

# 2014-2015 LONG SIGNATURE SHEET



UNC CHARLOTTE

Proposal Number: ENGR 05-05-15

Proposal Title: Establish an Honors Capstone in Engineering

Originating Department: College of Engineering Dean's Office

TYPE OF PROPOSAL: UNDERGRADUATE X GRADUATE \_\_\_\_\_ UNDERGRADUATE & GRADUATE \_\_\_\_\_  
 (Separate proposals sent to UCCC and Grad. Council)

DATE RECEIVED	DATE CONSIDERED	DATE FORWARDED	ACTION	SIGNATURES
2015 May 5	2015 May 5	2015 May 5	Approved	<u>DEPARTMENT CHAIR</u>  [Ronald E. Smelser]
			Approved	<u>COLLEGE CURRICULUM COMMITTEE CHAIR</u>  [Mehdi Miri]
			Approved	<u>COLLEGE FACULTY CHAIR (if applicable)</u>  [Madhav Manjrekar]
		June 8 2015	Approved	<u>COLLEGE DEAN</u>  [Robert E. Johnson]
			Approved	<u>GENERAL EDUCATION</u> (if applicable; for General Education courses)  [John Smail]
		6/19/15	Approved	<u>HONORS COLLEGE</u>  [Malin Pereira]
		9/8/15	Approved	<u>UNDERGRADUATE COURSE &amp; CURRICULUM COMMITTEE CHAIR (for undergraduate content)</u>  [Kim Harris]
			Approved	<u>GRADUATE COUNCIL CHAIR</u> (for graduate content)
9/10/15				<u>FACULTY GOVERNANCE ASSISTANT</u> (Faculty Council approval on Consent Calendar)  [Matt S. by]
				<u>FACULTY EXECUTIVE COMMITTEE</u> (if decision is appealed)

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# UNC CHARLOTTE

## LONG FORM COURSE AND CURRICULUM PROPOSAL

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\*To: Dr. Kim Harris, Chair, Undergraduate Course and Curriculum Committee

From: Ronald E. Smelser, Senior Associate Dean, Lee College of Engineering

Date: May 5, 2015

Re: Establish an Honors Program in the College of Engineering

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The Long Form is used for major curriculum changes. Examples of major changes can include:

**Undergraduate:** Major changes include new undergraduate degrees, minors, concentrations, certificates, and changes to more than 50% of an existing program (Note: changing the name of an academic department does not automatically change the name(s) of the degree(s). The requests must be approved separately by the Board of Governors.)

**Graduate:** Major changes include new graduate courses, major changes to an existing graduate course or major changes to an existing graduate program

Submission of this Long Form indicates review and assessment of the proposed curriculum changes at the department and collegiate level either separately or as part of ongoing assessment efforts.

\*Proposals for undergraduate courses and programs should be sent to the Undergraduate Course and Curriculum Committee Chair. Proposals related to both undergraduate and graduate courses, (e.g., courses co-listed at both levels) must be sent to both the Undergraduate Course and Curriculum Committee and the Graduate Council.

University of North Carolina at Charlotte  
New Undergraduate Proposal  
Course and Curriculum Proposal from: The William States Lee College of Engineering

*Establishment of an Honors Capstone in the College of Engineering*

**SUMMARY**

The William States Lee College of Engineering proposes to create an honors program by adding two (2) courses in the Senior Design Capstone sequence to the undergraduate curriculum: ENGR 3790 and ENGR 3791.

**JUSTIFICATION.**

This two course sequence will allow outstanding senior students to participate in an honors design experience that is beyond the norm in senior design. The completion of the sequence will lead to a designation of Honors in Engineering. To enroll in the sequence, the students must be enrolled in the appropriate departmental senior design sequence or capstone course. The students must also have a minimum cumulative GPA of 3.5 for admission into the honors program and the course sequence.

The course numbering follows the university guidelines for upper division courses with the second number designating an honors course. The sequence will coincide with the students taking the respective senior design course sequence or capstone course. The proposed courses will enable the students to demonstrate a level of academic achievement that is beyond the norm for those enrolled in the senior design experience in the college. This will result in the designation of Honors in Engineering on their transcript

**IMPACT.**

The student body served by this request is high-achieving students in engineering and engineering technology programs within the college. This proposal will not affect other courses in the college since the proposed courses will be adjunct to courses already being taken by the students who will enroll. The courses will be taught every semester that senior design courses are offered and student demand warrants the offering.

