in the earliest term after SCNS approval. If a specific term and year are selected, this should reflect the department's expectations. Courses cannot be changed retroactively, and therefore the actual

effective term cannot be prior to SCNS approval, which must be obtained prior to the first day of classes for the effective term. SCNS approval typically requires at least 6 weeks after approval of the course change at UF.

Response:
Earliest Available

Effective Year

Select the requested year that the course change will first be implemented. See preceding item for further information.

Response:
Earliest Available

Requested Action

Indicate whether the change is for termination of the course or any other change. If the latter is selected, all of the following items must be completed for any requested change.

Response:
Other (selecting this option opens additional form fields below)

Change Course Prefix?

Response:
No

Change Course Level?

Note that a change in course level requires submission of a course syllabus.

Response:
No

Change Course Number?

Response:
No

Change Lab Code?

Note that a change in lab code requires submission of a course syllabus.

Response:
No

Change Course Title?

Response:
Yes

Current Course Title

Response:
Thermo-Heat Transfer Design and Laboratory

Proposed Course Title

Response:
Thermal Sciences Design and Laboratory

Change Transcript Title?

Response:
Yes

Current Transcript Title

Response:
Thermo-Heat Des/Lab

Proposed Transcript Title (21 char. max)

Response:
Thermal Sci Des/Lab

Change Credit Hours?

Note that a change in credit hours requires submission of a course syllabus.

Response:
No

Change Variable Credit?

Note that a change in variable credit status requires submission of a course syllabus.

Response:
No

Change S/U Only?

Response:
No

Change Contact Type?

Response:
No

Change Rotating Topic Designation?

Response:
No

Change Repeatable Credit?

Note that a change in repeatable credit status requires submission of a course syllabus.

Response:
No

Maximum Repeatable Credits

Enter the maximum credits a student may accrue by repeating this course.

Response:
0

Change Course Description?

Note that a change in course description requires submission of a course syllabus.

Response:
Yes

Current Course Description

Response:
Thermodynamics and heat transfer integrated with design and laboratory, including heat exchange design, phase-change heat transfer, thermodynamics of mixtures, psychometry, mass transfer and sensible heat recovery.

Proposed Course Description (50 words max)

Response:

Thermodynamics, fluid mechanics, and heat transfer integrated with design and laboratory.

Change Prerequisites?

Response:

Yes

Current Prerequisites

Response:

EML3100, EML3301C and EML4140

Proposed Prerequisites

Response:

EML3100(C), EML3301C and EML4140

Change Co-requisites?

Response:

No

Rationale

Please explain the rationale for the requested change.

Response:

Topics from fluid mechanics are being added to the existing topics from thermodynamics and heat-transfer. This change gives the course broader coverage of topics in the thermal sciences. This is reflected in the name change and catalog description changes. The prerequisite change adds the requirement of a C or better in the course EML3100 to make this course consistent with the rest of the mechanical engineering curriculum. Note that the mechanical engineering curriculum already requires the C or better in EML3100.

Thermal Sciences Design and Laboratory

EML4147C

Class Periods: T R 3rd Period, Lab Period varies by section

Class Location: MAE-A 303

Academic Term: Spring 2018

Instructor:

John Abbitt

jda@ufl.edu

352-392-7557

Office Hours: MW 1 to 2:30 pm

Teaching Assistants:

TA to be determined

Course Description

Thermodynamics, fluid mechanics, and heat transfer integrated with design and laboratory. Credits: 3

Course Pre-Requisites / Co-Requisites

EML3100 with minimum grade of C, EML3301C, and EML4140

Course Objectives

The goal of this course is to provide an intermediate level coverage of thermodynamic, fluid mechanic, and heat transfer topics integrated with design and laboratory experiences. Specific objectives of the course are for students to:

- apply knowledge of mathematics, science, and engineering
- design and conduct experiments, as well as analyze and interpret data
- design a system, component, or process to meet desired needs
- function on multi-disciplinary teams
- identify, formulate, and solve engineering problems
- communicate effectively
- recognize the need for and engage in lifelong learning
- use the techniques, skills, and modern engineering tools necessary for engineering practice.

The objectives will be achieved through:

- In class lectures and examples
- Interactive classroom activities
- Student completion of homework
- Student completion of laboratory experiments
- Student completion of a major project
- Student completion of written reports
- Student participation in team activities.

Materials and Supply Fees: \$238.50

Required Textbooks and Software

Materials developed by the instructor will be made available to students (no charge to student – pdf downloads from class web site)

Course Schedule

Week 1: Introduction to course

Week 2: Lab 1: Experimental determination of pipe friction factor

Week 3: Overview of instrumentation of fluid flow measurement

Week 4: **Lab Report 1 Due**, Calibration techniques

Week 5: Psychometric charts, multi-phase thermodynamics theory

Week 6: Lab 2: Cooling tower experiments

Week 7: Instrumentation for heat transfer measurements

Week 8: **Exam 1, Lab Report 2 Due**,

Week 9: Lab 3: Boiling heat transfer experiment, Computer based data acquisition and data analysis

Week 10: Turbomachinery design theory

Week 11: Continuation of turbomachinery theory, Computational tools for design

Week 12: **Lab Report 3 Due**, Preliminary Design Report Due

Week 13: Fabrication of design component

Week 14: **Exam 2**, Experimental verification of design

Week 15: **Final Design Report Due**, Oral Presentations

Week 16: No Class or Lab, No final exam

Evaluation of Grades

Assignment	Percentage of Final Grade
Homework	5%
Exam 1	20%
Exam 2	20%
Lab Reports	35%
Prelim Design Report	5%
Final Design Report	10%
Oral Presentation	5%
	100%

Grading Policy

Percent	Grade	Grade Points
93.4 - 100	A	4.00
90.0 - 93.3	A-	3.67
86.7 - 89.9	B+	3.33
83.4 - 86.6	B	3.00
80.0 - 83.3	B-	2.67
76.7 - 79.9	C+	2.33
73.4 - 76.6	C	2.00
70.0 - 73.3	C-	1.67
66.7 - 69.9	D+	1.33
63.4 - 66.6	D	1.00
60.0 - 63.3	D-	0.67
0 - 59.9	E	0.00

More information on UF grading policy may be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Attendance Policy and Make-Up Policy

Class attendance is expected. Unexcused absence of a lab period will result in a grade of zero for that experiment. Excused absences are consistent with university policies in the undergraduate catalog and require appropriate documentation (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>).

Make-up work is allowed for excused absences. Students must contact the instructor to make arrangements for make-up work.

Students Requiring Accommodations

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter to present to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu/evals>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

Class Demeanor

Students are expected to arrive to class on time and behave in a manner that is respectful to the instructor and to fellow students.

University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. A violation of the honor code will result in academic sanctions (typically a failing grade assigned for the course) and further disciplinary action. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

Campus Resources:

Health and Wellness

U Matter, We Care:

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for

one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)
Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.
<https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling.
<https://www.crc.ufl.edu/>.

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.
<https://teachingcenter.ufl.edu/>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.
<https://writing.ufl.edu/writing-studio/>.

Student Complaints Campus: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.

On-Line Students Complaints: <http://www.distance.ufl.edu/student-complaint-process>.