- S INDICATES COURSE IS OFFERED SPRING SEMESTER
- Su INDICATES COURSE IS OFFERED SUMMER SEMESTER
- (L) INDICATES A COURSE WHICH INCLUDES A LAB
 MUST BE SCHEDULED IN ADDITION TO THE LECTURE

CIVIL ENGINEERING FLOWCHART General

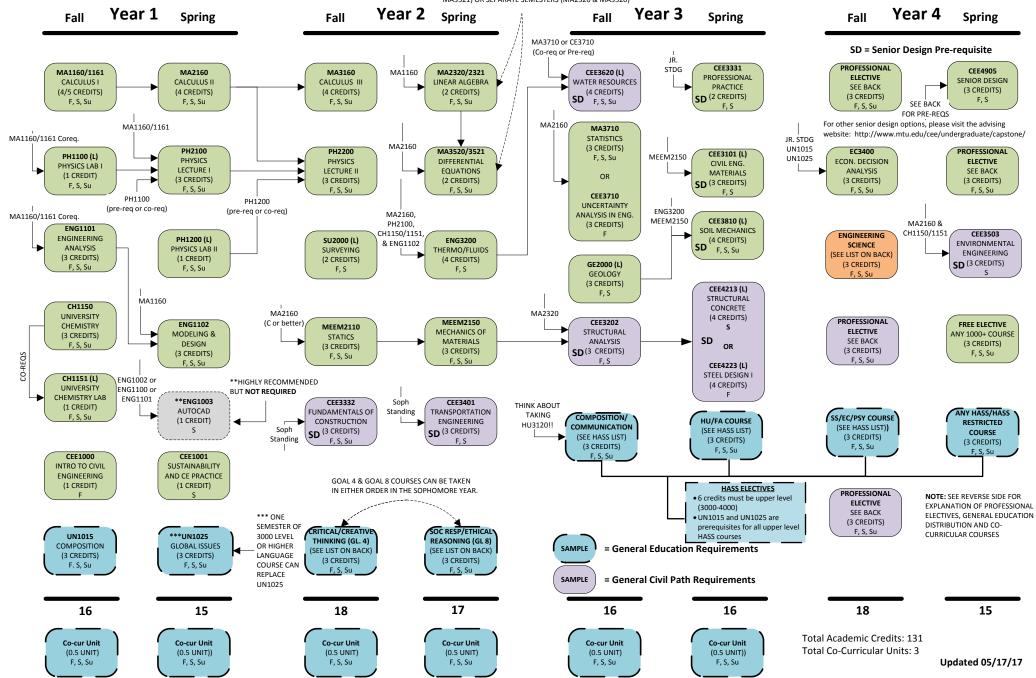
🌠 Michigan Tech

Adjustments may be required due to curriculum changes.

This is not an official list of degree requirements.

Academic Year 2017-18

NOTE: LINEAR ALGEBRA & DIFFERENTIAL EQUATIONS CAN BE TAKEN DURING THE SAME SEMESTER (MA2321 & MA3521) OR SEPARATE SEMESTERS (MA2320 & MA3520)



Engineering Science Elective List (3 credits)

BE2700 BIOMEDICAL SIGNALS & SYSTEMS

CM2110 FUND. OF CHEM ENGRG 1

CM2200 INTRO TO MINERALS AND MATERIALS
EE3010 CIRCUITS AND INSTRUMENTATION
MY2100 INTRO TO MATERIALS SCI & ENGRG

MEEM2201 THERMODYNAMICS

MEEM2700 DYNAMICS

<u>Senior Design (SD) Pre-reqs</u> (complete 7 of the following)

CEE3101, CEE3202, CEE3331, CEE3332, CEE3401, CEE3503, CEE3620, CEE3810, CEE4213 or CEE4223

UNDERGRADUATE CATALOG: http://www.mtu.edu/catalog/undergraduate/course-descriptions/ GENERAL EDUCATION: http://www.mtu.edu/provost/academic-policies/general-education/programs/ CO-CURRICULAR LIST & HASS LIST: http://www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/

Professional Electives

(UNDERGRADUATE CATALOG: http://www.mtu.edu/catalog/undergraduate/course-descriptions/)

