

UNIVERSITY FACULTY SENATE FORMS

Academic Program Approval

This form is a routing document for the approval of new and revised academic programs. Proposing department should complete this form. For more information, call the Faculty Senate Office at 831-2921.

Submitted by: Tripp Shenton _____ **phone number** 2447

Department: Civil and Environmental Engineering__ **email address** shenton@udel.edu

Date: 11/18/2009

Action: Revise major requirements: replace *CIEG126 Introduction to Surveying and CAD* with *CIEG161 Freshman Design* (this is a new course that has been offered as an experimental course (CIEG167) substitution for CIEG126 for two years; we have simultaneously submitted the request to make the course permanent).

Effective term 10F

Current degree: Bachelor of Civil Engineering (BCE)

Proposed change leads to the degree of: Bachelor of Civil Engineering (BCE)

Proposed name: _____
Proposed new name for revised or new major / minor / concentration / academic unit
(if applicable)

Revising or Deleting:

Undergraduate major / Concentration: Civil Engineering

Undergraduate minor: _____
(Example: African Studies, Business Administration, English, Leadership, etc.)

Graduate Program Policy statement change: _____
(Must attach your Graduate Program Policy Statement)

Graduate Program of Study: _____
(Example: Animal Science: MS Animal Science: PHD Economics: MA Economics: PHD)

Graduate minor / concentration: _____

Note: all graduate studies proposals must include an electronic copy of the Graduate Program Policy Document, highlighting the changes made to the original policy document.

List new courses required for the new or revised curriculum. How do they support the overall program objectives of the major/minor/concentrations)?

(Be aware that approval of the curriculum is dependent upon these courses successfully passing through the Course Challenge list. If there are no new courses enter "None")

CIEG161 - Freshman Design

Learning objectives of the course include the following:

- Enhance student understanding of engineering analysis and design.
- Develop student skills in problem definition, solution and presentation.
- Strengthen student critical thinking and design skills.
- Build student teamwork skills.
- Strengthen student written and oral communication skills.

The course supports 3 of the 6 CE degree objectives:
(<http://www.ce.udel.edu/ABET/Objectivesrevised905.html>)

Objective 1:

Graduates will be prepared with a solid foundation in mathematics, sciences, and technical skills needed to analyze and design civil infrastructure systems.

Objective 2:

Graduates will possess strong written, oral, and graphical communication skills and will be able to function on multidisciplinary teams.

Objective 6:

Graduates will have the necessary qualifications for employment in civil engineering and related professions and for entry into advanced studies.

Explain, when appropriate, how this new/revised curriculum supports the 10 goals of undergraduate education: <http://www.ugs.udel.edu/gened/>

This course supports goals 1 thru 3 and 5 of undergraduate education. Specifically:

- students are required to write reports and do oral presentations
- students complete engineering design projects to solve real world problems
- students work individually on smaller assignments and in teams of 2-4 on design projects
- design projects are multidisciplinary requiring students to use their knowledge from other courses and their experience to develop practical solutions to the projects

Identify other units affected by the proposed changes:

(Attach permission from the affected units. If no other unit is affected, enter "None")

N/A

Describe the rationale for the proposed program change(s):

(Explain your reasons for creating, revising, or deleting the curriculum or program.)


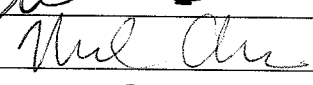
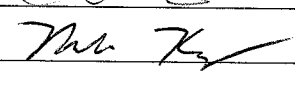
The previous course included a portion of Computer Aided Drafting (CAD) portion - this is not changing and will still be part of the new class and is taught as a lab component. What is being replaced is the surveying portion. This is being replaced by a series of design projects that expose the students to various aspects of civil engineering design. They also interface closely with the senior design project, which is run through CIEG461. The new course is a better introduction to design for our undergrads and more directly supports our educational objectives than did the CIEG126. The new course has been offered experimentally for two years.

Program Requirements:

(Show the new or revised curriculum as it should appear in the Course Catalog. If this is a revision, be sure to indicate the changes being made to the current curriculum and **include a side-by-side comparison** of the credit distribution before and after the proposed change.)

