

2014-2015 SHORT SIGNATURE SHEET



*sent
Kim
10/30/14
or*

UNC CHARLOTTE

Date: October 27, 2014

Subject: Clarify Degree Requirements, Academic Plan of Study and establish a minimum grade for select courses

Originating Department: Civil and Environmental Engineering

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

DATE RECEIVED	DATE FORWARDED	COMMENTS: APPROVED, APPROVED WITH REVISIONS, ETC.	SIGNATURES
			PERSON ORIGINATING PROPOSAL <i>William L. Saunders</i> William Saunders
	10/27/14	Approved	DEPARTMENT CHAIR <i>John Daniels</i> John Daniels
	10/29/14	Approved	COLLEGE CURRICULUM COMMITTEE CHAIR Mehdi S. Miri <i>Mehdi Miri</i>
10/29/14	10/29/14	Approved	COLLEGE DEAN <i>Robert E. Johnson</i> Robert E. Johnson
		Approved	GENERAL EDUCATION (if applicable; for General Education courses only) [print name here:]
		Approved	HONORS COLLEGE (if applicable; for Honors courses & programs) [print name here:]
		Approved	UNDERGRADUATE COURSE & CURRICULUM COMMITTEE CHAIR (for undergraduate courses only)
		Approved	GRADUATE COUNCIL CHAIR (for graduate courses only)
			FACULTY GOVERNANCE ASSISTANT (received and processed in Academic Affairs)



UNC CHARLOTTE

SHORT FORM COURSE AND CURRICULUM PROPOSAL

*To: Undergraduate Course and Curriculum Committee Chair

From: Civil and Environmental Engineering

Date: October 27, 2014

Re: Clarify Degree Requirements, Academic Plan of Study and establish a minimum grade for select courses

The Short Form is used for minor curriculum changes. Minor changes may include:

Undergraduate: Minor changes include new undergraduate courses, course numbering (note: must follow Course Numbering Policy), change in pre-requisites, editorial changes to course description, and/or minor program changes

Graduate: Minor changes include course numbering (note: must follow Course Numbering Policy), change in pre-requisites, editorial changes to course description, and/or minor program changes

Submission of this Short 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 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.

SUMMARY: The Department of Civil and Environmental Engineering would like to clarify our Degree Requirements and Academic Plan of Study. We also wish to establish a minimum grades for select courses. The Department wishes to establish in the Degree Requirements courses to require a C or above that have already been established as a C or above by a prerequisite to the next required class. The Department also wishes to establish in the Degree Requirements that CEGR 3201 Systems and Design requires a C or above. This course is currently not established as a C or above by a prerequisite to another required course. Also, minor name changes are requested for two courses.

FOR CONSULTATION WITH OTHER DEPARTMENTS:

1. Does the proposed change affect other departments (including additions and/or changes to degree requirements or prerequisites offered in other departments)?
 Yes No

2. If Yes, please list the other departments affected by the proposed change:

3. Have you consulted with each department listed in item 2 regarding the proposed change?
 Yes No

Result(s) of Consultation(s) (please attach documentation):

4. For a new course or for major modification of an existing course, include Consultation on Library Holdings.

5. For proposals involving Honors courses or programs, include written consultation with the Honors Council.

RESOURCES:

1. 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 co-requisites for this course.
 This course is repeatable for credit.
 This course will affect the number of credits hours for its program.
 This proposal results in the deletion of an existing course(s) from the degree program and/or catalog.
 This proposal will alter an agreement with a North Carolina community college.

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

2. There are no additional resources needed. None.

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.

PROPOSED CATALOG COPY: DEGREE REQUIREMENTS WITH TRACKING

Bachelor of Science in Civil Engineering (B.S.C.E.)

A Major in Civil Engineering leading to the Bachelor of Science in Civil Engineering (B.S.C.E.) degree consists of 128 credit hours.

Degree Requirements

General Education Courses (21 hours)

Social science and humanities electives must be chosen both to satisfy University General Education requirements and to meet the objectives of a broad education consistent with the educational goals of the profession. To avoid taking "extra" humanities/social science electives, students must select their electives carefully after consulting with their faculty advisor. The science electives must be chosen from an approved list of physical, life, or earth sciences and must complement the student's overall educational plan.

