STUDENT HANDBOOK

DEPARTMENT OF CIVIL ENGINEERING

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Civil Engineering Since 1907 KANSAS STATE UNIVERSITY

Seventh Edition

Fall 2008

INTRODUCTION

This handbook is intended to help students in the Department of Civil Engineering understand and make effective use of the educational opportunities available within the framework of the civil engineering curriculum. With these opportunities come responsibilities to plan carefully, and to use resources of the University to support development of the student's personal, academic, and professional objectives. The **faculty** in the Department is available to assist students in this endeavor.

The primary responsibility for meeting graduation requirements rests with the student. Although this handbook delineates many requirements of the University, the College of Engineering, and the Department, it should not be utilized as a sole source of information to the exclusion of other University publications. Students should obtain current copies of University publications that will describe the most recent policies.

Students should be aware that the educational process is constantly evolving. This may result in periodic changes in curriculum requirements. Students are advised that these changes may have an impact upon course prerequisites and course offerings that may affect their program of study. The Department will make every effort to accommodate students who would be adversely affected by such changes. However, students are responsible for informing themselves of changes and determining the impact the changes will have upon their course sequencing and ultimately their graduation date.

The program in civil engineering consists of a series of courses in mathematics, science, engineering science, engineering design, and humanities/social sciences.

ACCREDITATION

The civil engineering program is fully accredited by the Accreditation Board for engineering and Technology (ABET).

DEGREE REQUIREMENTS

Students entering as of the Fall 2008 semester are required to successfully complete 128 credit hours of required courses in the curriculum.

TRANSFER

The College of Engineering Student Services website on Academic Advising provide details on the procedures and standards of credit transfer: http://www.engg.ksu.edu/studentservices/TransferPolicies.html

QUIZ-OUT PROCEDURES

The Department allows qualified students to avoid repeating course work in subject areas they have already mastered through non-academic or non-transfer credit means. Students should enroll in the course for which they seek credit by examination and contact the course instructor or department head during the first week of classes for details of the quiz-out procedure to be followed for the course.

FACULTY ADVISOR

Each student is assigned a faculty advisor to assist the student during the student's academic career. Students should consult regularly with their faculty advisor for academic planning, and students are encouraged to consult with them for career planning or personal matters. Every change in course enrollment requires approval by both the student's faculty advisor and the Engineering Dean's Office.

iSIS

K-State interactive Student Information System (iSIS) is a world wide web-based data base access program. The URL address is http://isis.k-state.edu and it also can be accessed directly from the University web page. In addition to students being able to access/read their Student Information System records, and update biographical information such as, addresses, name changes, etc., iSIS will allow the faculty and staff to release enrollment "flags" so students can electronically enroll, drop and add. Faculty will also be able to electronically issue "permission" to individual students for enrolling in their classes. However, the release of a student's enrollment flag must be electronically processed.

GENERAL EDUCATION REQUIREMENTS

The **University General Education (UGE)**, www.k-state.edu/uge, program has been designed to expand the experiences and vision of undergraduates to carry forward in the conduct of their lives, the interest and capacity for improving and enriching life. The minimum requirements is 18 credit hours, and should include a minimum of 3 credit hours of natural science, a minimum of 9 credit hours of humanities and social sciences, with at least one course from each area, and an additional 6 credit hours from any area. Not more than 7 credit hours from a single department can be counted toward the General Education requirements, and no more than 3 credit hours can be taken from the College of Engineering. A minimum of 6 credit hours must be at the 300 levels or above. However, there are exceptions for the TRANSFER students. The College of Engineering Student Services website on Enrollment Process/ Planning Semester Courses provides detailed guidelines for the UGE requirements: http://www.engg.ksu.edu/studentservices/UGEGuidelines.html

HUMANITIES AND SOCIAL SCIENCE ELECTIVES

Students must plan their courses carefully to ensure that at least two humanities/social science elective courses are at an advanced level (normally at a 300 level or above) and selected from the **General education classes**. Consult your academic advisor before enrolling in H & SS classes.

CIVIL ENGINEERING AND OPTION ELECTIVES

Students must declare an option upon completion of 60 hours towards graduation. Twelve credit hours of **Civil Engineering electives** and 17 credit hours of Option electives are required in each of the four **Options**: 1) General Option, 2) Construction Option, 3) Environmental Option, and 4) Structural Option. Students should be aware that this listing changes periodically and should consult their advisor to determine the current list. To declare your option, go to the **Engineering Student Services Office** (Rathbone 1042) and have them process a **Change of Curriculum form**.

CURRICULUM FLOWCHARTS

Many courses require successful completion of prerequisite courses. The **flowcharts** are intended to assist students in quickly evaluating their ability to take advanced courses requiring such prerequisites. Care should be taken to verify course requirements that may require new prerequisite courses. See the latest updates at: http://flowcharts.engg.ksu.edu/

COURSE SUBSTITUTIONS

Occasionally, the faculty will consider a student's request to substitute another University course for a required curriculum course. Students desiring to do so should consult their faculty advisor and department head.

HONORS PROGRAM

The **honors program** in the College of Engineering offers interested students an intellectual challenge consistent with their abilities and interests. Participation in the honors program will not add to the time required for graduation for most students, and should be a stimulating experience. For details see: www.engg.ksu.edu/honors_program.php

DROPPING/ADDING COURSES

Students should consider with care the consequences of dropping or adding courses. Students should review their academic plans to assess the impact of the proposed change on future semesters.

The College of Engineering drop/add procedure requires that the drop/add form be approved by the student's faculty advisor by setting the "flag" in the iSIS program or signing the drop/add form. The drop/add form then must be "stamped" at the Academic Dean's office in Rathbone 1042. Any course added after the first week of classes also requires permission of the course instructor that now can also be executed through iSIS.

Dropping courses after a specific date (the 25th class day) will result in a W being recorded on the transcript, and courses cannot be dropped after another specific date (the 50th class day). Consult the Schedule of Classes for the exact dates applicable to each semester.

COURSE RETAKE POLICY

The University allows students to **retake** a course to improve the grade. Consult the latest K-State Undergraduate Catalog for details: http://catalog.k-state.edu. Click on Enrollment then Retake Policy.

COURSE PREREQUISITES

The University faculty carefully considers the necessary prerequisite courses for any particular course. As such, students are required to complete successfully all prerequisite courses prior to attempting a course. Students who have not successfully completed prerequisite courses will be dropped from the course.

INCOMPLETE GRADES POLICY

The grade of Incomplete is normally given only for verifiable personal emergencies. A student' simple failure to complete work within the required time is not sufficient reason to be given an incomplete. *If an "INC" grade is assigned, the student has a maximum of one year to complete the requirements of the course or the grade automatically becomes an "F".*

ACADEMIC/ WARNING DISMISSAL POLICY

The University has set specific policies for new and continuing students for academic warning/dismissal policies. See:
http://www.engg.ksu.edu/studentservices/university_policies.pdf
http://www.engg.ksu.edu/studentservices/reinstatement.pdf

ENGINEERING ASEMBLY POLICIES AND REQUIREMENTS

Engineering Assembly (CE 015) is a required credit/no credit course for 0 hours credit. A student graduating in Civil Engineering must have credit for all semesters the student is enrolled in Civil Engineering at KSU. The Engineering Assembly is organized by the KSU student chapter of the American Society of Civil Engineers (ASCE) under the supervision of its Faculty Advisor. For attendance policy and other CE 015 course requirements see http://www.engg.ksu.edu/ASCE

The penalty for failure to complete the requirements of Engineering Assembly is the same as that of any other required course—the student cannot graduate until requirements are satisfied. If the student is short one meeting credit during a semester, then the student must make up the deficiency. In cases where students have failed to attend or enroll for a semester, the department head may require a written report on an appropriate topic. The report, however, will require considerably more time and effort than attending a meeting.