- ANY 3000 OR HIGHER LEVEL COURSE IN CIVIL AND ENVIRONMENTAL ENGINEERING OR IN ANY OTHER ENGINEERING DEPARTMENT
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- ANY 3000 OR HIGHER LEVEL COURSE IN MATHEMATICS
- ANY 3000 OR HIGHER LEVEL COURSE IN BUSINESS OR ECONOMICS. (ACC, BUS, EC, FIN, MGT, MIS, MKT, OSM)
- ANY 2000 OR HIGHER LEVEL COURSE IN SURVEYING
- HU3120 TECHNICAL AND PROFESSIONAL COMMUNICATION

NOTE: OTHER COURSES MAY BE USED TO SATISFY THE PROFESSIONAL ELECTIVES REQUIREMENT IF APPROVED BY THE DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING ACADEMIC ADVISOR.

GENERAL EDUCATION REQUIREMENTS

A. CORE COURSES (12 CREDITS)

- 1. UN1015 (COMPOSITION)
- 2. UN1025 (GLOBAL ISSUES)
- 3. CRITICAL AND CREATIVE THINKING (Goal 4) *
- 4. SOCIAL RESPONSIBILITY AND ETHICAL REASONING

(Goal 8) ***	
*GOAL 4 LIST	**GOAL 8 LIST
FA2330	EC2001
FA2520	ED2000
FA2720	PSY2000
FA2820	SS2100
HU2130	SS2200
HU2324	SS2400
HU2501	SS2500
HU2503	SS2501
HU2538	SS2502
HU2700	SS2503
HU2820	SS2504
HU2910	SS2505
SS2300	SS2600
	SS2610
	SS2700

B. HASS COURSES (12 CREDITS) (General Ed Website, left)

1.	COMMUNICATION	COMP ((HASS LIST)

2. HU OR FA COURSE (HASS LIST)

3. SS OR EC OR PSY COURSE (HASS LIST)

4. ANY HASS OR HASS RESTRICTED COURSE (HASS LIST)

6 credits must be upper division 3000-4000 level

COURSES.

- No more than 3 credits from the HASS Restricted list can be used to satisfy HASS requirements.
- Each course can satisfy only one requirement.

C. CO-CURRICULAR ACTIVITIES (3 UNITS)

PE/FA/AR/AF	PE/FA/AR/AF
PE/FA/AR/AF	PE/FA/AR/AF
PF/FΔ/ΔR/ΔF	PF/FA/AR/AF

- S INDICATES COURSE IS OFFERED SPRING SEMESTER
- Su INDICATES COURSE IS OFFERED SUMMER SEMESTER
- (L) INDICATES A COURSE WHICH INCLUDES A LAB
 MUST BE SCHEDULED IN ADDITION TO THE LECTURE

