CIVIL ENGINEERING

— ABET ACCREDITATION CRITERIA APPLY —

The civil engineering profession is concerned with the built environment. Civil engineers plan, design, and construct and sustain major facilities including transportation and utility lifeline systems, energy and industrial facilities, ports and waterways, buildings, and bridges. Civil engineers help manage our air, water, and energy resources and help protect society from natural catastrophes, such as earthquakes, as well as dealing with the hazards society itself generates in the form of toxic wastes.

Because these functions are often crucial to the day-to-day lives of most people and the facilities involved are physically substantial, civil engineers bear an important responsibility to the public. Their role is often more than just technical, requiring also a high degree of communicative skills and an ability to deal with people.

Civil engineering is a profession with a long and respected history. We marvel today at the works of our ingenious predecessors and the impact they had on their societies. The irrigation systems of Egypt and China, the Inca and Mayan temples and cities, the water supply tunnels of the Greeks, and the roads and aqueducts of Rome are examples. Through these many years, civil engineering has evolved into a broadly based discipline that deals with the technical as well as the socio-economic aspects of our built environment.

The mission of the Civil and Environmental Engineering department is to educate the next generation of societal, industrial, and academic leaders and discover knowledge that advances the state of the profession.

THE CURRICULUM

The undergraduate civil engineering curriculum includes a core, to be taken by all declared majors, that provides a broad introduction to the major areas of civil engineering. Two tracks then allow students to take additional specialized course work in either *Environmental and Water Studies* or *Structures and Construction*

Those undergraduates potentially interested in the *Environmental and Water Studies* specialization of the Civil Engineering major may want to examine the Environmental

Engineering major as a possible alternative; a comparison of these two alternative majors is presented in the section on the Environmental Engineering degree.

For more information on Civil & Environmental Engineering, students are encouraged to visit the CEE website at **http://cee.stanford.edu**, talk to a CEE faculty member, or contact the CEE Student Services Specialist, Sandra Wetzel, in room 316 of the Jerry Yang and Akiko Yamazaki Environment & Energy (Y2E2) Building..

DECLARING A CIVIL ENGINEERING MAJOR

Instructions on how to declare CE as a major appear at the end of this section, or link to *Prospective Students>Undergraduate Students>Majoring in CEE* at the website **http://cee.stanford.edu**.

OBJECTIVES AND OUTCOMES FOR CIVIL ENGINEERING

Objectives:

1. *Principles and Skills:* Provide an understanding of engineering principles along with analytical, problem-solving, design, and communication skills to continue succeeding and learning in diverse careers.
2. *Preparation for Practice:* Prepare for successful engineering practice with a longer-term perspective that takes into account new tools, such as advanced information technology and biotechnology, and increasingly complex professional and societal expectations.
3. *Preparation for Graduate Study:* Prepare for possible graduate study in engineering or other fields.
4. *Preparation for Service:* Develop the awareness, background, and skills to become responsible citizens and leaders in service to society.

Outcomes:

(a) A proficiency in and ability to apply knowledge of engineering, mathematics through differential equations, probability and statistics, and science including physics and chemistry
(b) An ability to design and conduct experiments, as well as to analyze and interpret data
(c) An ability to design a system, component, or process to meet desired needs
(d) An ability to function on multi-disciplinary teams
(e) An ability to identify, formulate, and solve engineering problems
(f) An understanding of professional and ethical responsibility
(g) An ability to communicate effectively
(h) The broad education necessary to understand the impact of engineering solutions in a global and societal context
(i) A recognition of the need for, and an ability to engage in life-long learning
(j) A knowledge of contemporary issues
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
(l) Background for admission to engineering or other professional graduate programs

RESEARCH EXPERIENCE FOR UNDERGRADUATES

The department of Civil and Environmental Engineering welcomes student participation in the VPUE Undergraduate Research Programs. Interested students are encouraged to check the VPUE website (**http://www.stanford.edu/dept/undergrad/vpue/**) and the CEE website **(http://cee.stanford.edu/)** for announcements regarding the application procedures. Annual program announcements typically appear in January with application due dates in February.

EXPLORING CIVIL ENGINEERING AS A MAJOR

Are you wondering whether a Civil Engineering major is for you? If so, here is some advice on courses accessible early in your undergraduate career that will help you assess your interest in our major. If you end up joining our program, this early start on fulfilling requirements will pay off by giving you more flexibility in class scheduling for your junior and senior years.

1. For an introduction to Civil Engineering, classes required for all of our declared majors which are readily accessible to you are
   CEE 70: Environmental Science & Technology (S)
   CEE100: Managing Sustainable Building Projects (S)(WIM)

2. For electives providing additional exposure to the two tracks within our major, look at
   STRUCTURES AND CONSTRUCTION TRACK:
   CEE 31Q: Accessing Architecture through Drawing (A; Sophomore seminar)
   CEE 46Q: Fail Your Way to Success (S; Sophomore. seminar)
   CEE 80N: The Art of Structural Engineering (not offered 2008-09)
   CEE 115: Goals and Methods of Sustainable Building Projects (S)

   ENVIRONMENTAL AND WATER STUDIES TRACK:
   CEE 63: Weather and Storms (A)
   CEE 64: Air Pollution: from Urban Smog to Global Change (W)
   CEE173A: Energy Resources (A)

3. For any Engineering major, three Engineering Fundamentals must be taken; see Fig. 3-4 for a list of courses offered. Early on, you should consider taking
   ENGR 14: Applied Mechanics: Statics (A,S, req'd for both CE tracks)
   ENGR 60: Engineering Economy (A, W, Su; req'd for both CE tracks)
   ENGR 50/50M: Introduction to Materials Science (W, S; req'd for Structures/Constr. Track)
   ENGR 30: Engineering Thermodynamics (A,W; req'd for Environ./Water track)

4. You should make sure you take the following Science/Math classes, which are required for almost all majors within the School of Engineering
   CHEM 31A/B *or* X: Chemical Principles I and II (A and W)
   PHYSICS 41: Mechanics (W) [co-requisite: MATH 41] or 4 units AP Physics C
   MATH 51: Linear Algebra and Differential Calculus (A,W,S,Sum) or CME 100: Vector Calculus (A), [prerequisite: MATH 41/42 or 10 units AP Calculus]

5 Finally, there are additional Science/Math classes required for students majoring in Civil Engineering which can readily be taken early on
GES 1: Fundamentals of Earth Science (A, S; req'd for both CE tracks)
STATS 110 (or STATS 60 or GES160): Statistics (A, W, S: req'd for both CE tracks)

REQUIREMENTS: 2008-2009 CIVIL ENGINEERING MAJOR

MATHEMATICS AND SCIENCE (45 UNITS MINIMUM), INCLUDING:

Course	Title	Units	Qtr
MATH 41/42	Calculus	10	A/A,W
CME 100 & 102	Math/Computational Methods for Engineers (or Math 51 & 53)	10	A,W
PHYSICS 41	Mechanics (or 4 units AP Physics C)	4	W
CHEM 31*	Chemical Principles (notes 1 and 2)	4	A,W
GES 1	Fundamentals of Earth Science	4	A,S
STAT 110	Statistical Methods (*or* STAT 60 *or* GES 160 *or* CEE 203 *or* CME 106)	3-5	A,W, S

(1) For the Environmental and Water Studies track, students are required to take either CHEM 31B or CHEM 31X, and CHEM 33. Note that CHEM 31B requires CHEM 31A as a prerequisite. CHEM 35 or CHEM 135 are also recommended, particularly for students who take CHEM 31X or have AP Chemistry credit, or for those students planning to continue on to graduate school

(2) For the Structures and Construction track, students are required to take either CHEM 31A, CHEM 31X, or ENGR 31 to satisfy the chemical principles requirement. (If used to satisfy the Science requirement, ENGR 31 may not be counted towards the Engineering Fundamentals requirement.)