EARLY ENROLLMENT FOR CONTINUING STUDENTS

Near the middle of each semester, the University starts the process of enrolling students in classes for the next semester. As a means for expediting and coordinating the advising process, the Department schedules times for students to meet with their faculty advisors before University enrollment begins. Students should sign up for an appointment with their faculty advisor, and follow the specific instructions provided. Online enrollment is not possible until students have met with their advisor and the electronic restriction (flag) has been lifted. Failure to meet with your advisor during the early enrollment period may result in difficulties in scheduling and could delay your graduation.

COURSE PERMITS

Some courses offered in the Department may require instructors' permission for enrolling. These permits will be available at the Department office in Fiedler 2118.

ACADEMIC HONESTY

Plagiarism and cheating are serious offenses and will be dealt with as appropriate. For a full description of Academic Conduct, Academic Honesty, and Student Grievance Procedures see the Student Life Handbook that is printed in the Kansas State University Campus Phone Book.

HONOR SYSTEM

Beginning Fall semester 1999, Kansas State University initiated an honor system based on personal integrity, which is presumed to be a sufficient assurance that in academic matters one's work is performed honestly and without unauthorized assistance. For details, visit the web site: http://www.k-state.edu/honor.

RETENTION OF STUDENT WORK

Student projects, assignments, presentations and models may need to be retained by the faculty for display, use in teaching, course records, accreditation documentation, etc. Students may request photocopies or otherwise copy any work retained by the faculty.

GRADUATION CHECK

Two semesters before graduation, students should schedule a **graduation check** with the Assistant Dean in the Engineering Student Dean's Office, Rathbone 1042. This meeting is used to check that all graduation requirements will be properly fulfilled. If there are discrepancies or inadequacies, they may be addressed in the following semesters.

INTENT TO GRADUATE

All students who expect to fulfill their graduation requirements by the end of a given semester must file a **Statement of Intention to Graduate** in the Engineering Student Dean's Office no later than a specific date during the semester. No student can graduate without filing this statement. Check with the Engineering Student Dean's Office for the filing deadline.

DUAL DEGREE PROGRAMS

Students who wish to pursue interdisciplinary interest in-depth may enroll in a dual-degree program. In general, the second undergraduate degree may be earned with an additional two or three semesters of study.

GRADUATE PROGRAM

Major work leading to the master of science and doctor of philosophy degrees is offered in the areas of specialization in structural analysis and design, geotechnical engineering, water resources and environmental engineering, and transportation and materials engineering.

Students interested in attending graduate school should identify the graduate study area as soon as possible. Undergraduate course selection may be affected by graduate school admission requirements. Students intending to go to graduate school may make very different elective choices than those who are not contemplating advanced degrees. Students considering graduate school should consult with their advisor to explore the possibilities and plan for the future.

ENGINEERING LICENSE

Students are strongly encouraged to become a licensed engineer. It is highly recommended that students take the FE exam in their senior year prior to graduation. Consult the College of Engineering Student Service website on Professional Development for information about the Engineering License (FE Exam). http://www.engg.ksu.edu/studentservices/FE.html

09/08

Curriculum for Bachelor of Science in Civil Engineering
Number of hours required for graduation = 128

Fall Semester			Spring Semester		
	Course	**Sem. Hrs.**		**Course**	**Sem. Hrs.**
		FRESHMAN			
CE 015	Engg. Assembly	0	CE 015	Engg. Assembly	0
CE 101	Intro to Civil Engg	1	CHM 230	Chemistry II	4
CHM 210	Chemistry I	4	CIS 209	C Programming for Engrs.	3
ECON 110	Prin. Macroecon. I	3	GEOL 100	Earth in Action	3
ENGL 100	Expo. Writing I*	3	MATH 221	Anal. Geom. & Calc. II	4
MATH 220	Anal. Geom. & Calc. I	4	Option Elective***		3
ME 212	Engineering Graphics I	2		TOTAL	17
	TOTAL	17			
		SOPHOMORE			
CE 015	Engg. Assembly	0	CE 015	Engg. Assembly	0
CE 212	Elementary Surveying	3	CE 333	Statics	3
COMM 105	Public Speaking IA	2	DEN 325	Intro Pers./Prof. Dev.	1
MATH 222	Anal. Geom. & Calc. III	4	MATH 240	Elem. Diff. Equations	4
PHYS 213	Engg. Physics I	5	PHYS 214	Engg. Physics II	5
Option Elective ***		3	STAT 490	Statistics for Engg.	1
	TOTAL	17	Option Elective ***		2
				TOTAL	16
		JUNIOR			
CE 015	Engg. Assembly	0	CE 015	Engg. Assembly	0
CE 533	Mechanics of Materials	3	CE 522	Soil Mechanics I	3
CE 534	Mech. of Materials Lab	1	CE 537	Intro. Struct. Anal.	3
ME 512	Dynamics	3	CE 563	Environ. Engg. Fund.	3
ME 513	Thermodynamics I	3	ENGL 415	Written Com. For Engrs.*	3
Option Elective***		6	ME 571	Fluid Mechanics	3
	TOTAL	16		TOTAL	15
		SENIOR			
CE 015	Engg. Assembly	0	CE 015	Engg. Assembly	0
CE 550	Water Resources Engrg I	3	CE 585	Civil Engineering Project	3
Civil Engineering Elective****		6	Civil Engineering Elective****		6
Option Elective***		3	General Ed Humanities or Social Sci Elective**		6
General Ed Humanities or Social Sci Elective**		3		TOTAL	15
	TOTAL	15			

* Students must complete the appropriate prerequisite credits for ENGL 415, but may apply only 3 hours of ENGL 415 prerequisite credits towards degree requirements.

** General Education humanities and general education social sciences electives are to be selected from university general education courses that are also on the engineering humanities and social sciences elective list and need not be taken in the order listed in the curriculum.

*** Option Electives are to be selected in consultation with the student's faculty advisor to satisfy the requirements of the Option the student has chosen. One course from either the Engineering Materials or the Circuits, Fields and Electronics Engineering Science group is required in the General Option.

**** CE Electives are to be selected from the list approved by the department to satisfy Option requirements.

PROGRAM OF STUDY ORGANIZER FOR A BS IN CIVIL ENGINEERING AT KSU (ALL Options)

Dept.	No.	Course Name [Semester, if not both]	Credit Hour	Prerequisites
ENGL	100	Expository Writing I	3	None
COMM	105	Public Speaking IA	2	None
		College of Engineering Requirements		
MATH	220	Anal Geom & Calc I	4	See university catalog
MATH	221	Anal Geom & Calc II	4	C or better in MATH 220
MATH	222	Anal Geom & Calc III	4	C or better in MATH 221
MATH	240	Elem Diff Equations	4	C or better in MATH 222
CHM	210	Chemistry I	4	See university catalog
CHM	230	Chemistry II	4	CHM 210
PHYS	213	Engineering Physics I	5	Pr. or conc. MATH 221
PHYS	214	Engg Physics II	5	PHYS 213, MATH 221
ECON	110	Economics I	3	See university catalog
ENGL	415	Writ Comm for Engrs	3	See university catalog
		Civil Engineering Requirements (ALL Options)		
GEOL	100	Earth in Action	3	None
CIS	209	C. Programming for Engrs.	3	MATH 220
DEN	325	Intro Pers./Prof. Dev.	1	Sophomore standing
STAT	490	Statistics for Engrs	1	See university catalog
ME	212	Engg Graphics	2	Plane Geometry
ME	512	Dynamics	3	CE 333, Pr. or conc.: MATH 240
ME	513	Thermodynamics I	3	PHYS 213 & MATH 222
ME	571	Fluid Mechanics	3	ME 512, Pr. or conc. ME 513
CE	212	Elementary Surveying	3	Plane Trigonometry
CE	333	Statics	3	MATH 221 & PHYS 213
CE	533	Mechanics of Materials	3	CE 333, Pr. or conc. MATH 222
CE	534	Mech of Matls Lab	1	Pr. or conc. CE 533
CE	522	Soil Mechanics I	3	CE 533
CE	537	Intro Structural Analy	3	CE 533, Pr. or conc. CE 380
CE	550	Water Resources Engrg I [F]	3	STAT 490 & PHYS 213
CE	563	Env Engg Fund	3	CHM 230, MATH 222
CE	585	CE Project	3	ENGL 415, 6 hrs, CE Electives, Pr. or conc. 6 more hrs. of CE electives
CE	015	Engg Assembly	0	

**** An option must be declared by the time you have completed 60 credit hours toward a CE degree. Options are GENERAL, CONSTRUCTION, STRUCTURAL and ENVIRONMENTAL. Consult the General Catalog, the Student Advising Handbook, or your advisor about these options. To declare your option go to the Engineering Student Services Office (Rathbone 1042) and have them process a Change of Curriculum form.