The anticipated enrollment is 10-20 students each semester. This is based on estimates of about 150 eligible students starting Senior Design I in the fall semester and about 100 students starting Senior Design I in the spring semester. The anticipated enrollment is taken as 10 percent of the eligible students enrolling in the sequence. The only catalog copy that could be identified as affected outside of the college's copy would perhaps be listings of honors availability in the catalog for programs in the university.

The senior design sequence in the college is the culminating experience for undergraduate students. This senior capstone course is a one or two course sequence that has credit assigned ranging from three (3) to six (6) credit hours depending on the student's home department. The addition of the two proposed courses will not expand the honors capstone credit hours beyond the current capstone credit hours. The new zero (0) credit courses will be adjunct to the current capstone offerings in the departments. Students will enroll in their departmental capstone program as well as these courses to complete the honors designation.

The honors program and its additional two course sequence will accomplish several related goals. The students completing the engineering honors courses will have a significant capstone experience working in teams. This is vital for a well-educated engineer in today's working environment. The courses will also allow the students completing the sequence to have a period for meta-cognitive reflection on how their total experience at UNC Charlotte has prepared them to become well-educated engineering professionals. This will be a growth experience to stretch the students as they engage in inquiry, self-reflection and reflection on how the capstone experience has called upon them to use their skills of analysis, design, research, critical thinking, and presentation to complete a large engineering project rather than a single course.

The success of the students in the honors sequence will not be solely dependent on the grade received in the senior design capstone project. Rather it will be an adjunct to the evaluation that is received in this larger group setting. The completion of the honors portfolio will allow the student to present how they have grown and been stretched to use the cumulative experience in the college and university to excel in their chosen field of study.

The honors program will be presented to the students as they prepare for enrolling in the senior design capstone experience. The honors course sequence will allow students who have not thought about working for such a distinction to become part of a small group of students who achieve beyond the series of courses that lead to a degree. The program will also reengage and allow students who began in the University Honors Program (UHP) as first year students to earn a distinction that was terminated as the stress of completing a rigorous course of study in engineering pulled them away from the UHP curriculum. This course sequence will allow the college to recognize our high achieving students as they begin a lifetime of continued learning and achievement.

#### **RESOURCES REQUIRED TO SUPPORT PROPOSAL.**

PERSONNEL. None.

No additional personnel would be required to offer these sections. The courses would be taught by existing faculty in the college.

PHYSICAL FACILITY. None

The courses are seminar courses that only require existing facilities to conduct the classes.

EQUIPMENT AND SUPPLIES. None

The seminar courses will only use existing equipment and supplies.

COMPUTER. None

Current college and university computing facilities are adequate to prepare assignments and final portfolios.

AUDIO-VISUAL. None

Standard classroom podiums and facilities are adequate.

#### **CONSULTATION WITH THE LIBRARY AND OTHER DEPARTMENTS OR UNITS**

- A. LIBRARY CONSULTATION. No library holdings beyond those currently used to support the Senior Design sequence are required.
- B. CONSULTATION WITH OTHER DEPARTMENTS OR UNITS. The proposed courses only affect the college.
- C. HONORS COUNCIL CONSULTATION. See the attached document.

#### **INITIATION, ATTACHMENTS AND CONSIDERATION OF THE PROPOSAL**

- A. ORIGINATING UNIT. The proposed courses were vetted and approved by the college Strategic Planning and Resource Team and by the College Academic Policy and Curriculum Committee and the college faculty.
- B. CREDIT HOUR. (Mandatory if new and/or revised course in proposal)  
Review statement and check box once completed:  
 The appropriate faculty committee has reviewed the course outline/syllabus and has determined that the assignments are sufficient to meet the University definition of a [credit hour](#).
- C. ATTACHMENTS.
  - 1. CONSULTATION: Attach relevant documentation of consultations with other units.
  - 2. COURSE OUTLINE/SYLLABUS: For undergraduate courses attach course outline(s) including basic topics to be covered and suggested textbooks and reference materials with dates of publication. For Graduate Courses attach a course syllabus.
  - 3. PROPOSED CATALOG COPY: Copy should be provided for all courses in the proposal. Include current subject prefixes and course numbers, full titles, credit hours, prerequisites and/or corequisites, concise descriptions, and an indication of

when the courses are to be offered as to semesters and day/evening/weekend. Copy and paste the [current catalog copy](#) and use the Microsoft Word “track changes” feature (or use red text with “~~strikethrough~~” formatting for text to be deleted, and adding blue text with “underline” formatting for text to be added).