ENGINEERING FUNDAMENTALS (SEE FIGURE 3-4 FOR APPROVED LIST):
(Three courses minimum, the two following, plus at least one additional course chosen by the student)

Course	Title	Units	Qtr
ENGR 14	Applied Mechanics	3	A, S
ENGR 60	Engineering Economy	3	A,W

Technology in Society: (One course required)

See Figure 3-3 of this Handbook for courses that fulfill the TIS requirement for Civil Engineering majors.

Experimentation:

At least eight units of experimentation are required. With careful planning, no additional courses beyond those taken to meet the science, fundamentals, and depth requirements will be necessary.

CIVIL ENGINEERING DEPTH: (Fundamentals + Depth to equal 68 Units Minimum of Engineering Science and Design – see chart at end of this section for applicable course units)

CORE: (19 UNITS)

Course	Title	Units	Qtr
CEE 70	Environmental Science and Technology	3	S
CEE100*	Managing Sustainable Building Projects	4	A
CEE101A	Mechanics of Materials	4	W
CEE101B	Mechanics of Fluids	4	S
CEE101C	Geotechnical Engineering (including lab)	4	A

*CEE 100 meets the Writing in the Major requirement.

Specialty Courses

Students choose a specialty in either (1) Structures and Construction or (2) Environmental and Water Studies, described below.

CE SPECIALTY IN STRUCTURES AND CONSTRUCTION

The structures and construction option provides students with courses in structural analysis and design, construction, building systems, and other courses related to structural engineering and construction management. A specific requirement of an ABET-accredited Civil Engineering major is participation in a major engineering design experience. This is fulfilled by taking CEE183 (and its prerequisites).

REQUIRED SPECIALTY COURSES: (27 UNITS)

Course	Title	Units	Qtr
ENGR 50 or ENGR 50M+	Introduction to Materials Science, Nanotechnology Emphasis Introduction to Materials Science, Biomaterials Emphasis	4 4	W,S A
CEE 102	Legal Aspects of Engineering and Construction	3	W
CEE 156	Building Systems Design	4	S
CEE 180 ◦	Structural Analysis	4	S
CEE 181	Design of Steel Structures	4	A
CEE 182	Design of Reinforced Concrete Structures	4	W
CEE 183	Integrated Building Design	4	S

+ Can count as a required Engineering Fundamental instead, if desired.
◦ CEE 180 is a prerequisite to CEE 181, CEE 182, and CEE 183.

SPECIALTY ELECTIVE COURSES: (AT LEAST 12 UNITS)

Course	Title	Units	Qtr
ENGR 15	Dynamics	3	A,S
CME 104	Linear Algebra and Partial Differential Equations for Engineers	5	S
CEE 101D*	Computations in CEE	3	A
CEE 111	Multidisciplinary Modeling and Analysis	4	W
CEE 115	Goals and Methods of Sustainable Building Projects	3-4	A
CEE130, 131A, 134B,or 135A (only one can apply as a Specialty Elective)		2-5	
CEE 122A/B	Computer Integrated Architecture/Engineering/Construction	2	W,S
CEE 140	Field Surveying Laboratory	3	S
CEE 142A	Creating Sustainable Development	3	W
CEE 143	Integrated Concurrent Engineering	3-4	W
CEE 147	Cases in Personality, Leadership, & Negotiation	3	S
CEE 151	Negotiation	3	A,S
CEE 154	Cases in Estimating Cost	3	A
CEE 160	Mechanics of Fluids Laboratory	2	S
CEE 161A	Rivers, Streams, and Canals (formerly *Open Channel Flow*)	3-4	A
CEE 171	Environmental Planning Methods	3	W
CEE 176A	Energy Efficient Buildings (alt. years)	3-4	W
CEE 176B	Electric Power: Renewables and Efficiency (alt. years)	3-4	S
CEE 195A/B	Structural Geology	3	A,W
CEE 196	Engineering Geology Practice (alt. years)	3	S
CEE 199	Undergrad. Research in Civil and Environmental Engineering	1-4	any
CEE 203*	Probabilistic Models in Civil Engineering	3-4	A

* Can count either towards the Math+Science requirement, or as elective engineering units.

Other Elective Courses:

Choose additional courses from within the School of Engineering to reach a total of 68 units of Engineering Science and Design. Students may need up to 4 more experimentation units to reach the minimum of 8 units (see chart on pgs 129-130). **Total Engineering Science and Engineering Design units for engineering fundamentals plus core (required courses, and electives) must be at least 68 units;** see chart at the end of this section for applicable course units. Students may need up to 5 more units of Engineering Science and Design.

CE SPECIALTY IN ENVIRONMENTAL AND WATER STUDIES

The environmental and water studies option focuses on environmental engineering and science, water resources, and environmental planning. A specific requirement of an ABET-accredited Civil Engineering major is participation in a major engineering design experience. This is fulfilled by taking CEE169, CEE 179B, or CEE179C.

REQUIRED SPECIALTY COURSES: (34 UNITS)

Course	Title	Units	Qtr
ENGR 30+	Engineering Thermodynamics	3	A,W
CEE 101D*	Computations in CEE	3	A
CEE 160	Mechanics of Fluids Laboratory	2	S
CEE 161A	Rivers, Streams and Canals (formerly *Open Channel Flow*)	4	A
CEE 166A	Watersheds and Wetlands	3	A
CEE 166B	Floods and Droughts, Dams and Aqueducts (formerly *Water Resources*)	3	W
CEE 171	Environmental Planning Methods	3	W
CEE 172	Air Quality Management	3	W
CEE 177	Aquatic Chemistry and Biology	4	A
CEE 179A	Water Chemistry Laboratory	3	W
Design Experience: Choose CEE169, CEE 179B, or CEE 179C.		5	S

+ Can count as a required Engineering Fundamental instead, if desired.
* Can count either towards the Math+Science requirement, or as engineering units.

SPECIALTY ELECTIVE COURSES: (at least six additional units from the following list)

Course	Title	Units	Qtr
CEE 63*	Weather and Storms	3	A
CEE 64*	Air Pollution: From Urban Smog to Global Change	3	W
CEE 164	Introduction to Physical Oceanography	4	W
CEE 165D	Water and Sanitation in Developing Countries	3	S
CEE 166D	Water Resources and Water Hazards Field Trips	2	W
CEE 169	Environmental and Water Resources: Design (alt. years)	5	S
CEE 172A	Indoor Air Quality *(alternate years)*	2-3	S
CEE 173A	Energy Resources	4-5	A
CEE 176A	Energy Efficient Buildings	3-4	W
CEE 176B	Electric Power: Renewables and Efficiency	3-4	S
CEE 178	Introduction to Human Exposure Analysis	3	S

CEE 179B	Process Design for Environmental Biotechnology	5	S
CEE 179C	Environmental Engineering Design (alt. years)	5	S
CEE 199	Undergrad. Research in Civil & Environmental Engineering	1-4	any

* Can count either towards the Math+Science requirement, or as engineering units.

Other Elective Courses:

Choose additional courses from within the School of Engineering to reach a total of 68 units of Engineering Science and Engineering Design. .**Total Engineering Science+Design units for engineering fundamentals plus core (required courses, and electives) must be at least 68 units** (see chart below for applicable course units)**.** Students may need up to 4 additional units of Engineering Science and Design.