**** To finish your Program of Study obtain the lists of the College-approved General Education Classes, Hum. and Social Science Electives and the Option you have chosen and complete them.

Program of Study for a BS in Civil Engineering at KSU
(General Option)

Approved by CE Faculty 9/04

Dept.	No.	Course Name [Semester, if not both]	Credit Hour	Prerequisites
CIVIL ENGINEERING ELECTIVES FOR GENERAL OPTION (12 hours required)				
CE	528	Foundation Engg [F]	3	CE 522, Pr. or conc. CE 544
CE	542	Struct Engg Steel [S]	3	CE 537
or				
CE	544	Str Engg Con [F]	3	CE 537
CE	552	Hydraulic Engg [S]	3	ME 571, pr. or conc. CE 550
CE	565	Water/Waste Engineer [S]	3	CE 550, CE 563, PHYS 214 and ME 571
CE	572	Highway Engg/Plan/Mgnt [F]	3	CE 411, CE 522 or Consent of instructor
REQUIRED GENERAL OPTION COURSE (3 hours required)				
CE	411	Route Location/Des [S]	3	CE 212, MATH 221 and PHYS 213
GENERAL OPTION ELECTIVES (14 hours required) *Choose* **AT LEAST ONE** of the **NEXT THREE COURSES** listed				
CE	641	CE Materials [F]	3	CE 534 and ENGL 415, Pr. or conc. either CE 528 or CE 542 or CE 544
CHE	352	Structural Materials	2	CHM 210
EECE	519	Elec Cir/Control	4	PHYS 214
Choose additional General Option Electives from CE Electives not selected above and from CE courses listed below:				
CE	654	Groundwater Flow Systems [F]	3	ME 571
CE	663	Unit Op & Proc Env [S alt. even yrs]	2	Pr. or conc. CE 552 and 565
CE	680	Econ Des Con [S]	3	Senior standing
One 700-level CE course may be chosen with consent of your advisor (See General Catalog for specific course)				
Other General Option Electives may be chosen from courses in Math, Science, Engineering or Business as approved by your advisor. Suggestions include:				
ARE	522	Loading & Load Paths in Bldgs	2	CNS 200, Pr. or Conc: CE 537
ARE	723	Timber Structures [S]	3	CE 537 and ARE 522
BIOL	198	Principles of Biology	4	
CHM	531	Organic Chemistry I	3	CHM 230 or 250
MATH	551	Applied Matrix Theory	3	MATH 205 or 220
STAT	510	Intro Probability & Statistics I	3	MATH 221
STAT	703	Stat Meth for Natural Scientists	3	Junior standing and equiv of college algebra

Engineering courses in other departments for which the prerequisites are at least MATH 221 or PHYS 213 or Junior standing.
Geology courses for which GEOL 100 is a prerequisite.
Chemistry courses for which CHM 210 or 230 are prerequisites.
Physics courses for which PHYS 213 or 214 are prerequisites.
Biology courses for which BIOL 198 is a prerequisite.
Statistics courses for which STAT 510 is a prerequisite.

TOTAL CREDIT HOURS REQUIRED FOR BACHELOR OF SCIENCE IN CIVIL ENGINEERING = 128

Program of Study for a BS in Civil Engineering at KSU
(Construction Option)

Approved by CE Faculty 9/04

Dept.	No.	Course Name [Semester, if not both]	Credit Hour	Prerequisites
CIVIL ENGINEERING ELECTIVES FOR CONSTRUCTION OPTION (12 hours required)				
CE	528	Foundation Engg [F]	3	CE 522, Pr. or conc. CE 544
CE	544	Str Engg Conc [F]	3	CE 537
CE	552	Hydraulic Engg [S]	3	ME 571, Pr. or conc. CE 550
or				
CE	565	Water/Waste Engineer [S]	3	CE 550, CE 563, PHYS 214 and ME 571
CE	572	Highway Engg/Plan/Mgnt [F]	3	CE 411, CE 522, or consent of instructor
REQUIRED CONSTRUCTION OPTION COURSES (9 hours required)				
CE	542	Struct Engg Steel [S]	3	CE 537
CE	641	CE Materials [F]	3	CE 534 and ENGL 415, Pr. or conc. either CE 528 or CE 542 or CE 544
CE	680	Econ Des Con [S]	3	Senior standing
CONSTRUCTION OPTION ELECTIVES (8 hours required)				
ACCTG	231	Acctg for Bus Ops	3	Sophomore standing and MATH 100
ACCTG	241	Acct for Inv & Fin	3	ACCTG 231
CE	411	Route Location/Des	3	CE 212, MATH 221 and PHYS 213
DEN	550	Engineering Law [F]	3	Junior standing
MANGT	420	Management Concepts	3	Junior standing

Other Construction Option Electives may be chosen from courses in Math, Science, Engineering or Business as approved by your advisor.

Engineering courses in other departments for which the prerequisites are at least MATH 221 or PHYS 213 or Junior standing.
Geology courses for which GEOL 100 is a prerequisite.
Chemistry courses for which CHM 210 or 230 are prerequisite.
Physics courses for which PHYS 213 or 214 are prerequisites.
Biology courses for which BIOL 198 is a prerequisite.
Statistics courses for which STAT 510 is a prerequisite.

TOTAL CREDIT HOURS REQUIRED FOR BACHELOR OF SCIENCE IN CIVIL ENGINEERING = 128

Program of Study for a BS in Civil Engineering at KSU
(Environmental Option)