Pre-Major Courses (18 hours)

CHEM 1251 General Chemistry I (3) (with a grade of C or above)
CHEM 1251L General Chemistry I Lab (1) (with a grade of C or above)
ENGR 1201 Introduction to Engineering Practices and Principles I (2) (with a grade of C or above)
ENGR 1202 Introduction to Engineering Practices and Principles II (2) (with a grade of C or above)
MATH 1241 Calculus I (3) (with a grade of C or above)
MATH 1242 Calculus II (3) (with a grade of C or above)
PHYS 2101 Physics for Science and Engineering I (3) (with a grade of C or above)
PHYS 2101L Physics for Science and Engineering I Lab (1) (with a grade of C or above)

General Education Requirements (21)

UWRT 1101 English I (3) (Prerequisite for entry into major with a grade of C or above)
UWRT 1102 English II (3) (Prerequisite for entry into major with a grade of C or above)
LBST 110X (3)
LBST 2101 Western Culture and Historical Awareness (3)
LBST 2102 Global and Inter cultural Connections (3)
LBST 22XX (3)
Social Science Elective (3) (select from an approved list of courses)

Mathematics and Science Courses (33)

MATH 1241 Calculus I (3) (with a grade of C or above)
MATH 1242 Calculus II (3) (with a grade of C or above)
MATH 2241 Calculus III (3) (with a grade of C or above)
MATH 2171 Differential Equations (3) (with a grade of C or above)
STAT 3128 Probability and Statistics for Engineers (3)
PHYS 2101 Physics for Science and Engineering I (3) (with a grade of C or above)
PHYS 2101L Physics for Science and Engineering I Lab (1) (with a grade of C or above)
PHYS 2102 Physics for Science and Engineering II (3)

PHYS 2102L Physics for Science and Engineering II Lab (1)
CHEM 1251 General Chemistry I (3) (with a grade of C or above)
CHEM 1251L General Chemistry I Lab (1) (with a grade of C or above)
Science Elective (3) (select from approved Biology and Earth Science courses)
Math/Science (3) (Choose one course from the Biology, Earth Science, Mathematics, Chemistry or Physics area)

Major Courses (50~~50~~ hours)

ENGR 1201 Introduction to Engineering Practices and Principles I (2) (with a grade of C or above)
ENGR 1202 Introduction to Engineering Practices and Principles II (2) (with a grade of C or above)
CEGR 2101 Civil Engineering Drawing (2)
CEGR 2102 Engineering Economic Analysis (3) (with a grade of C or above)
CEGR 2104 Surveying and Site Design (3) (with a grade of C or above)
CEGR 2154 Design Project Lab (2) (O) (with a grade of C or above)
CEGR 3111 Construction Engineering (3) (with a grade of C or above)
CEGR 3122 Structural Analysis (3) (with a grade of C or above)
CEGR 3141 Introduction to Environmental Engineering (3) (with a grade of C or above)
CEGR 3143 Hydraulics and Hydrology (3) (with a grade of C or above)
CEGR 3153 Transportation Lab (2) (W)
CEGR 3155 Environmental Lab (2) (W)
CEGR 3161 Transportation Engineering I (3) (with a grade of C or above)
CEGR 3201 Systems and Design I (3) (with a grade of C or above)
CEGR 3255 Structural Materials I Lab (2) (W) (with a grade of C or above)
CEGR 3258 Geotechnical Lab (2) (W)
CEGR 3278 Geotechnical Engineering (3) (with a grade of C or above)
ENGR 3295 Multidisciplinary Professional Development (1)
MATH 2171 Differential Equations (3) (with a grade of C or above)
MATH 2241 Calculus III (3) (with a grade of C or above)
MEGR 2141 Engineering Mechanics I (3) (with a grade of C or above)
MEGR 2144 Introduction to Solid Mechanics (3) (with a grade of C or above)
PHYS 2102 Physics for Science and Engineering II (3)
PHYS 2102L Physics for Science and Engineering II Lab (1)
STAT 3128 Probability and Statistics for Engineers (3)

Required Electives (24~~30~~ hours)

Civil Engineering Design Electives (6) (select a total of two courses from different options) (with grades of C or above) (select two)

Option 1 - CEGR 3221 Structural Steel Design I (3) or CEGR 3225 Reinforced Concrete Design I (3)

Option 2 - CEGR 4185 Geometric Design of Highways (3)

Option 3 - CEGR 4278 Geotechnical Engineering II (3)

