TO: The Faculty of the College of Engineering

FROM: School of Civil Engineering of the College of Engineering

RE: Curriculum change for the B.S. Degree in Civil Engineering

The faculty of the School of Civil Engineering has approved the following change in the curriculum for the B.S. degree in Civil Engineering effective for students entering the School in the Fall Semester 2011. This action is now submitted to the Engineering Faculty with a recommendation for approval.

New Requirements: First year requirements ENGR 100 and ENGR 126 have been updated to the current ENGR 13100 and ENGR 13200. The sophomore Civil Engineering Seminar, CE 29000 (0 cr), has been replaced by CE 29200 (1 cr). In addition, CE 39900 (3 cr.) has been replaced by a Basic Science Requirement (3-4 cr.). The minimum total number of credit hours required for the degree is thereby changed to 132.

Reason: The changes in the first year requirements reflect current First Year Engineering requirements. A new sophomore course, CE 29200 Contemporary Issues in Civil Engineering, has been created to incorporate into the curriculum ethics and professionalism, communication, and the impact of engineering solutions in a global, economic, environmental, and societal context. It will address issues from CE 29000 Civil Engineering Seminar and CE 39900 Oral & Written Communication, courses that have been eliminated from the curriculum. In addition, this allows Civil Engineering to fulfill a new ABET criterion for a Basic Science Requirement.

M. K. Banks

M. Katherine Banks
Bowen Engineering Head and Professor
Jack and Kay Hockema Professor of Civil Engineering

APPROVED FOR THE FACULTY
OF THE SCHOOLS OF ENGINEERING
BY THE ENGINEERING
CURRICULUM COMMITTEE
ECC Minutes #19
Date 5/4/11
Chairman ECC R. Cipra

Current

Minimum Degree Requirements for Civil Engineering

Credit Hours Required for Graduation: 133*

Courses	Credit Hours
Mathematics and Physical Science	
Calculus: MA 16500, 16600, 26100, 26500, 26600	18
Statistics: STAT 51100	3
Chemistry: CHM 11500	4
Physics: PHYS 17200, 24100	7
Science Selective	4
Engineering Design	
ENGR 10000, 12600, CGT 16400	6
First-Year (or other) Electives	0-2
Communication and General Education	
English Composition: ENGL 10600 or 108	4
Speech: COM 11400	3
Technical Communication: CE 39900	3
Humanities and Social Sciences:	18
Courses must be chosen in accordance with the School of Civil Engineering's general education policies and with the help of a faculty advisor.	
Core Engineering Courses	
Geomatics: CE 20300	4
Basic Mechanics/Materials: CE 23100, 27000, 29700, 29800, 33100, 34000, 34300	20
Seminar: CE 29000	0
Thermodynamics: ME 20000	3
Systems Design: CE 39800	3
Final Design Project: CE 49800	3
This course must be taken during the student's final semester.	
Technical Electives	30
Courses selected with the help of a Faculty advisor to accommodate the student's Professional goals and to provide the student with sufficient design background. At least 21 of these credits must be CE-designated courses.	

Proposed

Minimum Degree Requirements for Civil Engineering

Credit Hours Required for Graduation: 132

Courses	Credit Hours
Mathematics and Physical Science	
Calculus: MA 16500, 16600, 26100, 26500, 26600	18
Statistics: STAT 51100	3
Chemistry: CHM 11500	4
Physics: PHYS 17200, 24100	7
Science Selective: CHM 11600 or CS 15900	3
Engineering Design	
ENGR 13100, 13200, CGT 16400	6
First-Year (or other) Electives	
Communication and General Education	
English Composition: ENGL 10600 or 10800	3
Speech: COM 11400	3
Basic Science Requirement	3
Humanities and Social Sciences:	18
Courses must be chosen in accordance with the School of Civil Engineering's general education policies* and with the help of a faculty advisor.	
Core Engineering Courses	
Geomatics: CE 20300	4
Basic Mechanics/Materials: CE 23100, 27000, 29700, 29800, 33100, 34000, 34300	20
Contemporary Issues in CE: CE 29200	1
Thermodynamics: ME 20000	3
Systems Design: CE 39800	3
Final Design Project: CE 49800	3
This course must be taken during the student's final semester.	
Technical Electives†	30
Courses selected with the help of a Faculty advisor to accommodate the student's Professional goals and to provide the student with sufficient design background. At least 21 of these credits must be CE-designated courses.	

*Eighteen credit hours of general electives are chosen in accordance with the general education requirements of the College of Engineering and the

**Pending curriculum revisions may change the credit hours required for graduation. See the most recent requirements on the School of Civil Engineering Web site at www.ce.purdue.edu.*

following departmental requirements:

1. The program must contain at least 6 credit hours in the humanities.
2. The program must contain at least 6 credit hours in social sciences. It is strongly recommended that ECON 25100 be included in the program in social sciences.
3. All general education courses must be taken for a grade.

†Thirty credit hours of technical electives are chosen in accordance with the following requirements:

1. The elective course program shall be consistent with career objectives. For instance, one can elect to concentrate on a major in a specialized area with an integrated sequence of courses or can choose a general program in civil engineering by taking courses in several areas.
2. At least 12 credit hours must be chosen from an approved list of introductory civil engineering courses to provide breadth of study.
3. At least 9 credit hours must be chosen from an approved list of design-intensive civil engineering courses.
4. At least 21 credit hours must be CE designated courses that must include two integrated sequences with a minimum of six credit hours in each.
5. The remaining credit hours required must be selected in support of the career objectives of the student. See an advisor for current policies.