Approved by CE Faculty 9/04

Dept.	No.	Course Name [Semester, if not both]	Credit Hour	Prerequisites
CIVIL ENGINEERING ELECTIVES FOR ENVIRONMENTAL OPTION (12 hours required)				
CE	528	Foundation Engg [F]	3	CE 522, Pr. or conc. CE 544
CE	544	Str Engg Conc [F]	3	CE 537
CE	552	Hydraulic Engg [S]	3	ME 571, pr. or conc. CE 550
CE	565	Water/Waste Engineer [S]	3	CE 550, CE 563, PHYS 214 and ME 571
REQUIRED ENVIRONMENTAL OPTION COURSES (7 hours required)				
BIOL	198	Principles of Biology	4	
CHM	531	Organic Chemistry I	3	CHM 230 or 250
or				
CHM	350	General Organic Chemistry	3	CHM 230 or 250
ENVIRONMENTAL OPTION ELECTIVES (10 hours required)				
AGRON	335	Environ Quality [F]	3	CHM 110 or CHM 210
BIOL	303	Ecol of Environ Prob [S]	3	Two courses in natural science
BIOL	330	Public Health Biol [F]	3	BIOL 198
CHE	320	Chm Process Analysis [F]	3	CHM 230 or CHM 250 and MATH 222
CHE	352	Structural Materials	2	CHM 210
CHM	315	Envir Sci/Chm [F]	3	CHM 230 or 250
AGRON	605	Soil/Environment Chm [S]	3	AGRON 375 or AGRON 305 and CHM 230
AGRON	645	Soil Microbiology [F]	3	AGRON 305 or BIOL 455
BIOCH	521	General Biochemistry	3	CHM 350
BIOL	455	General Microbiology	4	BIOL 198 and 1 chemistry course
BIOL	529	Fundamentals Ecology [F]	3	BIOL 198, CHM 210
BIOL	687	Microbial Ecol [S, odd yrs]	3	BIOL 455
GEOL	506	Environmental Studies	3	GEOL 100
GEOG	508	Geog Info Systems I [S]	3	GEOG 302 or instructor permission
BAE	651	Air Pollution Engg [S]	3	ME 513, 571
BAE	665	Ecological Engg Design [F]	3	See university catalog
CE	625	Principles of Geoenv Engg [S]	3	CE 522
CE	654	Grndwtr Flow Systems [F]	3	ME 571
CE	751	Hyd Open Channels I [F]	3	CE 552
CE	752	Advanced Hydrology [S]	3	CE 550
CE	762	Water Treatment Processes [S]	3	CE 565
CE	766	Wastewater Engg [F]	3	CE 565
CE	768	Geoenvir Engg Dsgn [S]	3	See university catalog
CHE	530	Transpt Phenomena I [F]	3	CHE 320, MATH 240
CHE	650	Hazardous Waste Engg Sem	1	CHM 230
CHE	750	Air Quality Seminar [F]	1	CHM 230

Other Environmental Option Electives may be chosen from courses in Math, Science, Engineering or Business as approved by your advisor.

TOTAL CREDIT HOURS REQUIRED FOR BACHELOR OF SCIENCE IN CIVIL ENGINEERING = 128

Program of Study for a BS in Civil Engineering at KSU
(Structural Option)

Approved by CE Faculty 9/04

Dept.	No.	Course Name [Semester, if not both]	Credit Hour	Prerequisites
CIVIL ENGINEERING ELECTIVES FOR STRUCTURAL OPTION (12 hours required)				
CE	528	Foundation Engg [F]	3	CE 522, Pr. or conc. CE 544
CE	544	Str Engg Conc [F]	3	CE 537
CE	552	Hydraulic Engg [S]	3	ME 571, pr. or conc. CE 550
CE	572	Highway Engg/Plan/Mgnt [F]	3	CE 411, CE 522, or consent of instructor
REQUIRED STRUCTURAL OPTION COURSES (9 hours required)				
CE	411	Route Location/Des [S]	3	CE 212, MATH 221 and PHYS 213
CE	542	Struct Engg Steel [S]	3	CE 537
CE	732	Adv. Struct. Analys I [F]	3	CE 537
STRUCTURAL OPTION ELECTIVES (8 hours required)				
ARE	522	Loading & Load Paths in Bldgs	2	CNS 200, Pr. or Conc: CE 537
ARE	723	Timber Structures [S]	3	CE 537 and ARE 522
ARE	760	Masonry Struct Dsgn [F]	3	ARE 528 or equiv. first course in reinforced concrete design
CE	641	CE Materials I [F]	3	CE 534, ENGL 415 Pr. or conc. either CE 528 or CE 542 or CE 544
CE	742	Adv Steel Design [F]	3	CE 542
CE	743	Ad Rein Conc Thry [S]	3	CE 544
CE	844	Prestressed Conc Des [S]	3	Instructor and Grad School Permission

Other Structures Option Electives may be chosen from courses in Math, Science, Engineering or Business as approved by your advisor.

Engineering courses in other departments for which the prerequisites are at least MATH 221 or PHYS 213 or Junior standing.
Geology courses for which GEOL 100 is a prerequisite.
Chemistry courses for which CHM 210 or 230 are prerequisites.
Physics courses for which PHYS 213 or 214 are prerequisites.
Biology courses for which BIOL 198 is a prerequisite.
Statistics courses for which STAT 510 is a prerequisite.

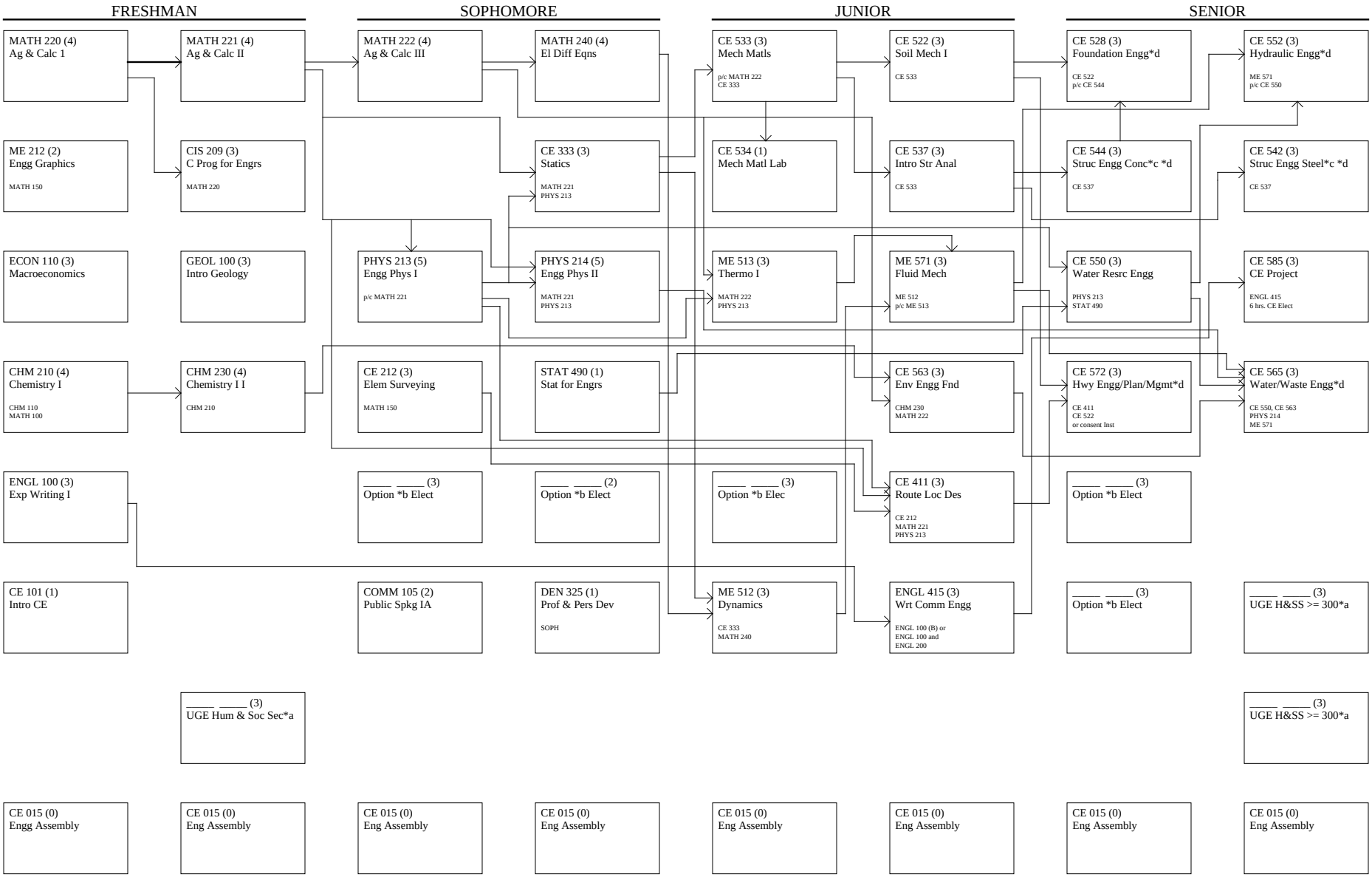
TOTAL CREDIT HOURS REQUIRED FOR BACHELOR OF SCIENCE IN CIVIL ENGINEERING = 128

Advisor:
Printed:

CIVIL ENGG. - GENERAL OPTION - (128 hrs.) F04

Revised Fall 2008

DOE:
Class:
Flowchart: 12
Hours:



*a Humanities & Social Sciences Electives are to be selected from the approved Engineering UGE list.
*b 14 Hrs Option electives selected in consulation with your advisor with at least one from CE 641, CHE 352 or EECE 519
*c Must complete either CE 544 or CE 542
*d CE Electives include four of the five following: CE528, CE542 or CE544, CE552, CE 565, and CE572. Check prerequisites carefully
NOTE: CHOOSE FOUR CE ELECTIVES AND DETERMINE WHEN TO TAKE OTHER ELECTIVES TO LIMIT SEMESTER LOAD AT 15 TO 18 HOURS.