ENGINEERING SCIENCE, ENGINEERING DESIGN, AND EXPERIMENTATION UNITS

SCHOOL OF ENGINEERING COURSES

Course	Title	Engr Sci	Engr Dsgn	Expr	Total
ENGR 10	Introduction to Engineering Analysis	4	-	-	4
ENGR 14	Applied Mechanics	2	1	-	3
ENGR 15	Dynamics	2	1	-	3
ENGR 20	Introduction to Chemical Engineering	2	1	-	3
ENGR 30	Engineering Thermodynamics	3	-	-	3
ENGR 40	Introductory Electronics	3	2	2	5
ENGR 50/50M	Introduction to Materials Science	4	-	-	4
ENGR 60	Engineering Economy	3	-	-	3
ENGR 70	Programming Methodology or Abstractions	3	2	-	5

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING COURSES

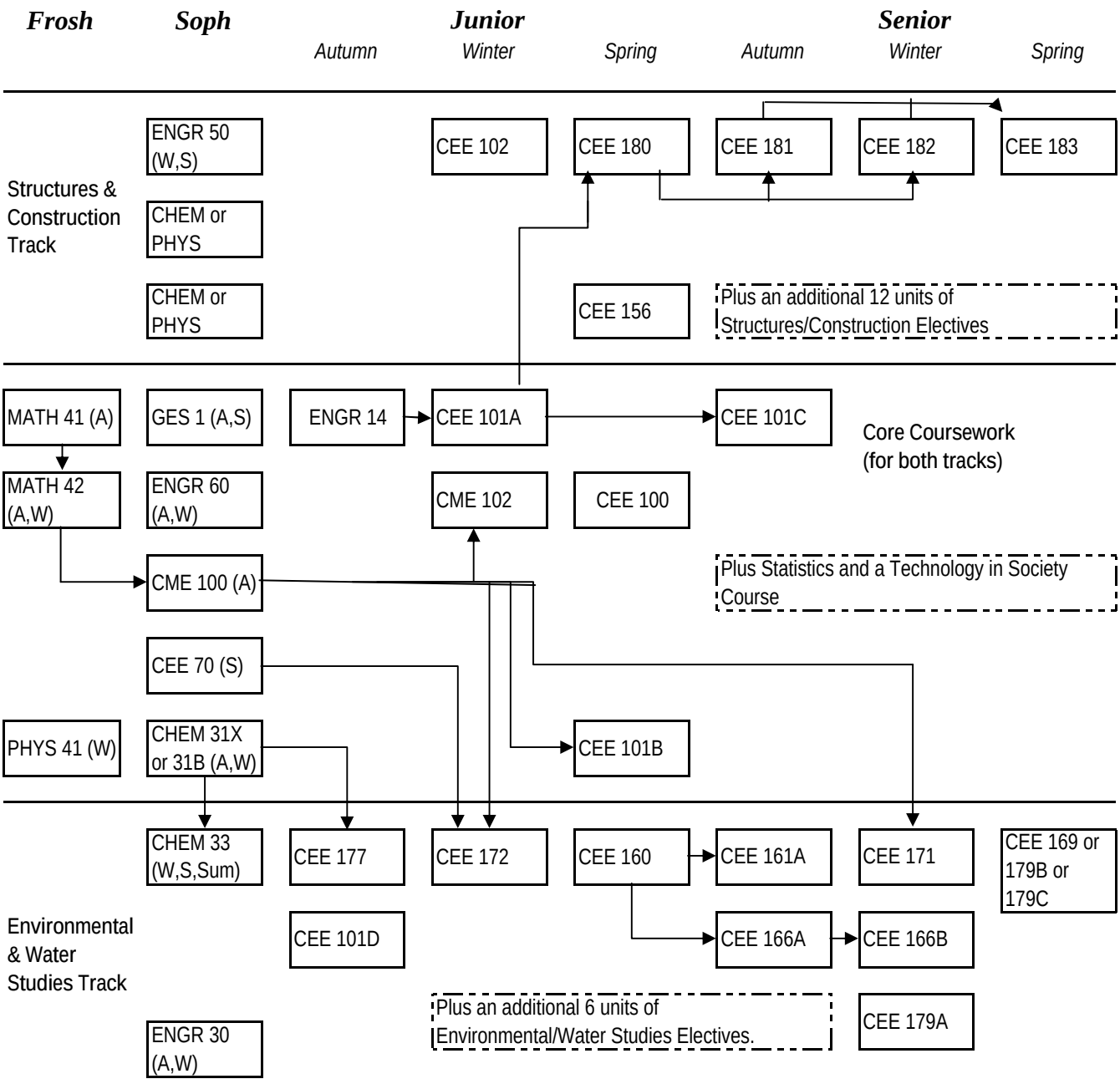
Course	Title	Engr Sci	Engr Dsgn	Expr	Total
CEE 31Q	Accessing Architecture through Drawing	1	3	-	4
CEE 46Q	Fail Your Way to Success	2	1	-	3
CEE 48Q	Designing Orgs. To Execute Global Projects	2	2	-	4
CEE 63	Weather & Storms	3	0	-	3
CEE 64	Air Pollution: Urban Smog to Global Change	3	0	-	3
CEE 70	Environmental Science & Technology	2	1	-	3
CEE 80N	The Art of Structural Engineering	2	2	-	4
CEE 100	Managing Sustainable Building Projects	2.5	1.5	1	4
CEE 101A	Mechanics of Materials	3	1	1	4
CEE 101B	Mechanics of Fluids	3	1	-	4
CEE 101C	Geotechnical Engineering	2.5-3	0.5-1	0-1	3-4
CEE 101D	Computations in CEE (for 3 units)	2	1	-	3
CEE 102	Legal Aspects of Engineering and Construction	2	1	-	3
CEE 110	Building Information Modeling	2	1	-	3
CEE 111	Multidisciplinary Modeling & Analysis	1	2	1	4
CEE 115	Goals & Methods for Projects	2	1-2	-	3-4
CEE122A/B	Computer Integrated A/E/C	0	2	-	2
CEE 130	Arch. Design: 3D Modeling, Method., & Process	1	3	-	4

Engineering Science, Design, and Experimentation Units Cont'd.

Course	Title	Engr Sci	Engr Dsgn	Expr	Total
CEE 131A	Architecture Design Process	1	3	-	4
CEE 134B	Architectural Studio: Special Topic	2	2		4
CEE 135A	Parametric Design	2	2	-	4
CEE 137B	Intermediate Architecture Studio	0	5	-	5
CEE 138A	Contemporary Architecture	0	3	-	3
CEE 139	Design Portfolio Methods	0	2	-	2
CEE 140	Field Surveying Laboratory	0	3	3	3
CEE 142A	Creating Sustainable Development	2	1	-	3
CEE 147	Cases in Personality, Leadership & Negot.	3	0	1	3
CEE 151	Negotiation	3	0	-	3
CEE 154	Cases in Estimating Cost	1	2	-	3
CEE 156	Building Systems Design	2	2	-	4
CEE 159	Career Skills Seminar	0	0	-	2
CEE 160	Mechanics of Fluids Laboratory	1	1	2	2
CEE 161A	Rivers, Streams and Canals (for 3 units)	1.5	1.5	-	3
CEE 161A	Rivers, Streams and Canals (for 4 units)	2	2	1	4
CEE 164	Intro to Physical Oceanography	4	0	-	4
CEE 165D	Water & Sanitation in Developing Countries	2	1	-	3
CEE 166A	Watersheds and Wetlands	2	1	-	3
CEE 166B	Floods & Droughts, Dams & Aqueducts	2	1	-	3
CEE 166D	Water Resources & Water Hazards Field Trips	1	1	-	2
CEE 169	Env & Water Resources: Design (alt years)	0	5	-	5
CEE 171	Environmental Planning Methods	2	1	-	3
CEE 172	Air Quality Management	2	1	-	3
CEE 172A	Indoor Air Quality	1-2	1	-	2-3
CEE 173A	Energy Resources	4-5	0	-	4-5
CEE 175	Environ. Economics & Policy	0	0	-	5
CEE 175A	CA Coast: Science, Policy, and Law	1	0	-	3-4
CEE 176A	Energy Efficient Buildings	2	1-2	0-1	3-4
CEE 176B	Electric Power: Renewables and Efficiency	2	1-2	0-1	3-4
CEE 177	Aquatic Chemistry and Biology	3	1	-	4
CEE 178	Introduction to Human Exposure Analysis	2	1	1	3
CEE 179A	Water Chemistry Laboratory	3	0	3	3
CEE 179B	Process Design for Environ. Biotechnology	2	3	3	5
CEE 179C	Environmental Engineering Design	0	5	0	5
CEE 180	Structural Analysis	3	1	-	4
CEE 181	Design of Steel Structures	0	4	-	4
CEE 182	Design of Reinforced Concrete Structures	0	4	-	4
CEE 183	Integrated Building Design	0	4	-	4
CEE 195A/B	Structural Geology	2	1	1	3
CEE 196	Engineering Geology Practice	2	1	1	3
CEE 199	Undergraduate Research in CEE	varies	varies	0-4	1-4

