

Cover Sheet: Request 12081

Course Change CGN 3421

Info

Process	Course Modify Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Robert Thieke robert.thieke@essie.ufl.edu
Created	11/21/2017 9:47:44 AM
Updated	1/25/2018 4:06:17 PM
Description of request	Reduction in credit hours from 4 credits to 3. Inclusion of course prerequisite COP 2271 and co-requisite MAP 2302.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	ENG - Civil and Coastal Engineering 011904000	Robert Thieke		11/21/2017
CGN 3421 Syllabus Computer Methods in Civil Engineering.pdf					11/21/2017
College	Approved	ENG - College of Engineering	Heidi Dublin		1/5/2018
No document changes					
University Curriculum Committee	Recycled	PV - University Curriculum Committee (UCC)	Casey Griffith	Recycled at request of H. Dublin	1/5/2018
No document changes					
College	Approved	ENG - College of Engineering	Heidi Dublin		1/25/2018
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			1/25/2018
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 12081

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Request: Course Change CGN 3421

Description of request: Reduction in credit hours from 4 credits to 3. Inclusion of course prerequisite COP 2271 and co-requisite MAP 2302.

Submitter: Robert Thieke robert.thieke@essie.ufl.edu

Created: 11/21/2017 9:41:10 AM

Form version: 1

Responses

Current Prefix CGN

Course Level 3

Number 421

Lab Code None

Course Title Computer Methods in Civil Engineering

Effective Term Fall

Effective Year 2018

Requested Action Other (selecting this option opens additional form fields below)

Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? No

Change Course Title? No

Change Transcript Title? No

Change Credit Hours? Yes

Current Credit Hours 4

Proposed Credit Hours 3

Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Maximum Repeatable Credits 0

Change Course Description? Yes

Current Course Description Computer programming, use of computers, numerical methods as applied to civil engineering problems, and civil engineering software.

Proposed Course Description (50 words max) Review of computer programming. Numerical methods as applied to civil engineering problems and civil engineering software.

Change Prerequisites? Yes

Current Prerequisites 3EG classification

Proposed Prerequisites COP 2271

Change Co-requisites? Yes

Current Co-requisites None

Proposed Co-requisites MAP 2302

Rationale Course will now be preceded by a required class in computer programming (COP 2271); more emphasis will be placed on numerical solution techniques and so a background in differential equations will be needed.

Computer Methods in Civil Engineering
CGN 3421 Section 0860

Class Periods: M,W,F Lecture Period 5 (11:45 AM – 12:35 PM),
W Lab Period 8-10 (3:00 PM – 6:00 PM)
Section 2818 - 3:00 PM - 4:25 PM
Section 286B - 4:35 PM - 6:00 PM
Location: FLG 0270 (Lecture), FLG 0260 (Lab)
Academic Term: Fall 2017

Instructor:

Mr. Randal (Randy) Switt
randy.switt@essie.ufl.edu
(352) 392-3533
218 Black Hall
Office Hours: Fridays, 9:30 – 11:00 AM, 221 Black Hall

Teaching Assistants:

Please contact through the Canvas website

- Jason Lopez
- Nicholas Rajcoomar (nrajcoomar@ufl.edu | Cell: 813-420-6255)
 - **Office Hours: Mondays and Thursdays, 11:45 - 12:45 PM, 170 Weil Hall**
- Thomas Truchement

Course Description

Computer programming, use of computers, numerical methods as applied to civil engineering problems, and civil engineering software. Credits: 4 *(to be changed to 3)*

Pre-Requisites: 3EG classification. *(Add COP2271)*

Co-requisite: None. *(Add MAP 2302)*

Course Objectives

This course will introduce the fundamentals of structured programming and numerical solution methods for solving natural and engineered systems. After initial familiarization with beginning programming concepts, we will apply those skills to developing programs to implement several numerical solution techniques.

Materials and Supply Fees: N/A

Professional Component (ABET):

The course introduces and reinforces computer and programming skills needed for Civil Engineering practice, as well as introducing numerical methods applicable to a wide range of areas of research and practice in Civil Engineering. These tools are applicable in subsequent laboratory, analysis and design classes in the required B.S. curriculum and potentially in graduate study. General problem-solving skills are also developed and refined.