CIVIL ENGINEERING FLOWCHART Water Resources

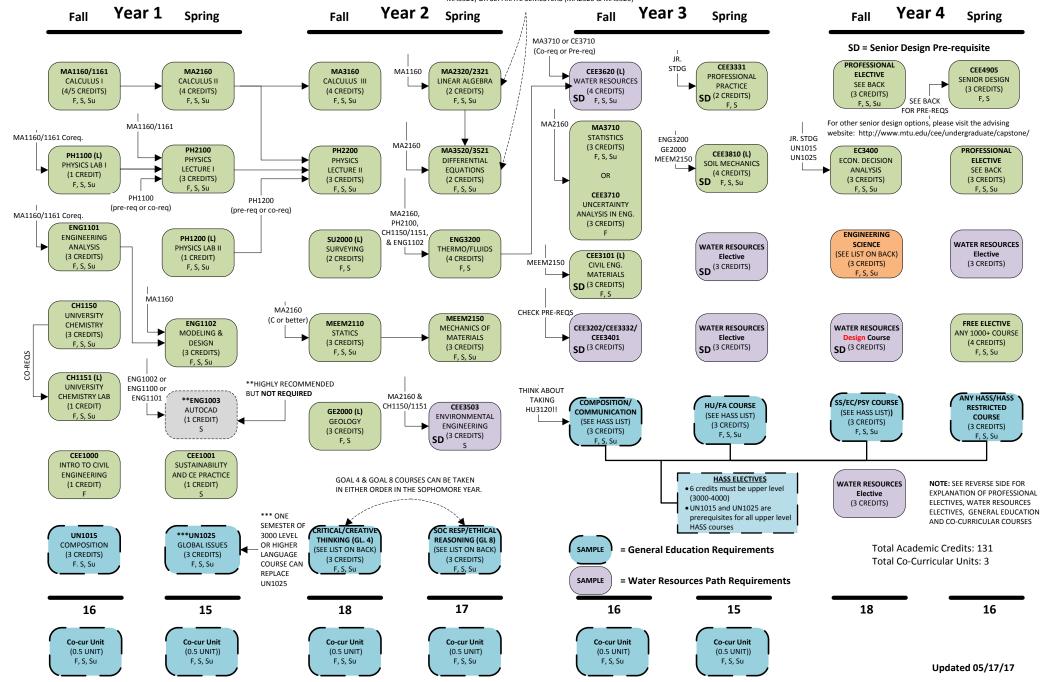
Academic Year 2017-18

NOTE: LINEAR ALGEBRA & DIFFERENTIAL EQUATIONS CAN BE TAKEN DURING THE SAME SEMESTER (MA2321 & MA3521) OR SEPARATE SEMESTERS (MA2320 & MA3520)



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Water Resources Requirements

Choose 1 course from the following
CEE3202 STRUCTURAL ANALYSIS

CEE3202 STRUCTURAL ANALYSIS F, Sp 3 cr.
CEE3332 FUND. OF CONSTRUCTION F, Sp 3 cr.
CEE3401 TRANSPORTATION ENGRG F, Sp 3 cr.

WATER RESOURCES DESIGN COURSE (select 1)

CEE4620	RIVER/FLOODPLAIN HYDRAULICS	Fall	3 cr.
CEE4640	STORMWATER MANAGE. & LID	Su	3 cr.
CEE4665	STREAM RESTORATION	Spring	3 cr.

WATER RESOURCES ELECTIVES (select 4)

CEE4502	WASTE TREATMENT	Fall	3 cr.
CEE4503	WATER TREATMENT	Spring	3 cr.
CEE4505	SURFACE WATER QUALITY	Fall	3 cr.
CEE4507	WATER DISTRIBUTION/COLLECT.	Spring	3 cr.
CEE4620	RIVER/FLOODPLAIN HYDRAULICS	Fall	3 cr.
CEE4640	STORMWATER MANAGE. & LID	Su	3 cr.
CEE4665	STREAM RESTORATION	Spring	3 cr.
CEE5620	STOCHASTIC HYDROLOGY	Spring	3 cr.
CEE5666	WR PLANNING & MANAGEMENT	Var.	3 cr.
GE3850	GEOHYDROLOGY	F, Sp	3 cr.
GE4800	GROUNDWATER ENGRG	Spring	3 cr.

Senior Design (SD) Pre-reqs (complete 7 of the following)

CEE3101, CEE3331, (CEE3202 or CEE3332 or CEE3401), CEE3620, CEE3810, CEE3503, WATER RESOURCES DESIGN COURSE, & 2 WATER RESOURCES ELECTIVES

Engineering Science Elective List (3 credits)

BE2700	BIOMEDICAL SIGNALS & SYSTEMS
CM2110	FUND. OF CHEM ENGRG 1
CM2200	INTRO TO MINERALS & MATERIALS
EE3010	CIRCUITS AND INSTRUMENTATION
MY2100	INTRO TO MATERIALS SCI & ENGRG
MEEM2201	THERMODYNAMICS
MEEM2700	DYNAMICS

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- ANY 3000 OR HIGHER LEVEL COURSE IN MATHEMATICS
- ANY 3000 OR HIGHER LEVEL COURSE IN BUSINESS OR ECONOMICS. (ACC, BUS, EC, FIN, MGT, MIS, MKT, OSM)
- ANY 2000 OR HIGHER LEVEL COURSE IN SURVEYING
- HU3120 TECHNICAL AND PROFESSIONAL COMMUNICATION

NOTE: OTHER COURSES MAY BE USED TO SATISFY THE PROFESSIONAL ELECTIVES REQUIREMENT IF APPROVED BY THE DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING ACADEMIC ADVISOR.