Civil Engineering

Typical Sequence of Courses



* Arrows represent direct prerequisites
* Dashed lines represent co-requisites.
* Dashed-line boxes enclose alternates. These may indicate alternate years in which to take a given course, and/or alternate courses that may be taken at a given time.

Civil Engineering

Environmental (Wet) Track, Early Start Program

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other
Freshman	MATH 41	5	-	-	MATH 42	5	-	-	Writing	-	-	3
	IHUM	-	-	5	IHUM	-	-	5	IHUM	-	-	5
	CHEM 31A	4	-	-	CHEM 31B	4	-	-	CHEM 33	4	-	-
	Unrstr Elctv^	-	-	2	Unrstr Elctv^	-	-	2	Engr Elctv+	-	2	-
	Subtotals	*9*	*0*	*7*	*Subtotals*	*9*	*0*	*7*	*Subtotals*	*4*	*2*	*8*
	Total			16	Total			16	Total			14
Sophomore	Language	-	-	5	Language	-	-	5	Language	-	-	5
	CEE 101D	-	3	-	CEE 172*	-	3	-	Writing	-	-	3
	ENGR 60	-	3	-	PHYSICS 41	4	-	-	CEE 70	-	3	-
	CME 100++	5	-	-	CME 102++	5	-	-	STAT 60	5	-	-
	Subtotals	*5*	*6*	*5*	*Subtotals*	*9*	*3*	*5*	*Subtotals*	*5*	*3*	*8*
	Total			16	Total			17	Total			16
Junior	CEE 177	-	4	-	ENGR 30*	-	3	-	CEE 101B*	-	4	-
	ENGR 14	-	3	-	CEE 101A	-	4	-	CEE 160	-	2	-
	GES 1	4	-	-	EnvE Depth	-	3	-	CEE 100	-	4	-
	GER	-	-	4	GER	-	-	5	TIS Course	-	-	4
	Subtotals	*4*	*7*	*4*	*Subtotals*	*0*	*10*	*5*	*Subtotals*	*0*	*10*	*4*
	Total			15	Total			15	Total			14
Senior	CEE166A	-	3	-	CEE166B	-	3	-	CEE 169**	-	5	-
	CEE161A*	-	4	-	CEE 171	-	3	-	EnvE Depth	-	3	-
	CEE101C	-	4	-	CEE 179A	-	3	-	GER	-	-	4
	GER	-	-	4	GER	-	-	5				
	Subtotals	*0*	*11*	*4*	*Subtotals*	*0*	*9*	*5*	*Subtotals*	*0*	*8*	*4*
	Total			15	Total			14	Total			12

Total Math & Science Units:	45
Total Engineering Units:	69
Total Other Units:	66
Total Units:	180

Notes:

^ Students should explore majors of interest to them using these unrestricted electives. Courses in the School of Engineering can count towards the CE major; see description of "Other Elective Courses" for details.

* These classes all are typically offered MWF10.

** In alternate years, when CEE169 is not offered, take CEE179C in the spring to fulfill design experience.

\+ Enough coursework from within the School of Engineering is needed to reach a total of 68 Engineering Science+Engineering Design Units; see description of "Other Elective Courses" for details.

++ Can take Math 51 and 53 instead of CME 100 and 102, if desired.

Civil Engineering

Environmental (Wet) Track, Regular Program

	Fall				Winter				Spring			
	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other
Freshman	MATH 41	5	-	-	MATH 42	5	-	-	STAT 60	5	-	-
	IHUM	-	-	5	IHUM	-	-	5	IHUM	-	-	5
	Writing	-	-	3	PHYSICS 41	4	-	-	Unrstr Elctv^	-	-	3
	GER	-	-	4	Unrstr Elctv^	-	-	3	GER	-	-	4
	Subtotals	*5*	*0*	*12*	*Subtotals*	*9*	*0*	*8*	*Subtotals*	*5*	*0*	*12*
	Total			17	Total			17	Total			17
Sophomore	Language	-	-	5	Language	-	-	5	Language	-	-	5
	CHEM 31	4	-	-	CHEM 31B	4	-	-	CHEM 33	4	-	-
	MATH 51	5	-	-	MATH 53++	5	-	-	CEE 70	-	3	-
	Writing	-	-	3	ENGR 60	-	3	-	Engr Elctv+	-	2	-
	Subtotals	*9*	*0*	*8*	*Subtotals*	*9*	*3*	*5*	*Subtotals*	*4*	*5*	*5*
	Total			17	Total			17	Total			14
Junior	ENGR 14	-	3	-	CEE101A	-	4	-	CEE 101B*	-	4	-
	CEE 177	-	4	-	CEE 172*	-	3	-	CEE 160	-	2	-
	CEE 101D	-	3	-	EnvE Depth	-	3	-	CEE 100	-	4	-
	GER	-	-	4	GER	-	-	4	GES 1	4	-	-
	Subtotals	*0*	*10*	*4*	*Subtotals*	*0*	*10*	*4*	*Subtotals*	*4*	*10*	*0*
	Total			14	Total			14	Total			14
Senior	CEE101C	-	4	-	CEE 166B	-	3	-	CEE 169**	-	5	-
	CEE 161A	-	4	-	CEE 171	-	3	-	EnvE Depth	-	3	-
	CEE 166A	-	3	-	CEE 179A	-	3	-	TIS Course	-	-	4
	GER	-	-	4	ENGR 30*	-	3	-				
	Subtotals	*0*	*11*	*4*	*Subtotals*	*0*	*12*	*0*	*Subtotals*	*0*	*8*	*4*
	Total			15	Total			12	Total			12

Total Math & Science Units:	45
Total Engineering Units:	69
Total Other Units:	66
Total Units:	180

Notes:

^ Students should explore majors of interest to them using these unrestricted electives. Courses in the School of Engineering can count towards the CE major; see description of "Other Elective Courses" for details.

* These classes all are typically offered MWF10.

** In alternate years, when CEE169 is not offered, take CEE179C in the spring to fulfill design experience.

\+ Enough coursework from within the School of Engineering is needed to reach a total of 68 Engineering Science+Engineering Design Units; see description of "Other Elective Courses" for details.

++ Can take CME 100 and 102 instead of Math 51 and 53, if desired.

