Cover Sheet: Request 12259

EGN 2XXXC Engineering Design & Society

Info

Process	Course|New|Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Johannes Van Oostrom oostrom@ufl.edu
Created	1/29/2018 10:38:22 AM
Updated	2/16/2018 10:02:50 AM
Description of request	A new general engineering course request

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	ENG - Engineering - General 011940001	Johannes Van Oostrom		1/29/2018
No document changes					
College	Approved	ENG - College of Engineering	Heidi Dublin	Approved by HWCOE Curriculum Committee and Faculty Council.	2/16/2018
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			2/16/2018
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|New for request 12259

Info

Request: EGN 2XXXC Engineering Design & Society
Description of request: A new general engineering course request
Submitter: Johannes Van Oostrom oostrom@ufl.edu
Created: 1/29/2018 10:29:52 AM
Form version: 1

Responses

Recommended Prefix EGN
Course Level 2
Number XXX
Category of Instruction Introductory
Lab Code C
Course Title Engineering Design & Society
Transcript Title ENG DESIGN & SOCIETY
Degree Type Baccalaureate

Delivery Method(s) On-Campus
Co-Listing No
Co-Listing Explanation Why is this required if Co-Listing=No
Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 2

S/U Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 3
Course Description An introductory engineering course emphasizing the human-centered design process to address a societal challenge. Exploration of solid modeling, introductory programming, sensors, data acquisition, and 3D printing as maker tools for engineering prototyping. Teams will utilize multidisciplinary approaches, project management, written and oral communication skills in creating a societal-based design.
Prerequisites None
Co-requisites None
Rationale and Placement in Curriculum This course introduces engineering design early in the curriculum. The goal is for students to use what they learn in this course throughout their studies and to keep them interested in engineering by offering engineering contents early.
Course Objectives (i) Understand and practice the human-centered engineering design process for a societal based project.
(ii) Learn techniques to solve open-ended engineering challenges.
(iii) Promote a culture of making by introducing solid modeling, programming, sensors, data acquisition, 3D printing, and other maker tools.
(iv) Build teamwork and cooperative learning skills through participation in multidisciplinary teams and active engineering project management.
(v) Build professional skills in background research & written, pictorial, and oral communication methods.
(vi) Raise awareness of ethics and contemporary issues in engineering design related to a global society.
(vii) Introduce engineering students to the various engineering majors and their roles within society.
(viii) Inform students of opportunities for experiential learning related to their majors throughout the

college of engineering and UF community.

Course Textbook(s) and/or Other Assigned Reading • Microcontroller Based Kit: a specific one will be required by each student individually as the course textbook, with relevant engineering sensors, actuators, etc. for items used across multiple engineering majors, about $80, an example of a typical kit that might be used is:
https://www.amazon.com/gp/product/B009UKZV0A/ref=oh_aui_detailpage_o01_s00?ie=UTF8&psc=1

• Will work with bookstore to ensure in-person purchasing options in addition to online purchasing options

Weekly Schedule of Topics week online lectures (1 hour) laboratory classroom (3 hours)
1 engineering majors and impact on society makerspace classroom intro, safety, tools, hands-on stations, laboratory notebook use
2 design thinking, engineering design process, constraints, iteration, prototyping
meet peer mentors, individual build activity with non-traditional materials using design process
3 working in multidisciplinary teams, using UF library for scientific journal articles, engineering memos team reveals, ice breaker activity, team design mini-challenge, team charter work
4 solid modeling in design, Onshape solid modeling online training Onshape team mini-design project (sketch, dimension, model)
5 3D printing and additive manufacturing applications to society 3D printers use @ team tables mini-print, training for scheduling and use for term
6 engineering sensors & microcontrollers for making applications across majors
microcontroller kits, breadboards, sensors, 2 individual mini-builds during class
7 programming in microcontroller environment microcontroller programming practice & 3D printing practice
8 team communication, comfort with open-ended questions, project management, knowing end users final project reveal, team brainstorming activity
9 design constraints, ethics in design, designing for life-cycle and environment
team brainstorming of project design
10 engineering design reports, functional prototype information active project build with faculty and peer mentors
11 pictorial communication, verbal communication, elevator pitches active project build with faculty and peer mentors
12 global environment & contemporary design issues active project build with faculty and peer mentors
13 final presentations, peer assessments active presentation help with faculty and peer mentors
14 personal branding and professionalism active project build with faculty and peer mentors
15 experiential learning opportunities in Herbert Wertheim College of Engineering
group design elevator pitch presentations

Links and Policies Attendance Policy, Class Expectations, and Make-Up Policy
Attendance for weekly laboratory meetings is expected. Failure in regular attendance may result in deductions to Peer Evaluation & Participation portion of grade. Contact your instructor if you have an excused absence to work out a plan to make up the work. 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.

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:
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.

Grading Scheme	Assignment	Total Points	Percentage of Final Grade
Homework & Surveys		40	40%
Peer Evaluation & Participation		10	10%
Presentations	15	15%	
Final Design Report	35	35%	
	100%		

Instructor(s) Engineering faculty member, TBD.