Arrows to left side of course box indicates prerequisite course
Arrows to top and bottom of course box indicates p/c
p/c = prereq. or concurrent requirement

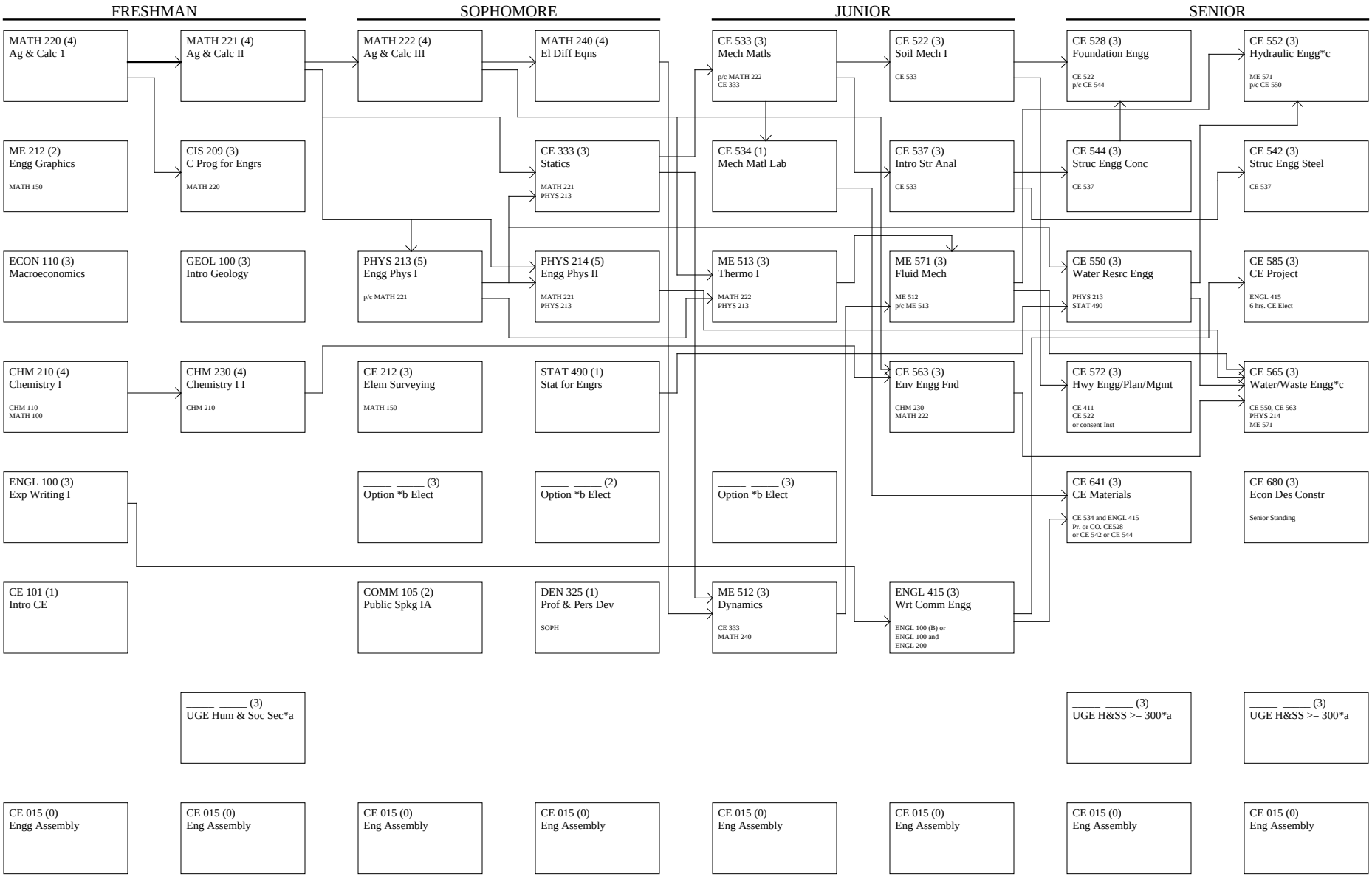
Currently Enrolled Passed Retaken Failed Warning

Advisor:
Printed:

CIVIL ENGG. - CONSTRUCTON OPTION - (128 hrs.) F04

Revised Fall 2008

DOE:
Class:
Flowchart: 14
Hours:



*a Humanities & Social Sciences Electives are to be selected from the approved Engineering UGE list.
*b 8 Hrs Option electives selected in consulation with your advisor from ACCTG 231, 241, CE411, DEN 550, MGMT 420, or other engg, math, science, or business
*c Must complete either CE 552 or CE 565

Arrows to left side of course box indicates prerequisite course
Arrows to top and bottom of course box indicates p/c
p/c = prereq. or concurrent requirement