GENERAL EDUCATION REQUIREMENTS

- A. CORE COURSES (12 CREDITS)
- 1. UN1015 (COMPOSITION)
- 2. UN1025 (GLOBAL ISSUES)
- 3. CRITICAL AND CREATIVE THINKING (Goal 4) *
- 4. SOCIAL RESPONSIBILITY AND ETHICAL REASONING (Goal 8) **

*GOAL 4 LIST	**GOAL 8 LIST
FA2330	EC2001
FA2520	ED2000
FA2720	PSY2000
FA2820	SS2100
HU2130	SS2200
HU2324	SS2400
HU2501	SS2500
HU2503	SS2501
HU2538	SS2502
HU2700	SS2503
HU2820	SS2504
HU2910	SS2505
SS2300	SS2600
	SS2610
	SS2700

- B. HASS COURSES (12 CREDITS) (General Ed Website, left)
- 1. COMMUNICATION/COMP (HASS LIST)
- 2. HU OR FA COURSE (HASS LIST)
- 3. SS OR EC OR PSY COURSE (HASS LIST)
- 4. ANY HASS OR HASS RESTRICTED COURSE (HASS LIST)
- 6 credits must be upper division 3000-4000 level
- No more than 3 credits from the HASS Restricted list can be used to satisfy HASS requirements.
- Each course can satisfy only one requirement.

C. CO-CURRICULAR ACTIVITIES (3 UNITS)

PE/FA/AR/AF	PE/FA/AR/AF
PE/FA/AR/AF	PE/FA/AR/AF
ΡΕ/ΕΔ/ΔΡ/ΔΕ	ΡΕ/ΕΔ/ΔΡ/ΔΕ

S INDICATES COURSE IS OFFERED SPRING SEMESTER

Fall

MA1160/1161

CALCULUS I

(4/5 CREDITS)

F, S, Su

PH1100 (L)

PHYSICS LAB I

(1 CREDIT)

F. S. Su

ENG1101

ENGINEERING

ANALYSIS

(3 CREDITS)

F, S, Su

CH1150

LINIVERSITY

CHEMISTRY

(3 CREDITS)

F, S, Su

CH1151 (L)

UNIVERSITY

CHEMISTRY LAB

(1 CREDIT)

CEE1000

INTRO TO CIVIL

ENGINEERING

(1 CREDIT)

UN1015

COMPOSITION

(3 CREDITS)

F. S, Su

16

Co-cur Unit

(0.5 UNIT)

F, S, Su

MA1160/1161 Corea

MA1160/1161 Coreq

CO-REQS

Su INDICATES COURSE IS OFFERED SUMMER SEMESTER

(L) INDICATES A COURSE WHICH INCLUDES A LAB MUST BE SCHEDULED IN ADDITION TO THE LECTURE

Year 1

MA1160/1161

PH1100

(pre-reg or co-reg)

