

Cover Sheet: Request 11287

EGN 2XXX Fundamentals of the New Engineer

Info

Process	Course New Ugrad/Pro
Status	Pending
Submitter	van Oostrom,Hans oostrom@ufl.edu
Created	11/10/2016 1:34:50 PM
Updated	12/2/2016 9:48:20 AM
Description of request	To create a course at the college level to formally train students in the attributes of a gator engineer.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	ENG - Engineering - General 011940001	van Oostrom, Hans		11/18/2016
Added Fundamentals of New Engineer Syllabus.doc					11/10/2016
College	Approved	ENG - College of Engineering	Caple, Elizabeth		12/2/2016
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			12/2/2016
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 11287

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Request: EGN 2XXX Fundamentals of the New Engineer

Description of request: To create a course at the college level to formally train students in the attributes of a gator engineer.

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Form version: 1

Responses

Recommended PrefixEGN

Course Level 2

Number XXX

Category of Instruction Introductory

Lab Code None

Course TitleFundamentals of the New Engineer

Transcript TitleFundamentals New Eng

Degree TypeBaccalaureate

Delivery Method(s)On-Campus

Online

Co-ListingNo

Effective Term Earliest Available

Effective YearEarliest Available

Rotating Topic?No

Repeatable Credit?No

Amount of Credit3

S/U Only?No

Contact Type Regularly Scheduled

Weekly Contact Hours 3

Course Description Fundamentals of the New Engineer introduces students to key attributes of 21st century engineering leaders and innovators. Student learn concepts and practice of engineering leadership and innovation through study of the "Attributes of a New Engineer"; Creativity, Leadership, Integrity, Professional Excellence, and Service to the Global Community.

Prerequisites None

Co-requisites None

Rationale and Placement in Curriculum Established in 2010 as part of the Herbert Wertheim College of Engineering's (HWCOE) centennial celebration, the Attributes of a New Engineer embody the college's expectations of all HWCOE students and faculty. The New Engineer exemplifies the spirit of engineering innovators and leaders who are changing the world in ways and timeframes unimaginable only a few years ago. The New Engineer internalizes key attributes that set them apart from their peers in serving their profession and the world.

This course will be an elective course for all engineering students and enhances their lower division engineering experience.

Course Objectives • Students will gain and demonstrate an understanding of the role of the Engineering Innovator and Leader in the Innovation Economy through quizzes and assignments that assess understanding of the materials presented.

- Students will learn and demonstrate their understanding of the key attributes that define the New Engineer through quizzes and assignments that assess understanding of the materials presented.
- Students will demonstrate awareness of pertinent resources within and outside of UF that support them in creating a personalized plan to develop their own Attributes of a New Engineer through design and defense of a New Engineer Development Plan that provides a pathway for each individual student to develop the attributes and skills described in the course during their time at UF.

Course Textbook(s) and/or Other Assigned Reading Instructor notes and free handouts related to the course topics will be provided on the Canvas course website. Students will have additional reading and viewing (e.g. video) assignments and materials from current events related to the course topics that will be posted in the detailed course schedule provided by the instructor through the Canvas course website as the semester progresses.

Weekly Schedule of Topics 1

Course Overview: Explanation of course requirements and structure; Introduction to the Attributes of the New Engineer - the Engineering Leader and Innovator that Changes the World.

2

The Role and Impact of the New Engineer: Evolution of the New Engineer and their impact to and role in the world today and in the future; Engineers and their responsibilities to and interaction with myriad professional disciplines of the Innovation Economy; Engineering Megatrends driven by Engineering Innovators and Leaders.

3-4

New Engineer Attribute Creativity: Imaginative, versatile, resourceful, artful, curious, passionate, inspired, innovative, willing to discover new solutions and to explore all options.

5-6

New Engineer Attribute Leadership: Visionary, professional, skilled communicator, engaged and committed, entrepreneurial, inspiring, fair, mission-guided, caring, willing to delegate, sound perspective, sense of humor, positive attitude, confident, strong intuition, thoughtful.

7-8

New Engineer Attribute Integrity: Honest, ethical, willing to work for achievements (persistent, hard-working, determined), impelled toward right action, trustworthy, humble, inspires integrity in others.

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New Engineer Development Plan – Mid-term Presentations by Students.

10-11

New Engineer Attribute Professional Excellence: Technically competent, skilled in management and planning, problem-solving, scientifically insightful.

12-13

New Engineer Attribute Service to the Global Community - Humanitarianism: Tolerant, respectful, socially conscious, selfless, interdependent, cooperative, willing to nurture and serve community, mentoring, compassionate.