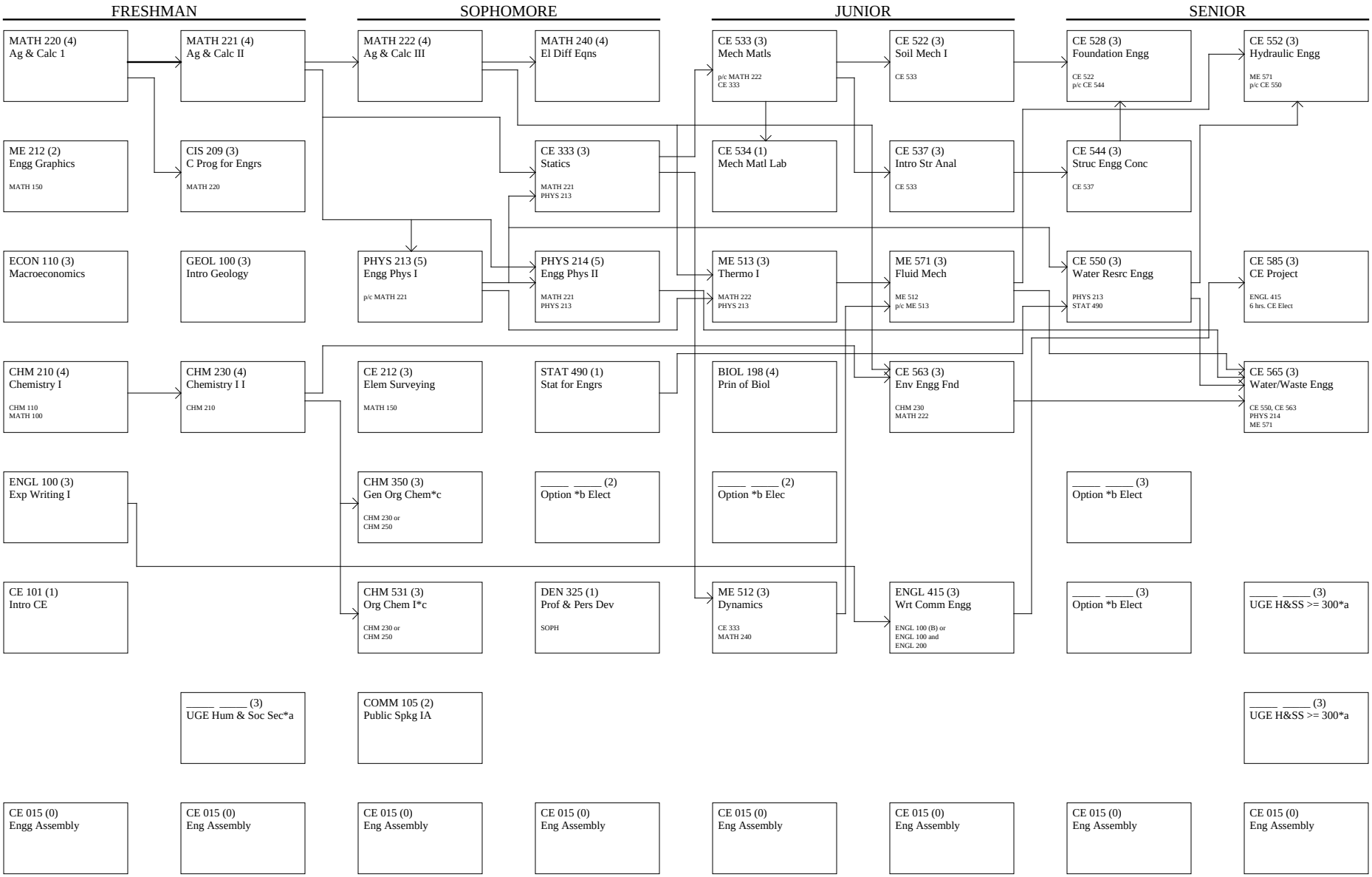
Currently Enrolled Passed Retaken Failed Warning

Advisor:
Printed:

CIVIL ENGG. - ENVIRONMENTAL OPTION - (128 hrs.) F04

Revised Fall 2008

DOE:
Class:
Flowchart: 15
Hours:



*a Humanities & Social Sciences Electives are to be selected from the approved Engineering UGE list.
*b 10 Hrs Option electives selected in consulation with your advisor from other engg, math, science, or business courses
*c Must complete either CHM 350 or 531

Arrows to left side of course box indicates prerequisite course
Arrows to top and bottom of course box indicates p/c
p/c = prereq. or concurrent requirement

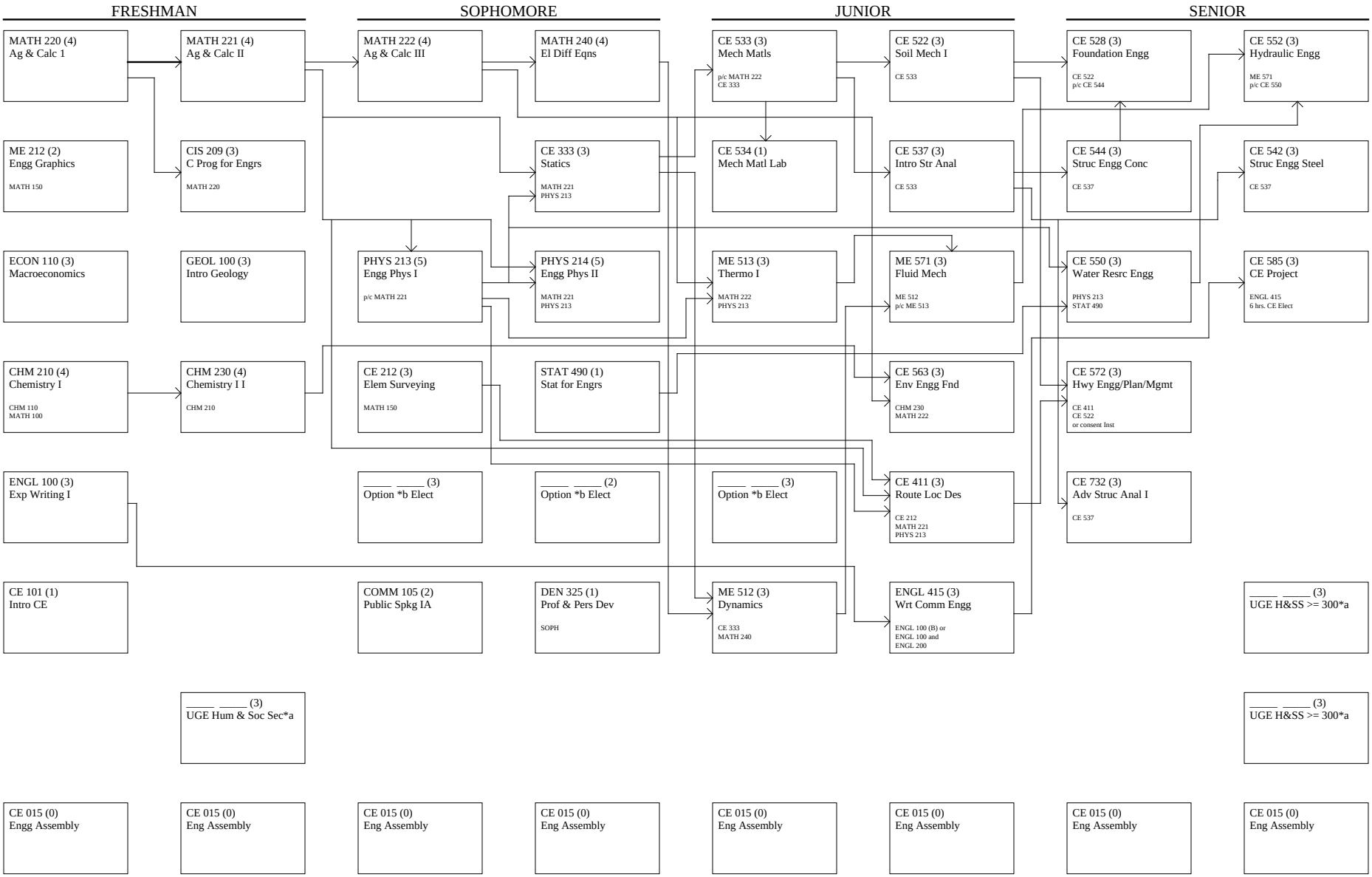
Currently Enrolled Passed Retaken Failed Warning

Advisor:
Printed:

CIVIL ENGG. - STRUCTURAL OPTION - (128 hrs.) F04

Revised Fall 2008

DOE:
Class:
Flowchart: 13
Hours:



*a Humanities & Social Sciences Electives are to be selected from the approved Engineering UGE list.
*b 8 hrs. Option electives selected in consulation with your advisor from other engg, math, science, and business courses

Arrows to left side of course box indicates prerequisite course
Arrows to top and bottom of course box indicates p/c
p/c = prereq. or concurrent requirement

Currently Enrolled Passed Retaken Failed Warning

COLLEGE OF ENGINEERING UNIVERSITY GENERAL EDUCATION WORK SHEETS

(Use to determine if the University General Education requirements have been met.) April 1, 2008

PURPOSE of UNIVERSITY GENERAL EDUCATION (UGE) PROGRAM
(MUST BE KSU COURSES)

The University General Education program has been designed to expand the experiences and vision of undergraduates to carry forward in the conduct of their lives, the interest and capacity for improving and enriching life. Students will be given the opportunity for developing the ability to appreciate differing viewpoints, to consider openly new and divergent thinking, to weigh ideas with careful skepticism, to challenge conventional wisdom, and to explore for more accurate and more useful knowledge. They will be challenged to develop expertise in critical and analytical thinking; careful and thoughtful reading, writing and speech; an indication to wonder; a penchant for questioning; and a desire to solve puzzles and problems. (UGE Policy effective fall 1997)

College of Engineering University General Education Requirements
(includes University requirements)

1. Minimum of 18 credit hours from the following areas:
   a. Natural science: 3 credit hours
   b. Unrestricted disciplines: 9 credit hours
   c. Humanities and social science: 6 credit hours
      Must be selected from UGE courses that are also on the engineering approved humanities and social science (H & SS) list. A minimum of three credit hours must be taken in humanities and three credit hours in the social sciences.
2. At least six of the UGE credit hours must be 300 level or above, and may include one UGE "Advanced Writing Experience" course required within the student's major. Normally the 300 level or above will be from the H & SS areas (see advisor).