Civil Engineering

Typical 4 Year Plan

Structures/Construction (Dry) Track, Early Start Program

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other
Freshman	MATH 41	5	-	-	MATH 42	5	-	-	STAT 60	5	-	-
	IHUM	-	-	5	IHUM	-	-	5	IHUM	-	-	5
	Writing	-	-	3	PHYSICS 41	4	-	-	PHYSICS 43	4	-	-
	Unrstr Elctv*	-	-	3								
	Subtotals	*5*	*0*	*11*	*Subtotals*	*9*	*0*	*5*	*Subtotals*	*9*	*0*	*5*
	Total			16	Total			14	Total			14
Sophomore	Language	-	-	5	Language	-	-	5	Language	-	-	5
	CME 100++	5	-	-	CME 102++	5	-	-	CEE 100 #	-	4	-
	PHYSICS 45	4	-	-	ENGR 50	-	4	-	CEE 156	-	4	-
	Writing	-	-	3	Engr Elctv+	-	3	-	Engr Elctv+	-	3	-
	Subtotals	*9*	*0*	*8*	*Subtotals*	*5*	*7*	*5*	*Subtotals*	*0*	*11*	*5*
	Total			17	Total			17	Total			16
Junior	ENGR 14	-	3	-	CEE 101A	-	4	-	CEE 101B	-	4	-
	CE/Dry Elctv	-	3	-	CEE 102	-	3	-	CEE 180	-	4	-
	GES 1	4	-	-	ENGR 60	-	3	-	CEE 70	-	3	-
	ENGR 31	4	-	-	GER	-	-	4	GER	-	-	5
	Subtotals	*8*	*6*	*0*	*Subtotals*	*0*	*10*	*4*	*Subtotals*	*0*	*11*	*5*
	Total			14	Total			14	Total			16
Senior	CEE 101C	-	4	-	CE/Dry Elctv	-	3	-	CE/Dry Elctv	-	3	-
	CEE 181	-	4	-	CEE 182	-	4	-	CEE183	-	4	-
	CE/Dry Elctv	-	3	-	TIS Course	-	-	4	GER	-	-	5
	GER	-	-	4	GER	-	-	4				
	Subtotals	*0*	*11*	*4*	*Subtotals*	*0*	*7*	*8*	*Subtotals*	*0*	*7*	*5*
	Total			15	Total			15	Total			12

Total Math & Science Units:	45
Total Engineering Units:	70
Total Other Units:	65
Total Units:	180

Notes:

* Students should explore majors of interest to them using these unrestricted electives. Courses in the School of Engineering can count towards the CE major; see description of "Other Elective Courses" for details.

\# CEE 100 meets the Writing in the Major Requirement

\+ Enough coursework from within the School of Engineering is needed to reach a total of 68 Engineering Science+Engineering Design Units; see description of "Other Elective Courses" for details.

++ Can take Math 51 and 53 instead of CME 100 and 102, if desired.

Civil Engineering

Typical 4 Year Plan
Structures/Construction (Dry) Track, Regular Program

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other
Freshman	MATH 41	5	-	-	MATH 42	5	-	-	STAT 60	5	-	-
	IHUM	-	-	5	IHUM	-	-	5	IHUM	-	-	5
	Writing	-	-	3	Writing	-	-	3	GER	-	-	4
	Unrstr Elctv*	-	-	2	Unrstr Elctv*	-	-	3				
	Subtotals	*5*	*0*	*10*	*Subtotals*	*5*	*0*	*11*	*Subtotals*	*5*	*0*	*9*
	Total			15	Total			16	Total			14
Sophomore	Language	-	-	5	Language	-	-	5	Language	-	-	5
	Engr Elctv+	-	3	-	PHYSICS 41	4	-	-	CEE 100 #	-	4	-
	MATH 51++	5	-	-	MATH 53++	5	-	-	PHYSICS 43	4	-	-
	GER	-	-	4	Engr Elctv+	-	3	-	GER	-	-	4
	Subtotals	*5*	*3*	*9*	*Subtotals*	*9*	*3*	*5*	*Subtotals*	*4*	*4*	*9*
	Total			17	Total			17	Total			17
Junior	ENGR 14	-	3	-	CEE 101A	-	4	-	CEE 101B	-	4	-
	CE/Dry Elctv	-	3	-	ENGR 50	-	4	-	CEE 156	-	4	-
	PHYSICS 45	4	-	-	CEE 102	-	3	-	CEE 180	-	4	-
	ENGR 31	4	-	-	GER	-	-	4	CEE 70	-	3	-
	Subtotals	*8*	*6*	*0*	*Subtotals*	*0*	*11*	*4*	*Subtotals*	*0*	*15*	*0*
	Total			14	Total			15	Total			15
Senior	CEE 101C	-	4	-	CE/Dry Elctv	-	3	-	CE/Dry Elctv	-	3	-
	CEE 181	-	4	-	CEE 182	-	4	-	CEE183	-	4	-
	CE/Dry Elctv	-	3	-	ENGR 60	-	3	-	GER	-	-	4
	GES 1	4	-	-	TIS Course	-	-	4				
	Subtotals	*4*	*11*	*0*	*Subtotals*	*0*	*10*	*4*	*Subtotals*	*0*	*7*	*4*
	Total			15	Total			14	Total			11

Total Math & Science Units:	45
Total Engineering Units:	70
Total Other Units:	65
Total Units:	180

Notes:

* Students should explore majors of interest to them using these unrestricted electives. Courses in the School of Engineering can count towards the CE major; see description of "Other Elective Courses" for details.

\# CEE 100 meets the Writing in the Major Requirement

\+ Enough coursework from within the School of Engineering is needed to reach a total of 68 Engineering Science+Engineering Design Units; see description of "Other Elective Courses" for details.

++ Can take CME 100 and 102 instead of Math 51 and 53, if desired.

Civil Engineering

Typical 4 Year Plan

Structures/Construction (Dry) Track, Autumn Quarter Junior Year Abroad

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other
Freshman	MATH 41	5	-	-	MATH 42	5	-	-	MATH 51	5	-	-
	IHUM	-	-	5	IHUM	-	-	5	IHUM	-	-	5
	Writing	-	-	3	Writing	-	-	3	GER	-	-	4
	Unrstr Elctv*	-	-	2	Unrstr Elctv*	-	-	2				
	Subtotals	*5*	*0*	*10*	*Subtotals*	*5*	*0*	*10*	*Subtotals*	*5*	*0*	*9*
	Total			15	Total			15	Total			14
Sophomore	Language	-	-	5	Language	-	-	5	Language	-	-	5
	Engr Elctv+	-	3	-	Engr Elctv+	-	3	-	CEE 100 **	-	4	-
	STAT 110	4	-	-	PHYSICS 41	4	-	-	PHYSICS 43	4	-	-
	ENGR 31	4	-	-	GER	-	-	4	ENGR 14	-	3	-
	Subtotals	*8*	*3*	*5*	*Subtotals*	*4*	*3*	*9*	*Subtotals*	*4*	*7*	*5*
	Total			16	Total			16	Total			16
Junior	GER	-	-	5	CEE 101A	-	4	-	CEE 101B	-	4	-
	GER	-	-	5	CEE 102	-	3	-	CEE 156	-	4	-
					ENGR 50	-	4	-	CEE 180	-	4	-
	--- Autumn Quarter Abroad ---				CME102	5	-	-	CE/Dry Elctv	-	4	-
	Subtotals	*0*	*0*	*10*	*Subtotals*	*5*	*11*	*0*	*Subtotals*	*0*	*16*	*0*
	Total			10	Total			16	Total			16
Senior	CEE 101C	-	4	-	CE/Dry Elctv	-	4	-	CE/Dry Elctv	-	4	-
	CEE 181	-	4	-	CEE 182	-	4	-	CEE183	-	4	-
	GES 1	5	-	-	ENGR 60	-	3	-	CEE 70	-	3	-
	PHYSICS 45	4	-	-	TIS Course	-	-	4	GER	-	-	4
	Subtotals	*9*	*8*	*0*	*Subtotals*	*0*	*11*	*4*	*Subtotals*	*0*	*11*	*4*
	Total			17	Total			15	Total			15

Total Math & Science Units:	45
Total Engineering Units:	70
Total Other Units:	66
Total Units:	181

Notes:

* Students should explore majors of interest to them using these unrestricted electives. Courses in the School of Engineering can count towards the CE major; see description of "Other Elective Courses" for details.