- a. For a new course or revisions to an existing course, check all the statements that apply:
- This course will be cross listed with another course.
  - There are prerequisites for this course.
  - There are corequisites for this course.
  - This course is repeatable for credit.
  - This course will increase/decrease the number of credits hours currently offered by its program.
  - This proposal results in the deletion of an existing course(s) from the degree program and/or catalog.

For all items checked above, applicable statements and content must be reflected in the proposed catalog copy.

- b. If overall proposal is for a new degree program that requires approval from General Administration, please contact the [facultygovernance@uncc.edu](mailto:facultygovernance@uncc.edu) for consultation on catalog copy.

4. ACADEMIC PLAN OF STUDY (UNDERGRADUATE ONLY): Does the proposed change impact an [existing Academic Plan of Study](#)?
- Yes. If yes, please provide updated Academic Plan of Study in template format.
  - No.
5. STUDENT LEARNING OUTCOMES (UNDERGRADUATE & GRADUATE): Does this course or curricular change require a change in Student Learning Outcomes (SLOs) or assessment for the degree program?
- Yes. If yes, please provide updated SLOs in template format.
  - No.
6. TEXTBOOK COSTS: It is the policy of the Board of Governors to reduce textbook costs for students whenever possible. Have electronic textbooks, textbook rentals, or the buyback program been considered and adopted?
- Yes. Briefly explain below.
  - No. Briefly explain below.

No textbooks are required.

**IMPORTANT NOTE:** A Microsoft Word version of the final course and curriculum proposal should be sent to [facultygovernance@uncc.edu](mailto:facultygovernance@uncc.edu) upon approval by the Undergraduate Course and Curriculum Committee and/or Graduate Council chair.



CONSULTATION: HONORS COUNCIL

From: [Bost, Kenneth](#)  
To: [Smelser, Ron](#)  
Cc: [Pereira, Malin](#)  
Subject: **Honors Council Approval of Curriculum Proposal**  
Date: **Wednesday, April 22, 2015 7:55:04 AM**

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Dr. Ronald Smelser,

On April 21, 2015, the Honors Council met and reviewed your proposal for “Establishing an Honors Program in Engineering”. The Honors Council unanimously approved the concept, and more specifically, the Proposed Catalog Copy.

There was one minor comment that may require some revision. In the course descriptions, it is stated:

**ENGR 3790. Engineering Honors Senior Seminar I. (0) Corequisites: Enrolled in Senior Design I: ECGR-3250, ETGR-4100, MEGR-3255, etc.**

The committee thought that this course description could be interpreted as having to be enrolled in all of these listed courses at the same time. You may want to consider adding the word “or” between each course; e.g. ECGR-3250 or ETGR-4100 or MEGR-3255 or.....

The same comment was made for a possible revision to the ENGR 3791 course description.

Good luck with your new Honors Program. For

the Honors Council,

Kenneth L. Bost, Ph.D.  
Belk Distinguished Professor of Biological Sciences  
Director, Honors Program in Biological Sciences Chair,  
Honors Council  
Chief Scientific Officer, SoyMeds, Inc. University  
of North Carolina at Charlotte  
9201 University City Blvd, Charlotte NC 28223 Office:  
Woodward 390 D  
Phone: 704-687-8677 Email: [KLBOST@UNCC.EDU](mailto:KLBOST@UNCC.EDU)

## COURSE OUTLINE/SYLLABUS

### ENGR 3790 – Engineering Honors Seminar I

This zero-credit, Pass/No Credit (P/NC) course is designed to help students prepare and plan the portfolio that will be part of the Honors College Application to Candidacy process this semester. When the proposal is approved, the complete portfolio will be done in the following semester. The instruction will be face-to-face and use both Moodle and other tools for completing the coursework. Students will work in smaller face-to-face peer review groups based on their schedules. There will also a mid-semester individual conference with the instructor.