MA1160

ENG1002 or

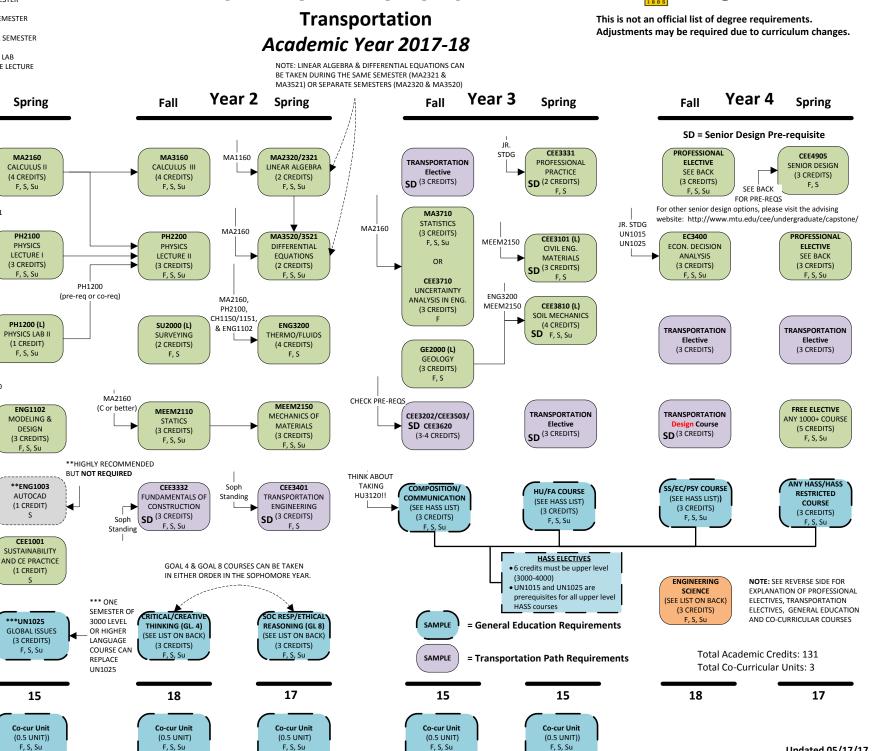
ENG1100 or

ENG1101

F, S, Su

F, S, Su

CIVIL ENGINEERING FLOWCHART



F, S, Su

F, S, Su

Michigan Tech

Updated 05/17/17

Transportation Requirements

Choose 1 course from the following CEE3202 STRUCTURAL ANALYSIS F, Sp 3 cr. CEE3503 **ENVIRONMENTAL ENG.** 3 cr. Sp F, Sp, Su 3 cr. CEE3620 WATER RESOURCES ENG

TRANSPORTATION DESIGN COURSE (Select 1) DAVEMENT DESIGN

	CLL4401	PAVLIVILINI DESIGN	ган	3 CI.
	CEE4407	TRANSPORTATION DESIGN	Spring	3 cr.
	TRANSPO	RTATION ELECTIVES (select 4)		
	CEE4333	ESTIMATING, PLAN., CONST.	Fall	3 cr.
	CEE4344	CONSTRUCTION SCHEDULING	Spring	3 cr.
	CEE4401	PAVEMENT DESIGN	Fall	3 cr.
	CEE4402	TRAFFIC ENGINEERING	Fall	3 cr.
	*CEE4404	RAILROAD ENGINEERING	Fall	3 cr.
(*pre-req is CEE3490 – 1 cr, Offered in the spring)			g)	
	CEE4406	AIRPORT PLANNING	Spring	3 cr.
	CEE4407	TRANSPORTATION DESIGN	Spring	3 cr.

TRANSPORTATION PLANNING

Senior Design (SD) Pre-regs (complete 7 of the following)

CEE3101, (CEE3202 or CEE3503 or CEE3620), CEE3331, CEE3332, CEE3401, CEE3810 TRANSPORTATION DESIGN COURSE, & 2

TRANSPORTATION ELECTIVES

Engineering Science Elective List (3 credits)

BE2700	BIOMEDICAL SIGNALS & SYSTEMS
CM2110	FUND. OF CHEM ENGRG 1
CM2200	INTRO TO MINERALS & MATERIALS
EE3010	CIRCUITS AND INSTRUMENTATION
MY2100	INTRO TO MATERIALS SCI & ENGRG
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MEEM2700	DYNAMICS

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CO-CURRICULAR LIST: http://www.mtu.edu/registrar/ faculty-staff/advisors/gen-ed/

Professional Electives

CFF///01

CEE4410

(UNDERGRADUATE CATALOG: http://www.mtu.edu/catalog/undergraduate/course-descriptions/)

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Fall

Fall

3 cr

3 cr.

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HU2700	SS2503
HU2820	SS2504
HU2910	SS2505
SS2300	SS2600
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- B. HASS COURSES (12 CREDITS) (General Ed Website, left)
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C. CO-CURRICULAR ACTIVITIES (3 UNITS)