14-15

New Engineer Attribute Service to the Global Community – Global Awareness: Aware of

interactions of financial, societal, legal, and cultural influences, diverse, world-changing.

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New Engineer Development Plan –Final Presentations by Students.

Links and PoliciesNone

Grading Scheme Assignment (All individual)

Attribute Quizzes (Five Total – One per Attribute) 50%

New Engineer Development Plan Midterm Presentation 25%

New Engineer Development Plan Final Presentation 25%

Instructor(s) Eric Sander

Fundamentals of the New Engineer EGS2XXX

Instructor:

Erik Sander, Director, Engineering Innovation Institute
University of Florida Herbert Wertheim College of Engineering
E-mail address: esander@ufl.edu
Office Phone: 352-392-7047
Office location: Weil Hall Room 311
Office hours: By appointment
Web site: UF course Canvas web site

Teaching Assistant:

No teaching assistant

Course Description:

Fundamentals of the New Engineer introduces students to key attributes of 21st century engineering leaders and innovators. Student learn concepts and practice of engineering leadership and innovation through study of the “Attributes of a New Engineer”; Creativity, Leadership, Integrity, Professional Excellence, and Service to the Global Community. 3 Credit Hours.

Course Pre-Requisites/Co-Requisites:

None

Course Objectives:

Established in 2010 as part of the Herbert Wertheim College of Engineering’s (HWCOE) centennial celebration, the Attributes of a New Engineer embody the college’s expectations of all HWCOE students and faculty. The New Engineer exemplifies the spirit of engineering innovators and leaders who are changing the world in ways and timeframes unimaginable only a few years ago. The New Engineer internalizes key attributes that set them apart from their peers in serving their profession and the world. These Attributes of the New Engineer include:

- Creativity: Imaginative, versatile, resourceful, artful, curious, passionate, inspired, innovative, willing to discover new solutions and to explore all options.
- Leadership: Visionary, professional, skilled communicator, engaged and committed, entrepreneurial, inspiring, fair, mission-guided, caring, willing to delegate, sound perspective, sense of humor, positive attitude, confident, strong intuition, thoughtful.
- Integrity: Honest, ethical, willing to work for achievements (persistent, hard-working, determined), impelled toward right action, trustworthy, humble, inspires integrity in others.
- Professional Excellence: Technically competent, skilled in management and planning, problem-solving, scientifically insightful.
- Service to the Global Community

- Humanitarianism: Tolerant, respectful, socially conscious, selfless, interdependent, cooperative, willing to nurture and serve community, mentoring, compassionate.
- Global Awareness: Aware of interactions of financial, societal, legal, and cultural influences, diverse, world-changing.

The Learning Objectives and how those objectives will be accomplished include:

- Students will gain and demonstrate an understanding of the role of the Engineering Innovator and Leader in the Innovation Economy through quizzes and assignments that assess understanding of the materials presented.
- Students will learn and demonstrate their understanding of the key attributes that define the New Engineer through quizzes and assignments that assess understanding of the materials presented.
- Students will demonstrate awareness of pertinent resources within and outside of UF that support them in creating a personalized plan to develop their own Attributes of a New Engineer through design and defense of a New Engineer Development Plan that provides a pathway for each individual student to develop the attributes and skills described in the course during their time at UF.

Upon completion of Fundamentals of the New Engineer, students will have started to understand the foundational attributes of the New Engineer, and will have developed a roadmap to develop these critical attributes and skills during their time at UF. These attributes and skills will serve them well in defining them as Engineering Innovators and Leaders differentiated from their peers and highly valued and successful in myriad careers ranging from entrepreneur in a startup venture to working in a corporate enterprise, government agency, non-profit or elsewhere.

Material and Supply Fees:

Not applicable

Required Textbooks and Software:

Instructor notes and free handouts related to the course topics will be provided on the Canvas course website. Students will have additional reading and viewing (e.g. video) assignments and materials from current events related to the course topics that will be posted in the detailed course schedule provided by the instructor through the Canvas course website as the semester progresses.

Recommended Materials:

None

Course Schedule:

The course will be delivered weekly typically through three hours of lecture overviews of the weekly topic by the instructor, presentations and interviews facilitated by the instructor with guest engineering leaders and innovators that exemplify the New Engineer, and student presentations of their New Engineer Development Plan that each student will be required to produce. The course is firmly presented in an experiential

learning “real-world” format. Students will be tested on materials presented and required to produce a New Engineer Development Plan, which outlines a personal plan to explore, develop, and exercise their personal Attributes of a New Engineer during their time at the University of Florida.