Option 4 - CEGR 4142 Water Treatment Engineering (3), CEGR 4242 Wastewater Treatment Design (3),

CEGR 4147 Stormwater Management (3) or CEGR 4264 Landfill Design and Site Remediation (3)

CEGR 3221 Structural Steel Design I (3)

CEGR 3225 Reinforced Concrete Design I (3)

CEGR 4185 Geometric Design of Highways (3)

CEGR 4278 Geotechnical Engineering II (3)

Mechanical/Electrical Engineering Electives (6) (select two)

ECGR 2161 Basic Electrical Engineering I (3)

MEGR 3111 Thermodynamics I (3)

MEGR 3121 Dynamics Systems I (3)

Civil Engineering Restricted Elective (3) (select one)

CEGR 3221 Structural Steel Design I (3)

CEGR 3225 Reinforced Concrete Design I (3)

Civil Engineering Electives (6) (select two)

CEGR 3xxx or CEGR 4xxx

~~Science Elective (select one) (3)~~

~~Choose one course from the Biology or Earth Science area. An approved list of courses is available on the department website.~~

~~Math/Science Electives (select one/two) (3)~~

~~Choose one course from the Biology, earth Science, Mathematics, Chemistry or Physics area. All B.S.C.E. students are required to take six hours of math or science electives. An approved list of courses is available on the department website.~~

Technical Elective (3) (select one)

The technical elective may be selected from the areas of engineering, mathematics, science, business, and communications. An approved list of upper division courses is available on the department website.

Suggested Curriculum

For a suggested curriculum for this degree to map out a path toward completing the major, please see the [Academic Plan of Study](#).

PROPOSED CATALOG COPY: DEGREE REQUIREMENTS WITHOUT TRACKING

Bachelor of Science in Civil Engineering (B.S.C.E.)

A Major in Civil Engineering leading to the Bachelor of Science in Civil Engineering (B.S.C.E.) degree consists of 128 credit hours.

Degree Requirements

General Education Courses

Social science and humanities electives must be chosen both to satisfy University General Education requirements and to meet the objectives of a broad education consistent with the educational goals of the profession. To avoid taking "extra" humanities/social science electives, students must select their electives carefully after consulting with their faculty advisor. The science electives must be chosen from an approved list of physical, life, or earth sciences and must complement the student's overall educational plan.

General Education Requirements (21)

UWRT 1101 English I (3) (Prerequisite for entry into major with a grade of C or above)
UWRT 1102 English II (3) (Prerequisite for entry into major with a grade of C or above)
LBST 110X (3)
LBST 2101 Western Culture and Historical Awareness (3)
LBST 2102 Global and Inter cultural Connections (3)
LBST 22XX (3)
Social Science Elective (3) (select from an approved list of courses)

Mathematics and Science Courses (33)

MATH 1241 Calculus I (3) (with a grade of C or above)
MATH 1242 Calculus II (3) (with a grade of C or above)
MATH 2241 Calculus III (3) (with a grade of C or above)
MATH 2171 Differential Equations (3) (with a grade of C or above)
STAT 3128 Probability and Statistics for Engineers (3)
PHYS 2101 Physics for Science and Engineering I (3) (with a grade of C or above)
PHYS 2101L Physics for Science and Engineering I Lab (1) (with a grade of C or above)

PHYS 2102 Physics for Science and Engineering II (3)
PHYS 2102L Physics for Science and Engineering II Lab (1)
CHEM 1251 General Chemistry I (3) (with a grade of C or above)
CHEM 1251L General Chemistry I Lab (1) (with a grade of C or above)
Science Elective (3) (select from approved Biology and Earth Science courses)
Math/Science (3) (Choose one course from the Biology, Earth Science, Mathematics, Chemistry or Physics area)

Major Courses (50 hours)