Current	*Proposed*
Plan of Study for Civil Engineering:	Suggested **Plan of Study for Civil Engineering:**
Credit Hours Required for Graduation: 133*	**Credit Hours Required for Graduation: 132**
Freshman Year, see First -Year Engineering: 33	**Freshman Year,** see First-Year Engineering: 31
Communications. COM 11400 is a required course in the civil engineering curriculum and should be taken in the freshman year. **Graphics. CGT 16400** is a required course in the civil engineering curriculum and should be taken in the freshman year. **Science Selective. CHM 11600** is the recommended course and should be taken in the freshman year.	**Communications. COM 11400** is a required course in the civil engineering curriculum and should be taken in the freshman year. **Graphics. CGT 16400** is a required course in the civil engineering curriculum and should be taken in the freshman year. **Science Selective. CHM 11600** is the recommended course and should be taken in the freshman year.

Sophomore Year Third Semester				**Sophomore Year Third Semester**			
(4)	CE	20300	Principles and Practices of Geomatics	(4)	CE	20300	Principles and Practices of Geomatics
(0)	CE	29000	Civil Engineering Seminar	(1)	CE	29200	Contemporary Issues in CE
(3)	CE	29700	Basic Mechanics I: Statics	(3)	CE	29700	Basic Mechanics I: Statics
(4)	MA	26100	Multivariate Calculus	(4)	MA	26100	Multivariate Calculus
(3)	PHYS	24100	Electricity and Optics	(3)	PHYS	24100	Electricity and Optics
(3)	General Education Elective*			(3)	General Education Elective*		
(17) TOTAL				(18) TOTAL			

Sophomore Year Fourth Semester				**Sophomore Year Fourth Semester**			
(3)	CE	23100	Engineering Materials I	(3)	CE	23100	Engineering Materials I
(4)	CE	27000	Introductory Structural Mechanics	(4)	CE	27000	Introductory Structural Mechanics
(3)	CE	29800	Basic Mechanics II: Dynamics	(3)	CE	29800	Basic Mechanics II: Dynamics
(3)	MA	26500	Linear Algebra	(3)	MA	26500	Linear Algebra
(3)	General Education Elective*			(3)	General Education Elective*		
(16) TOTAL				(16) TOTAL			

Junior Year
Fifth Semester

(3)	CE	33100	Engineering Materials II
(3)	CE	34000	Hydraulics
(1)	CE	34300	Elementary Hydraulics Laboratory
(3)	MA	26600	Ordinary Differential Equations
(3)	General Education Elective*		
(3)	Technical Elective†		
(16)	TOTAL		

Junior Year
Sixth Semester

(3)	STAT	51100	Statistical Methods
(3)	CE	39800	Intro to Civil Eng System Design
(3)	CE	39900	Oral and Written Communication
(3)	General Education Elective*		
(6)	Technical Electives†		
(18)	TOTAL		

Junior Year
Fifth Semester

(3)	CE	33100	Engineering Materials II
(3)	CE	34000	Hydraulics
(1)	CE	34300	Elementary Hydraulics Laboratory
(3)	MA	26600	Ordinary Differential Equations
(3)	General Education Elective*		
(3)	Technical Elective†		
(16)	TOTAL		

Junior Year
Sixth Semester

(3)	STAT	51100	Statistical Methods
(3)	CE	39800	Intro to Civil Engineering System Design
(3)	Basic Science Requirement‡		
(3)	General Education Elective*		
(6)	Technical Electives†		
(18)	TOTAL		

Senior Year **Seventh Semester**	**Senior Year** **Seventh Semester**
(3) ME 20000 Thermodynamics I	(3) ME 20000 Thermodynamics I
(3) General Education Elective*	(3) General Education Elective*
(12) Technical Electives†	(12) Technical Electives†
(18) Total	(18) Total

Senior Year **Eighth Semester**	**Senior Year** **Eighth Semester**
(3) CE 49800 Civil Engineering Design Project	(3) CE 49800 Civil Engineering Design Project
(3) General Education Elective*	(3) General Education Elective*
(9) Technical Electives†	(9) Technical Electives†
(15) Total	(15) Total

*Eighteen credit hours of general electives are chosen in accordance with the general education requirements of the College of Engineering and the following departmental requirements:

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2. The program must contain at least 6 credit hours in social sciences. It is strongly recommended that ECON 25100 be included in the program in social sciences.
3. All general education courses must be taken for a grade.

†Thirty credit hours of electives are chosen in accordance with the following requirements:

1. The elective course program shall be consistent with career objectives. For instance, one can elect to concentrate on a major in a specialized area with an integrated sequence of courses or can choose a general program in civil engineering by taking courses in several areas.
2. At least 12 credit hours must be chosen from an approved list of introductory civil engineering courses to provide breadth of study.
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4. At least 21 credit hours must be CE designated courses that must include two integrated

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3. At least 9 credit hours must be chosen from an approved list of design-intensive civil

sequences with a minimum of six credit hours in each.

5. The remaining credit hours required must be selected in support of the career objectives of the student. See an advisor for current policies.

‡The Basic Science Requirement courses are chosen from an approved list. Examples include: BIOL 11000, 12100 & 28600, 14600, 23000 or EAS 10000, 10400, 11100, 12000, 22100. See advisor for current approved list.

engineering courses.

4. At least 21 credit hours must be CE designated courses that must include two integrated sequences with a minimum of six credit hours in each.
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