3. No more than 6 credit hours from the College of Engineering. One course up to three credit hours may be in the student's major, if this course meets the UGE Advanced Writing Experience. No other course from the student's major can apply towards UGE credit, unless approved by the Faculty Senate.

Exceptions for Transfer Students:

A minimum number of University General Education credit hours required for transfer students are based upon the total number of completed transfer credit hours accepted at KSU. The student's advisor will approve variances in the minimum requirements considering the need for breadth (may require more than minimum totals below in order to meet requirements above.)

Transfer Credit Hours* Accepted	Minimum UGE (**MUST BE KSU COURSES**) Credit Hours (6 hrs. min. of 300 or higher H&SS elect.)
0-7	18
8-29	12
30-44	9
45 & above	6

*All AP, CLEP IB and DANTES credits are considered as transfer credit for the use of this chart.

NOTE:

1. Any student that has earned advance credit (transfer, AP, etc.), or KSU credit prior to the fall 1997 semester is not required to complete the University General Education requirements.

2. Some courses are not applicable to all engineering degree programs, especially in the technical elective area, so students must obtain approval from their advisors.

3. Some individual engineering curricula require additional elective credits from the humanities and social sciences. These also must be from the Engineering approved H&SS elective list, but need not be UGE credit hours.

4. Students must earn letter grades for all credit hours applicable towards degree requirements.

5. Students who participate in study abroad programs approved by Kansas State University will meet UGE requirements upon successful completion of either KSU study abroad course work or transfer of study abroad course credit accepted by KSU.

Number of Study Credit Hours	University General Education Requirements Met
3-6	3 UGE credits at 300 level
7 and above	6 UGE credits at 300 level

6. It is emphasized that all engineering curricula require two courses at 300 or higher level humanities and/or social science elective credits. These MUST be from the Engineering approved H&SS elective list, but need not be UGE credit hours. This requirement is not waived by studying abroad, but equivalent level courses can be transferred from international schools. Students should check with the Engineering Assistant Dean of Student Services 1042 Rathbone, to assure their transfer courses apply towards degree requirements.

COLLEGE OF ENGINEERING UNIVERSITY GENERAL EDUCATION WORK SHEETS

(Use to determine if the University General Education requirements have been met.)

UGE NATURAL SCIENCE COURSES (minimum of 3 credit hours)

(Either required, or used as technical elective if advisor approves. Some cannot be used for specific degrees)

UGE Credits Earned & Applicable	UGE Credit Hrs.	University General Education Courses Number	Title
____	3	BIOCH-110	Biochemistry and Society
____	5	BIOCH-265	Intro. Organic and Biochemistry
		(cannot use if BIOCH-521, CHM-350 or CHM-531 completed)	
____	4	BIOL-198	Prin. Of Biology
____	3	BIOL-330	Public Health Biology
____	3	CHM-110*	Gen. Chemistry
____	4	CHM-210	#Chemistry I
____	4	CHM-230	#Chemistry II
____	5	CHM-220	#Chemical Principles I
____	5	CHM-250	#Chemical Principles II
____	3	CHM-350	Gen. Organic Chemistry
____	2	CHM-351	Gen. Organic Chemistry Lab
____	4	GEOG-221	Environmental Geog I
____	4	GEOG-321	Environmental Geog II
____	3	GEOG-508	Geographic Info Sys I
____	3	GEOG-535	Fund. To Climatology
____	3	GEOL-100	Earth in Action
____	3	GEOL-102	Earth Through Time
____	3	GEOL-103	Geol. Lab
____	3	GEOL-105	Oceanography
____	3	GEOL-115	Environmental Geol.
____	3	GEOL-125	Natural Disasters
____	3	GEOL-506	Geol. and Environment
____	3	GEOL-540	Ice Ages and Env. Change
____	3	PHYS-101*	The Physical World I
____	3	PHYS-191*	Descriptive Astronomy
____	3	PHYS-451	Prin. Of Contemporary Physics **OR**
____	4	PHYS-452	Contemporary Physics: Problems & Principles
____	3	STAT-320**	#Elements of Stat.
____	3	STAT-350**	#Business and Econ. Stat.

____ TOTAL UGE NATURAL SCIENCE CREDIT HOURS (Min. of 3 hours)

UGE TECHNICAL ELECTIVES (other than Natural Sciences)

(Technical elective credits are referred to as option electives, restricted electives, complementary electives, professional electives, as well as technical electives, and must have advisor's approval.)

UGE Credits Earned & Applicable	UGE Credit Hrs.	University General Education Courses Number	Title
____	3	AGEC-120	Ag. Econ. And Agribusiness
____	2	AGEC-420	Commodity Futures
____	3	AGEC-525	Natural Resources and Env. Econ.
____	3	AGRON-335	Env. Quality
____	3	ACCT-231	Acct. for Business Oper.
____	3	ACCT-241	Acct. for Investing and Fin.
____	1	AERO-211	Aerospace Studies 2B
____	3	AERO-311	The Professional Officer 3B
____	3	ASI-595	Contemporary Issues in Animal Science
____	1	CHE-650	Hazardous Waste Engineering Seminar
____	3	CIS-411	Global Information Systems
____	1	DEN-325	Intro to Personal and Professional Development
____	3	DEN-582	Natural Resources Env. Science Project
____	2	EDADL-212	Intro to Leadership Concepts
____	3	ENTOM-301	Insects and People
____	3	FINAN-250	Personal Investing and Risk Management
____	1	MANGT-300	Introduction to Total Quality Management
____	3	MANGT-641	Management of Quality
____	3	MKTG-400	Marketing
____	V	MSCI-200	Self/Team Development
____	V	MSCI-202	Individual/Team Military Tactics
____	3	PLAN-315	Introduction to Planning
____	3	PLPTH-300	Microbes, Plants, and the Human Perspective

____ TOTAL UGE TECHNICAL ELECTIVE CREDIT HOURS

* Applicable only for IS degree.
** Applicable only for IS and CNSM degrees.
# Only one of any two similar individual department courses listed will apply towards degree requirements (CHM 210 or 220, CHM 230 or 250, STAT 320 or 350, etc.)

COLLEGE OF ENGINEERING UNIVERSITY GENERAL EDUCATION WORK SHEETS
(Use to determine if the University General Education requirements have been met.) April 1, 2008

UGE HUMANITIES and SOCIAL SCIENCES (H&SS) COURSES - **(MUST BE KSU COURSES)**

. At least one course from each of the humanities and the social sciences (H &SS) areas:

. Six UGE credit hours must be at or above the 300 level. These credits normally are from the H & SS areas, but some curricula will allow other areas (see advisor).