** CEE 100 meets the Writing in the Major requirement

\+ Enough coursework from within the School of Engineering is needed to reach a total of 68 Engineering Science+Engineering Design Units; see description of "Other Elective Courses" for details.

\- Additional 4-year programs for students interested in going abroad are available at http://ughb.stanford.edu

Civil Engineering

Typical 4 Year Plan

Structures/Construction (Dry) Track, Winter Quarter Junior Year Abroad

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other
Freshman	MATH 41	5	-	-	MATH 42	5	-	-	MATH 51	5	-	-
	IHUM	-	-	5	IHUM	-	-	5	IHUM	-	-	5
	Writing	-	-	3	Writing	-	-	3	GER	-	-	4
	Unrstr Elctv*	-	-	2	Unrstr Elctv*	-	-	2				
	Subtotals	*5*	*0*	*10*	*Subtotals*	*5*	*0*	*10*	*Subtotals*	*5*	*0*	*9*
	Total			15	Total			15	Total			14
Sophomore	Language	-	-	5	Language	-	-	5	Language	-	-	5
	Engr Elctv+	-	3	-	ENGR 50	-	4	-	CEE 100 **	-	4	-
	MATH 53	5	-	-	PHYSICS 41	4	-	-	PHYSICS 43	4	-	-
	ENGR 14	-	3	-	CEE 101A	-	4	-	GER	-	-	4
	Subtotals	*5*	*6*	*5*	*Subtotals*	*4*	*8*	*5*	*Subtotals*	*4*	*4*	*9*
	Total			16	Total			17	Total			17
Junior	STAT 110	4	-	-	GER	-	-	5	CEE 101B	-	4	-
	CE/Dry Elctv	-	4	-	GER	-	-	5	CEE 156	-	4	-
	PHYSICS 45	4	-	-					CEE 180	-	4	-
	ENGR 31	4	-	-	*--- Winter Quarter Abroad ---*				GER	-	-	4
	Subtotals	*12*	*4*	*0*	*Subtotals*	*0*	*0*	*10*	*Subtotals*	*0*	*12*	*4*
	Total			16	Total			10	Total			16
Senior	CEE 101C	-	4	-	CE/Dry Elctv	-	4	-	CE/Dry Elctv	-	4	-
	CEE 181	-	4	-	CEE 182	-	4	-	CEE183	-	4	-
	GES 1	5	-	-	ENGR 60	-	3	-	CEE 70	-	3	-
	Engr Elctv+	-	3	-	CEE 102	-	3	-	TIS Course	-	-	4
	Subtotals	*5*	*11*	*0*	*Subtotals*	*0*	*14*	*0*	*Subtotals*	*0*	*11*	*4*
	Total			16	Total			14	Total			15

Total Math & Science Units:	45
Total Engineering Units:	70
Total Other Units:	66
Total Units:	181

Notes:

* Students should explore majors of interest to them using these unrestricted electives. Courses in the School of Engineering can count towards the CE major; see description of "Other Elective Courses" for details.

** CEE 100 meets the Writing in the Major Requirement

\+ Enough coursework from within the School of Engineering is needed to reach a total of 68 Engineering Science+Engineering Design Units; see description of "Other Elective Courses" for details.

\- Additional 4-year programs for students interested in going abroad are available at http://ughb.stanford.edu

Civil Engineering

Typical 4 Year Plan

Structures/Construction (Dry) Track, Spring Quarter Junior Year Abroad

	Fall				Winter				Spring			
	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other	Class	Math/ Sci.	Engr.	Other
Freshman	MATH 41	5	-	-	MATH 42	5	-	-	MATH 51	5	-	-
	IHUM	-	-	5	IHUM	-	-	5	IHUM	-	-	5
	Writing	-	-	3	Writing	-	-	3	GER	-	-	4
	Unrstr Elctv*	-	-	2	Unrstr Elctv*	-	-	2				
	Subtotals	*5*	*0*	*10*	*Subtotals*	*5*	*0*	*10*	*Subtotals*	*5*	*0*	*9*
	Total			15	Total			15	Total			14
Sophomore	Language	-	-	5	Language	-	-	5	Language	-	-	5
	Engr Elctv+	-	3	-	Engr Elctv+	-	3	-	CEE 100 **	-	4	-
	STAT 110	4	-	-	PHYSICS 41	4	-	-	PHYSICS 43	4	-	-
	ENGR 14	-	3	-	CEE 101A	-	4	-	CEE 180	-	4	-
	Subtotals	*4*	*6*	*5*	*Subtotals*	*4*	*7*	*5*	*Subtotals*	*4*	*8*	*5*
	Total			15	Total			16	Total			17
Junior	ENGR 60		3	-	ENGR 50	-	4	-	GER	-	-	5
	CE/Dry Elctv	-	4	-	CEE 102	-	3	-	GER	-	-	5
	PHYSICS 45	4	-	-	CME102	5	-	-				
	GES 1	5	-	-	GER	-	-	4	*--- Spring Quarter Abroad ---*			
	Subtotals	*9*	*7*	*0*	*Subtotals*	*5*	*7*	*4*	*Subtotals*	*0*	*0*	*10*
	Total			16	Total			16	Total			10
Senior	CEE 101C	-	4	-	CE/Dry Elctv	-	4	-	CEE 101B	-	4	-
	CEE 181	-	4	-	CEE 182	-	4	-	CEE183	-	4	-
	CE/Dry Elctv	-	4	-	ENGR 60	-	3	-	CEE 70	-	3	-
	GER	-	-	4	TIS Course	-	-	4	CEE 156	-	4	-
	Subtotals	*0*	*12*	*4*	*Subtotals*	*0*	*11*	*4*	*Subtotals*	*0*	*15*	*0*
	Total			16	Total			15	Total			15

Total Math & Science Units:	41
Total Engineering Units:	73
Total Other Units:	66
Total Units:	180

Notes:

* Students should explore majors of interest to them using these unrestricted electives. Courses in the School of Engineering can count towards the CE major; see description of "Other Elective Courses" for details.

** CEE 100 meets the Writing in the Major Requirement

\+ Enough coursework from within the School of Engineering is needed to reach a total of 68 Engineering Science+Engineering Design Units; see description of "Other Elective Courses" for details.

