

# EGR 590 Course Syllabus

## EGR 590 – Engineering Education Content, Assessment and Pedagogy

Fall 2020

3 Credit Hours

### Course Description

This course in engineering education focuses on course design or redesign as an engineering design problem. Areas covered will be writing learning outcomes that link to specific course goals, how to establish course goals (explicit and implicit), ways to assess whether learning outcomes and course goals are being met, and innovative pedagogical approaches, including online and blended learning. Topical areas will be supported with readings from

### Learning Outcomes

the engineering education literature.

By the end of the course students should be able to:

- Create learning goals and objectives for a new course that they plan to teach.
- Evaluate where the course they are teaching falls in an entire course of study and understand its importance.
- Identify how diverse characteristics of learners interact with course objectives (including principles of universal design)
- Identify skills that students need to participate in a course and how to ensure that students have those skills
- Classify and formulate learning objectives for redesigning an existing course
- Create assessments that effectively measure student learning relative to course objectives
- Interpret current trends and literature in engineering education

### Course Structure

The course will be interactive, discussion-based and participatory. All students are expected to participate in class discussions and on-line discussion boards. For discussion boards, unless otherwise specified, students are asked to post at least once and comment on the posts of at least two others.

I consider this classroom to be a place where you will be treated with respect, and I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability – and other visible and nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the class.

I will gladly honor your request to address you by an alternate name or gender pronoun. As you are comfortable, please advise me of this preference so that I may make appropriate changes to my records.

*Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Pack Essentials program (<https://dasa.ncsu.edu/pack-essentials/>) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable her to provide any resources that she may have access to.*

### Instructor

**Dr. Laura Bottomley**

**240 Page Hall**

**Laurab@ncsu.edu**

### Lecture

**Days:** TTh

**Time:** 3:00pm-4:15pm and the course is also offered in online, hybrid or asynchronous format

**Campus:** Main

## Course Materials

### Textbooks

## Grading

## Grade Components

None.

## Expenses

None.

## Materials

You may be asked to collect certain commonly found household items to perform hands-on activities along with the in-class section. These may include straws, paper, tape, spaghetti, a large marshmallow, notecards or others.

## Requisites and Restrictions

### Prerequisites

Senior or graduate standing

### Co-requisites

None.

### Restrictions

None.

## General Education Program (GEP) Information

### GEP Category

This course does not fulfill a General Education Program category.

### GEP Co-requisites

This course does not fulfill a General Education Program co-requisite.

## Transportation

This course will not require students to provide their own transportation. Non-scheduled class time for field trips or out-of-class activities is NOT required for this class.

## Safety & Risk Assumptions

None.

<b>Homework</b>	<b>25%</b>	Homework will be assigned weekly and will usually consist of reading and summarizing or commenting on articles relevant to the subject area at hand.
<b>Projects</b>	<b>30%</b>	Projects will include writing an assessment plan for a given set of learning objectives as well as one other TBD.
<b>Participation</b>	<b>25%</b>	Participation in class or in online discussion boards is essential to learning the information in the class. Discussion boards will have minimum guidelines set out.
<b>Midterm</b>	<b>20%</b>	One midterm assessment will be given, approximately half-way through the semester.

## Letter Grades

### This Course uses the Following (Non-Standard) Letter Grading Scale:

98	≤	<b>A+</b>	≤	100
93	≤	<b>A</b>	<	98
89	≤	<b>A-</b>	<	93
87	≤	<b>B+</b>	<	89
82	≤	<b>B</b>	<	87
80	≤	<b>B-</b>	<	82
78	≤	<b>C+</b>	<	80
70	≤	<b>C</b>	<	78
68	≤	<b>D+</b>	<	70
60	≤	<b>D</b>	<	68
0	≤	<b>F</b>	<	60

## Requirements for Credit-Only (S/U), Audit, Incompletes

Students who wish to enroll in this class for credit-only should consult the instructor.

Information about and requirements for auditing a course can be found at <http://policies.ncsu.edu/regulation/reg-02-20-04>.

If an extended deadline is not authorized by the Graduate School, an unfinished incomplete grade will automatically change to an F after either (a) the end of the next regular semester in which the student is enrolled (not including summer sessions), or (b) by the end of 12 months if the student is not enrolled, whichever is shorter. Incompletes

that change to F will count as an attempted course on transcripts. The burden of fulfilling an incomplete grade is the responsibility of the student. The university policy on incomplete grades is located at <http://policies.ncsu.edu/regulation/reg-02-50-03>. Additional information relative to incomplete grades for graduate students can be found in the Graduate Administrative Handbook in Section 3.18.F at [http://www.fis.ncsu.edu/grad\\_publicns/handbook/](http://www.fis.ncsu.edu/grad_publicns/handbook/)

## Late Assignments

In general, late assignments may be accepted with a grade deduction, at the discretion of the instructor.

## Attendance Policy

For complete attendance and excused absence policies, please see <http://policies.ncsu.edu/regulation/reg-02-20-03>

### Attendance Policy

None.

### Absences Policy

Students are responsible for all material missed.

### Makeup Work Policy

Make up work is allowed for excused absences.

### Additional Excuses Policy

None.

## Academic Integrity

Students are required to comply with the university policy on academic integrity found in the Code of Student Conduct found at <http://policies.ncsu.edu/policy/pol-11-35-01>

See <http://policies.ncsu.edu/policy/pol-11-35-01> for a detailed explanation of academic honesty. Your signature on any test or assignment indicates "I have neither given nor received unauthorized aid on this test or assignment."

## Electronically-Hosted Course Components

Students may be required to disclose personally identifiable information to other students in the course, via electronic tools like email or web-postings, where relevant to the course. Examples include online discussions of class topics, and posting of student coursework. All students are expected to respect the privacy of each other by not sharing or using such information outside the course.

## Accommodations for Disabilities

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with the Disability Resource Office at Holmes Hall, Suite 304, Campus Box 7509, 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation (REG02.20.01) (<https://policies.ncsu.edu/regulation/reg-02-20-01/>).

## Non-Discrimination Policy

NC State University provides equality of opportunity in education and employment for all students and employees. Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination. Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or NC State University policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State's

policies and regulations covering discrimination, harassment, and retaliation may be accessed at <http://policies.ncsu.edu/policy/pol-04-25-05> or [http://www.ncsu.edu/equal\\_op/](http://www.ncsu.edu/equal_op/). Any person who feels that he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Equal Opportunity (OEO) at 919-515-3148.