UGE HUMANITIES (the branches of knowledge concerned with humanity and its culture)

Earned Credit hrs	UGE Credit hrs	University General Education Courses Number	Title
____	3	AMETH-160	Intro to American Ethnic Studies
____	3	ARCH-290	Architecture Through the Ages
____	3	ARCH-301	Appreciation of Architecture
____	3	ARCH-670	Hist. of Amer. Arch. And Allied Design I
____	3	ARCH-671	History of Amer. Arch. And Allied Design II
____	3	ART-100	2-D Design
____	3	ART-190	Drawing I
____	3	ART-195	Survey of Art History I
____	3	ART-196	Survey of Art History II
____	4	CHINE-101	Chinese I
____	4	CHINE-102	Chinese II
____	5	CHINE-201	Chinese III
____	5	CHINE-202	Chinese IV
____	3	DEN-210	History of Building and Construction
____	3	ENGL-230	Classical Cultures
____	3	ENGL-231	Medieval and Renaissance
____	3	ENGL-233	Reformation to Enlightment
____	3	ENGL-234	Modern
____	3	ENGL-261	British Lit.: Medieval & Renaissance
____	3	ENGL-262	British Lit.: Enlightenment to Modern
____	3	ENGL-270	American Literature
____	3	ENGL-287	Great Books
____	3	ENGL-315	Cultural Studies
____	3	ENGL-355	Literature for Children
____	3	ENGL-390	Fable and Fantasy
____	3	ENGL-420	Literature and Film
____	3	ENGL-440	Themes in Literature
____	1-3	ENGL-445	Literature Kinds
____	3	ENGL-450	Literature and Society
____	3	ENGL-525	Women in Literature
____	3	ENGL-580	Selected World Literature
____	5	FREN-111	French I
____	5	FREN-112	French II
____	5	FREN-113	Accelerated Beg. French
____	5	FREN-211	French III
____	4	FREN-213	French IV
____	3	FREN-514	French Civilization
____	3	FREN-516	Readings in French
____	3	FREN-517	Commercial French
____	3	FREN-520	Intro to French Literature I
____	3	FREN-521	Intro to French Literature II
____	4	GRMN-121	German I
____	4	GRMN-122	German II
____	3	GRMN-221	German III
____	3	GRMN-223	German IV
____	3	HIST-330	History of East Asian Civilization
____	3	HIST-511	Environmental History
____	3	HIST-520	Death and Dying in History
____	3	HIST-529	Civil War & Reconstruction
____	3	HIST-536	The American West
____	3	HIST-537	History of the Indians of North America
____	3	HIST-554	History of the South
____	3	HIST-556	Bill of Rights in American History
____	3	HIST-570	Europe in the Seventeenth Century
____	3	HIST-577	Int'l Relations since 1815
____	3	HIST-583	History of France 1400-1715
____	3	HIST-584	History of France Since 1715
____	3	HIST-591	The Russian Empire
____	3	LAR-322	Environmental Issues and Ethics

UGE HUMANITIES (Continued)

____	3	MUSIC-100	Music Fundamentals
____	2	MUSIC-160	Music Listening Lab.
____	3	MUSIC-245	Intro. To Amer. Music
____	3	MUSIC-250	Intro. To Music
____	2	MUSIC-310	History of Musical Instruments
____	3	MUSIC-420	History of Jazz
____	3	MUSIC-421	Salsa: Afro-Cuban Music of the Past & Present
____	2-3	MUSIC-424	Jazz in Kansas City and the Southwest
____	3	PHILO-100	Intro to Philosophical Problems
____	3	PHILO-115	Intro. to Philosophical Religion
____	3	PHILO-120	Philosophy of Art
____	3	PHILO-125	Intro. to Philosophical Science
____	3	PHILO-130	Intro. to Moral Philosophy
____	3	PHILO-135	Intro. to Social and Political Philosophy
____	3	PHILO-140	Intro. to Philosophy of Mind
____	3	PHILO-145	Historical Intro. to Philosophy
____	4	PHILO-175	Philosophical Composition
____	3	PHILO-365	Medical Ethics
____	3	PHILO-380	Philosophy and Race
____	3	PHILO-390	Business Ethics
____	5	SPAN-161	Spanish I
____	5	SPAN-162	Spanish II
____	5	SPAN-261	Spanish III
____	4	SPAN-361	Spanish IV
____	3	Hon. Intro. to the Hum. I; one course: ENGL-297, HIST-297, MLANG-297, PHILO-297,)	
____	3	So. Asian Civ; one course: ANTH-505 ECON-505, GEOG-505, HIST-505, POLSC-505, SOCIO-505,)	

____ TOTAL UGE HUMANITIES CREDIT HOURS
(Min. of 3 UGE humanities credit hours)

UGE SOC. SCI. (the studies of individual relationships in and to society)

Earned Credit hrs	UGE Credit hrs	University General Education Courses Number	Title
____	3	ANTH-204	A Gen. Educ. intro. to Cultural Anthropology
____	3	ANTH-503	Archaeological Fact or Fiction
____	3	ANTH-524	Immigrant America
____	3	CHM-315	Env. Sci.: A Chemistry Perspective
____	3	CHM-650	History of Chemistry
____	3	ECON-110	Prin. Macroeconomics
____	3	ECON-120	Prin. Microeconomics
____	3	ECON-507	The Japanese Economy
____	3	ECON-523	Human Resource Economics
____	3	ECON-524	Sports Economics
____	3	ECON-527	Environmental Economics
____	3	ECON-536	Comparative Economics
____	3	ECON-555	Urban and Regional Economics
____	3	ECON-682	Development Economics
____	3	GEOG-100	World Regional Geog.
____	3	GEOG-200	Human Geog.
____	3	GEOG-300	Geography of Tourism
____	3	GEOG-310	Geography of Kansas
____	3	GEOG-340	Geography of Natural Resources
____	3	GEOG-500	Geography of the U.S.
____	3	GEOG-510	Geography of the American West
____	3	GEOG-600	Mountain Geography
____	3	GEOG-620	Geography of Latin America
____	3	GEOG-650	Geography of Former Soviet Lands
____	3	HIST-534	Social History of Medicine
____	3	MC-110	Mass Communications in Society
____	3	POLSC-301	Intro. to Political Thought
____	3	POLSC-325	U.S. Politics
____	3	POLSC-333	World Politics
____	3	POLSC-344	Intro. to Comparative Politics
____	3	PSYCH-110	Gen. Psych.
____	3	PSYCH-115	Gen. Psych. Honors

UGE SOCIAL SCIENCES (Continued)

____	2	PSYCH-202	Drugs and Behavior
____	3	PSYCH-280	Psych. of Childhood and Adolescence
____	3	SOCIO-211	Intro. to Sociology
____	3	SOCIO-363	Global Problems (NOT Social Problems)
____	3	SOCIO-510	Social Welfare as a Social Institution
____	3	SOCIO-533	Rural Sociology
____	3	SOCIO-562	Social Construction of a Serial Murder
____	3	SOCIO-665	Women and Crime
____	3	SOCIO-670	Diversity & Soc. Interact in Workplace-May intersession only
____	3	WOMST-105	Intro. to Women's Studies

____ Total UGE Social Science Credit Hours
(Min. of 3 UGE social sciences credit hours)

SUMMARY

____ MIN. 6 HOURS OF 300 OR HIGHER LEVEL CREDIT HOURS FROM ANY AND ALL GROUPS

____ TOTAL UGE HUMANITIES AND SOCIAL SCIENCE CREDIT HOURS
(Min. of 6 hours; 3 hours Humanities and 3 hours Social Sciences)

____ TOTAL UGE NATURAL SCIENCE CREDIT HOURS
(Min. of 3 hours)

____ TOTAL UGE TECHNICAL ELECTIVE CREDIT HOURS
(No minimum or limit)

____ TOTAL UNIVERSITY GENERAL EDUCATION CREDIT HOURS
(Min. of 18 hours, except transfer and study abroad students minimum varies; see first page)

____ TOTAL UGE CREDIT HOURS OF ENGINEERING COURSES
(Max. of 6 credit hours toward UGE requirements allowed from student's college; max. 3 credit hours from student's department)