The outline of expected topics to be covered each week is summarized below. Weekly topics, as well as dates for assignments, quizzes, and exams are subject to change at the course instructor’s discretion. Students will have continuous access via Canvas to an updated course schedule that outlines the expected coverage of topics each week, the reading and viewing requirements for that week, and assignment / quiz / exam requirements. Additionally, students will be provided via the Canvas course website with UF and external resources that allow them to learn more about and develop the Attributes of the New Engineer studied in the course.

Week	General Topics
1	<u>Course Overview</u> : Explanation of course requirements and structure; Introduction to the Attributes of the New Engineer - the Engineering Leader and Innovator that Changes the World.
2	<u>The Role and Impact of the New Engineer</u> : Evolution of the New Engineer and their impact to and role in the world today and in the future; Engineers and their responsibilities to and interaction with myriad professional disciplines of the Innovation Economy; Engineering Megatrends driven by Engineering Innovators and Leaders.
3-4	<u>New Engineer Attribute Creativity</u> : Imaginative, versatile, resourceful, artful, curious, passionate, inspired, innovative, willing to discover new solutions and to explore all options.
5-6	<u>New Engineer Attribute Leadership</u> : Visionary, professional, skilled communicator, engaged and committed, entrepreneurial, inspiring, fair, mission-guided, caring, willing to delegate, sound perspective, sense of humor, positive attitude, confident, strong intuition, thoughtful.
7-8	<u>New Engineer Attribute Integrity</u> : Honest, ethical, willing to work for achievements (persistent, hard-working, determined), impelled toward right action, trustworthy, humble, inspires integrity in others.
9	<u>New Engineer Development Plan – Mid-term Presentations by Students.</u>
10-11	<u>New Engineer Attribute Professional Excellence</u> : Technically competent, skilled in management and planning, problem-solving, scientifically insightful.
12-13	<u>New Engineer Attribute Service to the Global Community - Humanitarianism</u> : Tolerant, respectful, socially conscious, selfless,

interdependent, cooperative, willing to nurture and serve community, mentoring, compassionate.

14-15 New Engineer Attribute Service to the Global Community – Global Awareness: Aware of interactions of financial, societal, legal, and cultural influences, diverse, world-changing.

16 New Engineer Development Plan –Final Presentations by Students.

Attendance Policy, Class Expectations, and Make-Up Policy:

For on-campus students, attendance at all class sessions is strongly encouraged as mastery of materials presented along with materials posted on the course Canvas site will be assessed through the quizzes. On-line students will need to view all weekly sessions and posted materials for the same reason.

On-campus students are expected to arrive to class on time and to remain in class through completion. Students are expected to come to class prepared, including completion of all assigned readings and/or viewings, to actively participate in class discussions and activities.

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

Excessive student use of electronic devices during class sessions for non-class purposes, at the instructor's discretion, is prohibited.

Except in rare circumstances at the discretion of the instructor and subject to the policies of the undergraduate catalogue, 1) assignments are to be submitted via Canvas by the stated deadline, 2) late submissions will not be accepted, 3) no credit will be given for late assignments or quizzes and, 4) no-make-up assignments or quizzes will be accepted.

Evaluation of Grades:

Students will be required to individually take one on-line quiz per attribute (Creativity, Leadership, Integrity, Professional Excellence, and Service to the Global Community) for a total of 5 quizzes to demonstrate their grasp of the information presented in the weekly lectures and other assigned materials for each topic. These quizzes will be administered and graded through the Canvas class website throughout the semester following weekly presentations of the relevant attribute.

Each student will also be required to design and present an individualized New Engineer Development Plan (NEDP) that outlines the individual students' actions that they plan to take, and associated self-assessment plan, during their time at UF to best prepare themselves as a New Engineer. The NEDP requirements will be explained at the outset of the course and each student will be required to present and defend their NEDP at one

Midterm and one Final Presentation. The instructor will provide written expectations of the NEDP, the NEDP format, grading rubric, and an inventory of resources within and outside of UF to assist the student in preparing their NEDP.

Assignment (All individual)	Total Points	Percentage of Final Grade
Attribute Quizzes (Five Total – One per Attribute)	20 each	50%
New Engineer Development Plan Midterm Presentation	50	25%
New Engineer Development Plan Final Presentation	50	25%
	200	100%

Grading Policy:

The grade scale for the student total weighted class score is:

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, if any, 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>.