\- Additional 4-year programs for students interested in going abroad are available at http://ughb.stanford.edu

Civil Engineering

Environmental (Wet) Track, Autumn Quarter Junior Year Abroad

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other
Freshman	MATH 41	5	-	-	MATH 42	5	-	-	MATH 51	5	-	-
	IHUM	-	-	5	IHUM	-	-	5	IHUM	-	-	5
	Writing	-	-	3	PHYSICS 41	4	-	-	CEE 70	-	3	-
	Unrstr Elctv#	-	-	3	Engr Elctv+^	-	2	-	GER ^	-	-	4
	Subtotals	*5*	*0*	*11*	*Subtotals*	*9*	*2*	*5*	*Subtotals*	*5*	*3*	*9*
	Total			16	Total			16	Total			17
Sophomore	Language	-	-	5	Language	-	-	5	Language	-	-	5
	CHEM 31A	4	-	-	CHEM 31B	4	-	-	CHEM 33	4	-	-
	Writing	-	-	3	MATH 53	5	-	-	GES 1	4	-	-
	CEE 101D	-	3	-	ENGR 60	-	3	-	ENGR 14	-	3	-
	Subtotals	*4*	*3*	*8*	*Subtotals*	*9*	*3*	*5*	*Subtotals*	*8*	*3*	*5*
	Total			15	Total			17	Total			16
Junior	GER ^	-	-	5	CEE101A	-	4	-	CEE 101B*	-	4	-
	GER ^	-	-	5	CEE 172*	-	3	-	CEE 160	-	2	-
					STAT 60	5	-	-	CEE 100	-	4	-
	--- Autumn Quarter Abroad ---				EnvE Depth	-	3	-	GER	-	-	5
	Subtotals	*0*	*0*	*10*	*Subtotals*	*5*	*10*	*0*	*Subtotals*	*0*	*10*	*5*
	Total			10	Total			15	Total			15
Senior	CEE101C	-	4	-	CEE 166B	-	3	-	CEE 169**	-	5	-
	CEE 161A*	-	4	-	CEE 171	-	3	-	TIS Course	-	-	4
	CEE 166A	-	3	-	CEE 179A	-	3	-	EnvE Depth	-	3	-
	CEE 177	-	4	-	ENGR 30*	-	3	-	GER	-	-	4
	Subtotals	*0*	*15*	*0*	*Subtotals*	*0*	*12*	*0*	*Subtotals*	*0*	*8*	*8*
	Total			15	Total			12	Total			16

Total Math & Science Units:	45
Total Engineering Units:	69
Total Other Units:	66
Total Units:	180

Notes:

\# Students should explore majors of interest to them using these unrestricted electives. Courses in the School of Engineering can count towards the CE major; see description of "Other Elective Courses" for details.

* These classes all are typically offered MWF10.

** In alternate years, when CEE169 is not offered, take CEE179B or C in the spring to fulfill design experience.

\+ Enough coursework from within the School of Engineering is needed to reach a total of 68 Engineering Science+Engineering Design Units; see description of "Other Elective Courses" for details.

^ Most Overseas programs offer multiple classes that meet the DB-SocSci, DB-Hum, and EC-GlobalCom GERs. Students should save these GERs for their overseas quarter. Some Overseas programs also offer Engr 40 and/or 50

Civil Engineering

Environmental (Wet) Track, Winter Quarter Junior Year Abroad

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other
Freshman	MATH 41	5	-	-	MATH 42	5	-	-	MATH 51	5	-	-
	IHUM	-	-	5	IHUM	-	-	5	IHUM	-	-	5
	Writing	-	-	3	PHYSICS 41	4	-	-	CEE 70	-	3	-
	Unrstr Elctv#	-	-	3	Engr Elctv+^	-	2	-	GER ^	-	-	4
	Subtotals	*5*	*0*	*11*	*Subtotals*	*9*	*2*	*5*	*Subtotals*	*5*	*3*	*9*
	Total			16	Total			16	Total			17
Sophomore	Language	-	-	5	Language	-	-	5	Language	-	-	5
	CHEM 31A	4	-	-	CHEM 31B	4	-	-	CHEM 33	4	-	-
	Writing	-	-	3	MATH 53	5	-	-	CEE 100	-	4	-
	ENGR 14	-	3	-	CEE101A	-	4	-	GES 1	4	-	-
	Subtotals	*4*	*3*	*8*	*Subtotals*	*9*	*4*	*5*	*Subtotals*	*8*	*4*	*5*
	Total			15	Total			18	Total			17
Junior	EnvE Depth	-	3	-	GER ^	-	-	5	CEE 101B*	-	4	-
	CEE 177	-	4	-	GER ^	-	-	5	CEE 160	-	2	-
	ENGR 30*	-	3	-					STAT 60	5	-	-
	CEE 101D	-	3	-	*--- Winter Quarter Abroad ---*				GER	-	-	5
	Subtotals	*0*	*13*	*0*	*Subtotals*	*0*	*0*	*10*	*Subtotals*	*5*	*6*	*5*
	Total			13	Total			10	Total			16
Senior	ENGR 60	-	3	-	CEE 171	-	3	-	CEE 169**	-	5	-
	CEE101C	-	4	-	CEE 172*	-	3	-	EnvE Depth	-	3	-
	CEE 161A*	-	4	-	CEE 179A	-	3	-	TIS Course	-	-	4
	CEE 166A	-	3	-	CEE 166B	-	3	-	GER	-	-	4
	Subtotals	*0*	*14*	*0*	*Subtotals*	*0*	*12*	*0*	*Subtotals*	*0*	*8*	*8*
	Total			14	Total			12	Total			16

Total Math & Science Units:	45
Total Engineering Units:	69
Total Other Units:	66
Total Units:	180

Notes:

\# Students should explore majors of interest to them using these unrestricted electives. Courses in the School of Engineering can count towards the CE major; see description of "Other Elective Courses" for details.

* These classes all are typically offered MWF10.

** In alternate years, when CEE169 is not offered, take CEE179B or C in the spring to fulfill design experience.

\+ Enough coursework from within the School of Engineering is needed to reach a total of 68 Engineering Science+Engineering Design Units; see description of "Other Elective Courses" for details.

^ Most Overseas programs offer multiple classes that meet the DB-SocSci, DB-Hum, and EC-GlobalCom GERs. Students should save these GERs for their overseas quarter. Some Overseas programs also offer Engr 40 and/or 50

Civil Engineering

Environmental (Wet) Track, Spring Quarter Junior Year Abroad

	Fall				*Winter*				*Spring*			
	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other	Class	Math/ Sci.	Engr	Other
Freshman	MATH 41	5	-	-	MATH 42	5	-	-	MATH 51	5	-	-
	IHUM	-	-	5	IHUM	-	-	5	IHUM	-	-	5
	Writing	-	-	3	PHYSICS 41	4	-	-	CEE 70	-	3	-
	Unrstr Elctv#	-	-	3	Engr Elctv+^	-	2	-	GER ^	-	-	4
	Subtotals	*5*	*0*	*11*	*Subtotals*	*9*	*2*	*5*	*Subtotals*	*5*	*3*	*9*
	Total			16	Total			16	Total			17
Sophomore	Language	-	-	5	Language	-	-	5	Language	-	-	5
	CHEM 31A	4	-	-	CHEM 31B	4	-	-	CHEM 33	4	-	-
	CEE 101D	-	3	-	CEE 172*	-	3	-	CEE 101B*	-	4	-
	Writing	-	-	3	MATH 53	5	-	-	CEE 160	-	2	-
	Subtotals	*4*	*3*	*8*	*Subtotals*	*9*	*3*	*5*	*Subtotals*	*4*	*6*	*5*
	Total			15	Total			17	Total			15
Junior	ENGR 14	-	3	-	CEE101A	-	4	-	GER ^	-	-	5
	CEE 177	-	4	-	STAT 60	5	-	-	GER ^	-	-	5
	EnvE Depth	-	3	-	ENGR 60	-	3	-				
	GES 1	4	-	-	ENGR 30*	-	3	-	*--- Spring Quarter Abroad ---*			
	Subtotals	*4*	*10*	*0*	*Subtotals*	*5*	*10*	*0*	*Subtotals*	*0*	*0*	*10*
	Total			14	Total			15	Total			10
Senior	CEE101C	-	4	-	CEE 166B	-	3	-	CEE 169**	-	5	-
	CEE 161A*	-	4	-	CEE 171	-	3	-	EnvE Depth	-	3	-
	CEE 166A	-	3	-	CEE 179A	-	3	-	CEE 100	-	4	-
	GER	-	-	4	GER	-	-	5	TIS Course	-	-	4
	Subtotals	*0*	*11*	*4*	*Subtotals*	*0*	*9*	*5*	*Subtotals*	*0*	*12*	*4*
	Total			15	Total			14	Total			16

Total Math & Science Units:	45
Total Engineering Units:	69
Total Other Units:	66
Total Units:	180

Notes:

\# Students should explore majors of interest to them using these unrestricted electives. Courses in the School of Engineering can count towards the CE major; see description of "Other Elective Courses" for details.