There is no change in the number of credits.

ROUTING AND AUTHORIZATION: (Please do not remove supporting documentation.)

Department Chairperson  Date 11/15/09
Dean of College  Date 11/18/09
Chairperson, College Curriculum Committee  Date 11/23/09
Chairperson, Senate Com. on UG or GR Studies _____ Date _____
Chairperson, Senate Coordinating Com. _____ Date _____
Secretary, Faculty Senate _____ Date _____
Date of Senate Resolution _____ Date to be Effective _____
Registrar _____ Program Code _____ Date _____
Vice Provost for Academic Affairs & International Programs _____ Date _____
Provost _____ Date _____
Board of Trustee Notification _____ Date _____

2009-2010 UD Catalog -->
 2009-2010 Undergraduate Programs -->
 College of Engineering -->
 Civil and Environmental Engineering -->
 BACHELOR OF CIVIL ENGINEERING - CIVIL ENGINEERING

Academic Year: 2009-2010

DEGREE: BACHELOR OF CIVIL ENGINEERING
MAJOR: CIVIL ENGINEERING

CURRICULUM CREDITS

UNIVERSITY REQUIREMENTS

ENGL 110	Critical Reading and Writing (minimum grade C-)	3
First Year Experience (FYE)		0-4
Discovery Learning Experience (DLE)		3
Multi-cultural Courses		3

MAJOR REQUIREMENTS

Breadth Requirements 18
 See: College Breadth Requirements. One of these courses may fulfill the University multi-cultural requirement (See List)

ENGL 410	Technical Writing	3
COMM 212	Oral Communications in Business	3
CHEM 103	General Chemistry	4
CISC 106	General Computer Science for Engineers	3
MATH 241	Analytic Geometry and Calculus A	4
MATH 242	Analytic Geometry and Calculus B	4
MATH 243	Analytic Geometry and Calculus C	4
MATH 351	Engineering Mathematics I	3
MATH 353	Engineering Mathematics III	3
PHYS 207	Fundamentals of Physics I	4
CHEM 104	General Chemistry	4
or		
GEOL 107	General Geology I	
or		
PHYS 208	Fundamentals of Physics II	
or		
PHYS 245	Introduction to Electricity and Electronics	
or		
BISC 207	Introductory Biology I	
or		
BISC 208	Introductory Biology II	
MSEG 302	Materials Science for Engineers	3
EGGG 101	Introduction to Engineering	2
CIEG 126	Introduction to Surveying and Computer Aided Drafting	3
CIEG 211	Statics	3
CIEG 212	Solid Mechanics	3
CIEG 213	Civil Engineering Materials Laboratory	1
CIEG 301	Structural Analysis	4
CIEG 302	Structural Design	4
CIEG 305	Fluid Mechanics	3
CIEG 306	Fluid Mechanics	Laboratory 1
CIEG 311	Dynamics	3
CIEG 315	Probability and Statistics for Engineers	3

CIEG 161 - FRESHMAN DESIGN 3

CIEG 320	Soil Mechanics	3
CIEG 321	Geotechnical Engineering	3
CIEG 323	Soil Mechanics Laboratory	1
CIEG 331	Environmental Engineering	3
CIEG 351	Transportation Engineering	3
CIEG 440	Water Resources Engineering	3
CIEG 451	Transportation Engineering Laboratory	1
CIEG 461	Senior Design Project	4
CIEG 486	Construction Methods and Management	3
Technical Electives		9

Three courses must be taken; see current department technical elective listing. This technical elective program is under constant review by the faculty. An updated list is available in the department office. Students should check with their advisors before selecting courses and should be aware that a formal mechanism exists to provide additional flexibility in the selection of their technical elective courses.

CREDITS TO TOTAL A MINIMUM OF

126

Note: Students who begin in **MATH 242** but do not have credit for **MATH 241** may use four free elective credits in place of the four credits for **MATH 241**.

The University reserves the right to change its policies, rules, regulations, requirements for graduation, course offerings and any other contents of this catalog at any time.