This course assumes additional work (including any face-to-face meetings, reading, writing, thinking, and planning) totaling on average one to three hours per week totaling approximately 25 hours throughout the semester. That amount of work and time commitment is expected **at a minimum**. The senior portfolio project is completed in conjunction with the capstone senior design experience and should be fun as well as professionally rewarding and enriching.

#### Assignments:

All assignments are required and due on the date and time specified and uploaded to Moodle. Failure to submit all required assignments will result in a No Credit for the course.

#### Digital access and literacy:

Access to computer equipment through the college Mosaic computer network should be sufficient to complete the work of the course on time. Every student is expected to identify and become proficient in one online web design program, such that they will be able to use to it complete the portfolio online in the following semester.

### ENGR 3791 – Engineering Honors Seminar II

This zero-credit, Pass/No Credit (P/NC) course will be a continuation of Engineering Honors Seminar I upon successful completion of that course. The focus will be on the completion of the portfolio for the Engineering Honors designation. The structure of the course will follow the previous course and will focus on the development and presentation of a portfolio that is reflective and comprehensive of how the experience of the senior design capstone experience will lead to a fulfilling professional career.

This course assumes additional work (including any face-to-face meetings, reading, writing, thinking, and planning) totaling on average one to three hours per week totaling approximately 25 hours throughout the semester. That amount of work and time commitment is expected **at a minimum**. The senior portfolio project is completed in conjunction with the capstone senior design experience and should be fun as well as professionally rewarding and enriching.

#### Assignments:

All assignments are required and due on the date and time specified and uploaded to Moodle. Failure to submit all required assignments will result in a No Credit for the course.

Digital access and literacy:

Access to computer equipment through the college Mosaic computer network should be sufficient to complete the work of the course on time. Every student is expected to successfully complete the portfolio in the semester.

## PROPOSED CATALOG COPY

### **Engineering Honors Program**

The Engineering Honors Program provides students with access to opportunities designed to stimulate their thinking and broaden their exposure to topics related to the professional practice of engineering and engineering design. The Engineering Honors Program is committed to the highest principles of professional practice that guide our decision making. We are a community of learners actively engaged in academic scholarship while demonstrating the highest regard for others by modeling the ethical standards that protect the public safety. We promote service to community above the self and support, encourage, educate, and value others. We promote these core values among the members of the program.

### **Admission**

Students interested in being admitted to the Engineering Honors Program must be enrolled in the Senior Design capstone experience in their home department. Admission to the program is based on the student's demonstrated Honors potential and is determined by examining the cumulative GPA (minimum 3.5 for currently enrolled or transfer students), academic and other distinctions, activities, and other related factors. All admitted students must maintain a minimum 3.5 cumulative GPA at UNC Charlotte to remain a member of the program. Students failing to meet minimum cumulative GPA will be dismissed from the program.

### **Required Courses**

Students in the Engineering Honors Program must complete Engineering Honors Seminar I and II in conjunction with the respective Senior Design capstone course required for their program of study.

### **Graduation with Engineering Honors**

To graduate with "Honors in Engineering," a student must complete the required seminar course sequence and submit an application for Honors Candidacy at least one semester prior to graduation. A cumulative GPA of at least 3.5 overall and a grade of A must be earned in the departmental Senior Design capstone project.

## COURSE DESCRIPTIONS

ENGR 3790. Engineering Honors Senior Seminar I. (0) Corequisites: Enrollment in Senior Design I: ECGR-3253 or ETGR-4100 or MEGR-3255 or MEGR-3355 or MEGR-3455 or SEGR-3290 or permission of the instructor; Seminar focuses on development of a proposal for the Honors Senior Design II course. The proposal is submitted through Application to Candidacy process for approval by the Honors College. Seminar includes presentations associated with preparing for the Engineering Honors Seminar II course. *Offered on a Pass/No Credit basis.*

ENGR 3791. Engineering Honors Seminar II. (0) Prerequisite: ENGR 3790, Corequisites: Enrollment in Senior Design II: CEGR-3201 or CMET 4272 or ECGR-3254 or ETCE 4272 or ETGR-4200 or MEGR-3256 or MEGR-3356 or MEGR-3456 or SEGR-3291 or permission of the instructor, and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Students prepare and present a portfolio showing the impact of the Senior Design process on their preparation for a professional career in engineering.