Relation to Program Outcomes (ABET):

Outcome	Coverage*
a. Apply knowledge	Medium
b. Conduct experiments	
c. Design	
d. Function on teams	
e. Solve problems	Medium
f. Professional and ethical responsibility	
g. Communicate	Low
h. Global, societal, and environmental impact	
i. Lifelong learning	
j. Contemporary issues	
k. State-of-the-art techniques, skills, and tools	High

*Coverage is given as high, medium, or low. An empty box indicates that this outcome is not part of the course

Required Textbooks and Software

- Laptop Computer (preferably Windows based). Bring to Class!
- Microsoft Excel (for Windows!) 2010 or later.
 - Latest version (2016) available to all students via Office 365
 - Mac users can run MS Excel for Windows via Parallels or through <http://apps.ufl.edu> (Links to an external site.)Links to an external site.

Recommended Materials

Numerical Methods for Engineers
Chapra, S.C. and Canale, R.P.
2nd edition or later
978-0-07-340106-5

Course Schedule (*note, this has been updated to reflect changes due to Hurricane Irma*)

Weeks 1-8: Introduction to Structured Programming
Week 9: Exam 1 (3-6 PM, 10/18/2017)
Weeks 9-15: Introduction to Numerical Solutions
Week 15: Exam 2 (3-6 PM, 12/6/2017)

Attendance Policy, Class Expectations, and Make-Up Policy

Class attendance is not mandatory, however there will be in-class assignments that will contribute towards your total class grade and are due by the end of the class period. It is expected that students will bring a *fully-charged* laptop to class meetings, and they will be utilized for the in-class assignments.

Cell phones, laptops, and other external resources may not be used during class or exams except as otherwise directed by the assignment/exam instructions or the instructor. Late assignments (other than in-class assignments) will be accepted up to 5 days (in most cases, check the individual assignment) past the due date for a maximum of 2/3 credit. If appropriate extenuating circumstances cause a student to miss a scheduled exam date, the student must obtain approval from and arrange (ahead of time whenever possible) with the Instructor for a make-up exam date.

Excused absences must be consistent with university policies in the undergraduate catalog (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) and require appropriate documentation.

Evaluation of Grades

Assignment	Total Points	Percentage of Final Grade
Lab and Take Home Assignments	3 each	35%
Exam 1	100	30%
Exam 2	100	35%
		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>

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 which must be presented 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/>.

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. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

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:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

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>.

Course Schedule:

Date	Details
Sun Aug 27, 2017	Lab #1 - Familiarization with Excel and VBA due by 11:59pm
Fri Sep 1, 2017	Assignment #2 - Complete VBA Lesson 1 (attached) due by 11:59pm Lab #2 - Flowcharts and Pseudocode due by 11:59pm
Mon Sep 4, 2017	Assignment #1 - Flowcharts and Pseudocode due by 11:59pm
Tue Sep 19, 2017	Lab #3 - Sequence and Selection due by 11:59pm
Sun Sep 24, 2017	Assignment #3 - Decision Program Practice due by 11:59pm
Tue Sep 26, 2017	Lab #4 - Input/Output due by 11:59pm
Tue Oct 3, 2017	Lab #5 - Loops due by 11:59pm
Tue Oct 10, 2017	Lab #6 - Arrays due by 11:59pm
Wed Oct 11, 2017	Exam 1 3pm to 6pm
Sun Oct 15, 2017	Lab #7 - Functions and Subroutines due by 11:59pm
Wed Oct 18, 2017	Exam 1 Part 1 due by 4pm Exam 1 Part 2 due by 4:30pm (CGN3421-2818) due by 4:30pm

Date	Details
Tue Oct 24, 2017	Exam 1 Part 2 Makeup due by 3:10pm
Tue Oct 31, 2017	BONUS Lab 1 (post Exam 1) due by 11:59pm Lab # 8 - Numerical Solutions of ODEs due by 11:59pm Lab #9 - Taylor Series and Finite Difference Approximations due by 11:59pm
Tue Nov 7, 2017	Lab #10 - Round Off errors and Root Finding due by 11:59pm
Wed Nov 15, 2017	Lab #11 - Linear Algebra due by 11:59pm
Tue Nov 21, 2017	Lab #12 - Systems of Equations due by 11:59pm
Sun Dec 3, 2017	Lab #13 - Runge-Kutta Methods due by 11:59pm
Wed Dec 6, 2017	Exam 2 Part 1 due by 6pm Exam 2 part 2 due by 7:25pm