PE/FA/AR/AF	PE/FA/AR/AF
PE/FA/AR/AF	PE/FA/AR/AF
Ε/ΕΔ/ΔΕ/ΔΕ	DF/FA/AR/AF

S INDICATES COURSE IS OFFERED SPRING SEMESTER

Su INDICATES COURSE IS OFFERED SUMMER SEMESTER

(L) INDICATES A COURSE WHICH INCLUDES A LAB
MUST BE SCHEDULED IN ADDITION TO THE LECTURE

CIVIL ENGINEERING FLOWCHART

Built Infrastructure

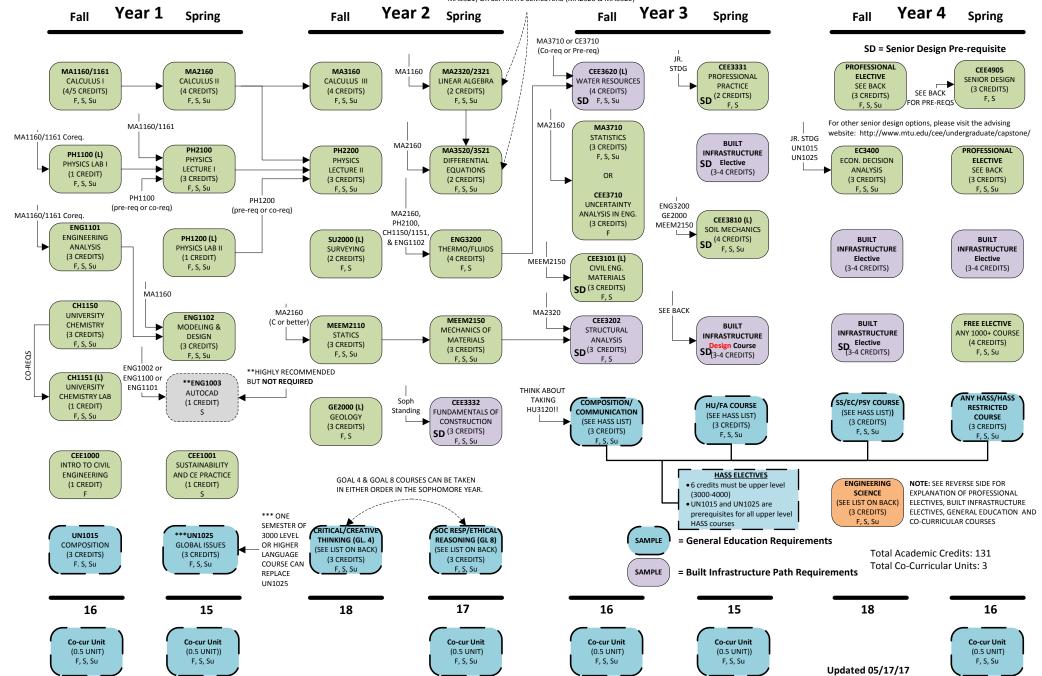
Academic Year 2017-18

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Built Infrastructure Requirements

BUILT INFRASTRUCTURE DESIGN COURSE (select 1)

CEE4213	STRUCTURAL CONCRETE DESIGN	Spring	4 cr.
CEE4223	STEEL DESIGN 1	Fall	4 cr.
CEE4820	FOUNDATION ENGINEERING	Fall	3 cr.

BUILT INFRASTRUCTURE ELECTIVES (select 4)

CE	E4020	COMPUTER APPLICATIONS	Fall	3 cr.
CE	E4201	MATRIX STRUCTURAL ANALYSIS	Fall	3 cr.
CE	E4213	STRUCTURAL CONCRETE DESIGN	Spring	4 cr.
CE	E4223	STEEL DESIGN 1	Fall	4 cr.
CE	E4233	STRUCTURAL TIMBER DESIGN	Spring	3 cr.
CE	E4244	LOADS FOR CIVIL STRUCTURES	Spring	3 cr.
CE	E4333	ESTIMATING, PLANNING, CONST.	Fall	3 cr.
CE	E4344	CONSTRUCTION SCHEDULING	Spring	3 cr.
CE	E4820	FOUNDATION ENGINEERING	Fall	3 cr.
CE	E4830	GEOSYNTHETICS	Spring	3 cr.
CE	E4850	ROCK ENGINEERING	Spring	3 cr.
CE	E5212	PRESTRESSED CONCRETE DESIGN	Fall	3 cr.
CE	E5213	CONCRETE/MASONRY BLDG SYS	Fall	3 cr.

Senior Design (SD) Pre-reqs (complete 7 of the following)

CEE3101, CEE3331, CEE3332, CEE3202, CEE3620, CEE3810, BUILT INFRASTRUCTURE DESIGN COURSE, & 2 BUILT INFRASTRUCTURE ELECTIVES

Engineering Science Elective List (3 credits)

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- 4. SOCIAL RESPONSIBILITY AND ETHICAL REASONING (Goal 8) **

**GOAL 8 LIST
EC2001
ED2000
PSY2000
SS2100
SS2200
SS2400
SS2500
SS2501
SS2502
SS2503
SS2504
SS2505
SS2600
SS2610
SS2700

B. HASS COURSES (12 CREDITS) (General Ed Website, left)

- 1. COMMUNICATION/COMP (HASS LIST)
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C. CO-CURRICULAR ACTIVITIES (3 UNITS)

 PE/FA/AR/AF_____
 PE/FA/AR/AF_____

 PE/FA/AR/AF_____
 PE/FA/AR/AF_____

 PE/FA/AR/AF_____
 PE/FA/AR/AF_____