ENGR 1201 Introduction to Engineering Practices and Principles I (2) (with a grade of C or above)
ENGR 1202 Introduction to Engineering Practices and Principles II (2) (with a grade of C or above)
CEGR 2101 Civil Engineering Drawing (2)
CEGR 2102 Engineering Economic Analysis (3) (with a grade of C or above)
CEGR 2104 Surveying and Site Design (3) (with a grade of C or above)
CEGR 2154 Design Project Lab (2) (O) (with a grade of C or above)
CEGR 3111 Construction Engineering (3) (with a grade of C or above)
CEGR 3122 Structural Analysis (3) (with a grade of C or above)
CEGR 3141 Introduction to Environmental Engineering (3) (with a grade of C or above)
CEGR 3143 Hydraulics and Hydrology (3) (with a grade of C or above)
CEGR 3153 Transportation Lab (2) (W)
CEGR 3155 Environmental Lab (2) (W)
CEGR 3161 Transportation Engineering I (3) (with a grade of C or above)
CEGR 3201 Systems and Design (3) (with a grade of C or above)
CEGR 3255 Structural Materials I Lab (2) (W) (with a grade of C or above)
CEGR 3258 Geotechnical Lab (2) (W)
CEGR 3278 Geotechnical Engineering (3) (with a grade of C or above)
ENGR 3295 Multidisciplinary Professional Development (1)
MEGR 2141 Engineering Mechanics I (3) (with a grade of C or above)
MEGR 2144 Introduction to Solid Mechanics (3) (with a grade of C or above)

Required Electives (24 hours)

Civil Engineering Design Electives (6) (select a total of two courses from different options) (with grades of C or above)

Option 1 - CEGR 3221 Structural Steel Design I (3) or CEGR 3225 Reinforced Concrete Design I (3)
Option 2 - CEGR 4185 Geometric Design of Highways (3)
Option 3 - CEGR 4278 Geotechnical Engineering II (3)
Option 4 - CEGR 4142 Water Treatment Engineering (3), CEGR 4242 Wastewater Treatment Design (3),
CEGR 4147 Stormwater Management (3) or CEGR 4264 Landfill Design and Site Remediation (3)

Mechanical/Electrical Engineering Electives (6) (select two)

ECGR 2161 Basic Electrical Engineering I (3)
MEGR 3111 Thermodynamics I (3)
MEGR 3121 Dynamics Systems I (3)

Civil Engineering Restricted Elective (3) (select one)

CEGR 3221 Structural Steel Design I (3)
CEGR 3225 Reinforced Concrete Design I (3)

Civil Engineering Electives (6) (select two)

CEGR 3xxx (3) or CEGR 4xxx (3)

Technical Elective (3) (select one)

The technical elective may be selected from the areas of engineering, mathematics, science, business, and communications. An approved list of upper division courses is available on the department website.

Suggested Curriculum

For a suggested curriculum for this degree to map out a path toward completing the major, please see the Academic Plan of Study.

PROPOSED CATALOG COPY: COURSES NAME OR DESCRIPTION CHANGE

CEGR 4142 Water ~~Wastewater~~ Treatment Engineering. (3) to CEGR 4142 Water Treatment Engineering (3)

CEGR 3201 Systems and Design I(3) to CEGR 3201 Systems and Design (3).

CEGR 4273. Engineering Ground Improvement. (3) Prerequisites: CEGR 3278 and CEGR 3258. Engineering principles of soil improvement as they relate to applications in both geotechnical and geoenvironmental engineering; innovative techniques to improve soils to meet technical and economic requirements. Methods of soil and site improvement; design techniques for dewatering systems: ground improvement techniques including: compaction, preloading, vertical drains, admixtures and chemical stabilization of soils, grouting, reinforced earth, in-situ densification, stone columns, slurry trenches, geopiers, and relevant uses of geotextiles. Design considerations and construction techniques for each system are described

Note: CEGR 4273 is new course has not yet made its way to the course catalog. The deleted course description was taken from the long form (Proposal number CEGR 10-09-14) and changes made to that text.

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.