* These classes all are typically offered MWF10.

** In alternate years, when CEE169 is not offered, take CEE179B or C in the spring to fulfill design experience.

\+ Enough coursework from within the School of Engineering is needed to reach a total of 68 Engineering Science+Engineering Design Units; see description of "Other Elective Courses" for details.

^ Most Overseas programs offer multiple classes that meet the DB-SocSci, DB-Hum, and EC-GlobalCom GERs. Students should save these GERs for their overseas quarter. Some Overseas programs also offer Engr 40 and/or 50

INSTRUCTIONS FOR DECLARING MAJOR IN CIVIL ENGINEERING

1. Enter your major declaration as Civil Engineering in Axess
2. Pick up your academic folder from your freshman/sophomore adviser and print out your Stanford transcript (unofficial is fine) from Axess.
3. Download and complete your major Program Sheet, which you can obtain from the UGHB website at **http://ughb.stanford.edu/**. Be sure to fill in all courses that you have taken and those which you plan to take. You will have the opportunity to revise this later, so please fill in as many courses as you can.
4. Bring your academic folder, transcript and completed program sheet to the CEE Student Services office in Room 316 of the Jerry Yang and Akiko Yamazaki Environment & Energy (Y2E2) Building and request to have a CEE advisor assigned to you. You may request a specific advisor if you wish. Office hours are10:00 am to noon and 2:00 to 4:00 pm, Monday through Friday.
5. Meet with your CEE undergraduate advisor and have him/her review and sign your program sheet.
6. Return your signed program sheet to the CEE Student Services Specialist, who upon receiving your signed sheet will approve your major declaration in Axess.
7. You are encouraged to meet with your CEE undergraduate adviser at least once a quarter to review your academic progress. Changes to your program sheet can be made by printing out a revised sheet, obtaining your undergraduate adviser's signature, and returning the approved sheet to the CEE Student Services Office. NOTE –*Confirm that your program sheet is up to date at least one quarter prior to graduation.*

Other information:

- Procedures for requesting transfer credits and program deviations are described in detail in at the beginning of Chapter 4: "Policies and Procedures." The relevant forms are in the back of the Handbook in the "Forms" section, or on the UGHB site under the "Petitions" link. The online forms may be filled out electronically. If you are requesting transfer credits or program deviations, you should bring your completed petition form with your transcript to the CEE Student Services office. Attach your program sheet on file in CEE.
- Check with the CEE Student Services Office to make sure that you are on the CEE UG student email list for important announcements about department events and activities.

Note: The online version of the UGHB is considered the definitive and final version of SoE requirements for each major. Since corrections or updates may have been made after this Handbook went to press in August 2008, download the online CE program sheet from **ughb.stanford.edu** to ensure you are using an accurate major plan.

Stanford University ♦ School of Engineering

Civil Engineering

2008–2009 Program Sheet

— ABET Acceditation Criteria Apply —

Final version of completed and signed program sheet due to the department no later than one month prior to the last quarter of senior year.

Follow all requirements as stated for the year of the program sheet used.

Name: _____ SU ID: _____

Email: _____ Local Phone: _____

Date: _____ Date B.S. expected: _____

Mathematics and Science Requirements

Dept	Course	Title	Transfer/AP Approval			Unit	Grade	ABET Units		
			✓ if Transfer	Initials	Date	Total		Engr Sci	Engr Des	Experiment
Mathematics										
MATH	41,42	Calculus				10				
CME	100	Vector Calculus for Eng. (req'd) (note 1)				5				
CME	102	Math/Comp. Methods for Eng. (req'd) (note 1)								
		Statistical Methods (STATS 60, 110, GES 160, CEE 203 *or* CME 106								
					Mathematics Unit total					
Science										
PHYS	41	Mechanics (req'd)				4				0
CHEM	31	Chemical Principles (req'd; see note 2)				4-8				0
GES	1	Dynamic Earth: Fund of Earth Science (req'd)				4				1
		Two add'l qtrs physics, or chemistry through CHEM 33 (req'd; see note 3)				4-8				
					Science Unit Total					
					Mathematics and Science Unit Total (45 units minimum)					

Technology in Society Requirement (1 course req'd; see UGHB, Fig. 3-3 for approved list)

NOTES

* Read all emails from the Office of Student Affairs; this is the SoE's only method of conveying key information to Eng majors.
* Engineering Science, Design, and Experimentation units do not apply to shaded areas.
* This form is available as an Excel file at http://ughb.stanford.edu/. The printed form must be signed by the advisor and, if required, by the departmental representative. Changes must be initialed in ink.
* All courses listed on this form must be taken for a letter grade if offered by the instructor.
* Minimum Combined GPA for all courses in Engineering Topics (Engineering Science and Engineering Design courses) is 2.0.
* Transfer and AP credits in Math, Science, Funds., & TIS must be approved by the SoE Dean's Office. Transfer credits in Engineering Depth must be approved by the Advisor. Transfer credit information and petitions are available at http://ughb.stanford.edu/transfer.html.
* Any course listed on this form must only be included under one category. Delete courses not taken.

(1) Either CME 100 & 102 OR Math 51 & 53 are required.

(2) For the Environmental and Water Studies track, students are required to take either CHEM 31B or CHEM 31X. Students in the Structures/Construction Track can fulfil the requirement with either CHEM 31A, X or ENGR 31

(3) Students in Environmental/Water Studies Track are required to take CHEM 33. Students in the Structures/Construction Track are required to take two additional quarters of physics

Civil Engineering Program Sheet (continued)

Engineering Topics (68 Engineering Science + Engineering Design units = ABET req't. See note 3)

Dept	Course	Title	Transfer/AP Approval			Unit	Grade	ABET Units		
			✓ if Transfer	Initials	Date	Total		Engr Sci	Engr Des	Experiment
Engineering Fundamentals (3 courses required)										
ENGR	14	Applied Mechanics: Statics (req'd)				3		2	1	0
ENGR	60	Engineering Economy (req'd)				3		3	0	0
					Engr. Fundamentals Unit Total					
Engineering Depth										
CEE	70	Environ. Science & Technology (req'd)				3		2	1	0
CEE	100	Managing Sust. Bldg Proj (req'd); WIM (see note 4)				4		2.5	1.5	1
CEE	101A	Mechanics of Materials (req'd)				4		3	1	1
CEE	101B	Mechanics of Fluids (req'd)				4		3	1	0
CEE	101C	Geotechnical Engineering (req'd)				4		3	1	1
					Depth/Engr Science/Engr Design/Experiment Unit Totals					

Program Totals (ABET Requirements)

Mathematics and Science	*(45 units minimum)*	
Engineering Topics (Engr Science + Engr Design)	*(68 units minimum)*	
Experimentation	*(8 units minimum)*	

Program Approvals

Advisor
Printed Name: _____ Date: _____
Signature: _____

Departmental
Printed Name: _____ Date: _____
Signature: _____

School of Engineering (signature not required prior to graduation)
Printed Name: _____ Date: _____
Signature: _____

NOTES (continued from page 1)

(3) In order to satisfy ABET requirements for graduation, the CE major must take enough courses so that the combined Engineering Science and Design units from Fundamentals and Depth courses add up to a minimum of 68 units. See Unit Allocation list at ughb.stanford.edu to assess the number of assigned Science/Design units for unlisted courses.

(4) Fulfills the "Writing in the Major" requirement.