SUGGESTED PLAN OF STUDY

Freshman Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 1241	Calculus I	3	X		Pre-requisite for entry into major, requires a grade of "C" or better
UWRT 1101	Writing and Inquiry in Academic Contexts I	3	X		Requires a grade of "C" or better
ENGR 1201	Introduction to Engineering Practices & Principles I	2			Pre-requisite for entry into major; "C" or better
LBST 110X	LBST 1100 series: Arts & Society	3	X		
XXXX XXXX	Science Elective (select from approved Biology & Earth Sci. courses)	3			
XXXX XXXX	Social Science Elective	3	X		
<i>Spring Semester</i>					
MATH 1242	Calculus II	3	X		Pre-requisite for entry into major; "C" or better
PHYS 2101	Physics for Science & Engineering I	3	X		Pre-requisite for entry into major; "C" or better
PHYS 2101L	Physics for Science & Engineering I Lab	1	X		Pre-requisite for entry into major; "C" or better
UWRT 1102	Writing and Inquiry in Academic Contexts II	3	X		Requires a grade of "C" or better
ENGR 1202	Intro. to Engineering Practices & Principles II: Civil Engineering	2			Pre-requisite for entry into major; "C" or better
LBST 2101	Western Cultural and Historical Awareness	3	X		
Sophomore Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 2241	Calculus III	3			Requires a grade of "C" or better
PHYS 2102	Physics for Science & Engineering II	3	X		
PHYS 2102L	Physics for Science & Engineering II Lab	1			
CEGR 2102	Engineering Economic Analysis	3			Requires a grade of "C" or better
CEGR 2101	Civil Engineering Drawing	2			
MEGR 2141	Engineering Mechanics I	3			Requires a grade of "C" or better
XXXX XXXX	Math/Science Elective (Select from approved courses in Biology, Earth Science, Mathematics, Chemistry, and Physics)	3			
<i>Spring Semester</i>					
MATH 2171	Differential Equations	3			Requires a grade of "C" or better
CEGR 2104	Surveying & Site Design	3			Requires a grade of "C" or better
CEGR 2154	Design Project Lab (Sophomore Design)	2	X	O	Requires a grade of "C" or better
CHEM 1251	Principles of Chemistry I	3			Requires a grade of "C" or better
CHEM 1251L	Principles of Chemistry I Lab	1			Requires a grade of "C" or better
MEGR 2144	Introduction to Solid Mechanics	3			Requires a grade of "C" or better
CEGR 3255	Structural Materials Lab	2	X	W	Requires a grade of "C" or better

Junior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
CEGR 3143	Hydraulics & Hydrology	3			Requires a grade of "C" or better
CEGR 3141	Introduction to Environmental Engineering	3			Requires a grade of "C" or better
CEGR 3155	Introduction to Environmental Engineering Lab	2	X	W	
CEGR 3278	Geotechnical Engineering	3			Requires a grade of "C" or better
CEGR 3258	Geotechnical Engineering Lab	2	X	W	
CEGR 3122	Structural Analysis	3			Requires a grade of "C" or better
<i>Spring Semester</i>					
CEGR 3161	Transportation Engineering I	3			Requires a grade of "C" or better
CEGR 3153	Transportation Engineering I Lab	2		W	
XXXX XXXX	MEGR/ECGR Elective	3			Choose from: MEGR 3121, 3111, or ECGR 2161
XXXX XXXX	MEGR/ECGR Elective	3			Choose from: MEGR 3121, 3111, or ECGR 2161
CEGR 3111	Construction Engineering	3			Requires a grade of "C" or better
CEGR XXXX	CEGR Elective	3			CEGR course at the 3000 level or above

Senior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
STAT 3128	Probability & Statistics for Engineers	3			
CEGR XXXX	CEGR Elective	3			Choose from CEGR 3221 or CEGR 3225
ENGR 3295	Professional Development	1			
LBST 2102	Global and Intercultural Connections	3	X		
CEGR XXXX	CEGR Design Elective	3			Choose from: CEGR 4278, CEGR 4185, CEGR 322 CEGR 3225, Environmental Engineering HCEGR4142, CEGR 4242, CEGR 4147, or CEGR 4264; requires a grade of "C" or better
<i>Spring Semester</i>					
CEGR 3201	Systems & Design I (Senior Design)	3			Requires a grade of "C" or better
XXXX XXXX	Technical Elective	3			Select from list of approved upper division courses
CEGR XXXX	CEGR Design Elective	3			Choose from: CEGR 4278, CEGR 4185, CEGR 322 CEGR 3225, Environmental Engineering II CEGR4142, CEGR 4242, CEGR 4147, or CEGR 4264; requires a grade of "C" or better
CEGR XXXX	CEGR Elective	3			CEGR course at the 3000 level or above
LBST 22XX	LBST 2200 series: Ethical Issues & Cultural Critique	3	X		

STUDENT LEARNING OUTCOMES (UNDERGRADUATE & GRADUATE): Does this course or curricular change require a change in SLOs or assessment for the degree program?

- Yes. If yes, please provide updated SLOs in template format.
 No.

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.

The Department strives to have our course textbooks selected and reported within the time frame set by the University to support the buyback program. We also use e-books provided by the library.

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