

Name: \_\_\_\_\_

**Civil Engineering Curriculum Worksheet**

CUID: C \_\_\_\_\_

**Freshman Year (General Engineering)**

First Semester		Second Semester
Course	Taken	Course
C H 1010 General Chemistry (4)		GEOL 1010 Physical Geology (3)
ENGL 1030 Composition I (3)		GEOL 1030 Physical Geology Lab (1)
ENGR 1020 Engineering Disciplines and Skills (2)		ENGR 2100 Intro to Engr/Computer Graphics (2)
MATH 1060 Calculus of One Variable I (4)		ENGR 1410 Engineering Fundamentals (3)
Arts, Humanities or Social Science Reqmt. <sup>1</sup> (3)		MATH 1080 Calculus of One Variable II (4)
		PHYS 1220 Physics with Calculus I (3)
		PHYS 1240 Physics Lab (1)

**Sophomore Year**

First Semester		Second Semester
Course	Taken	Course
C E 2010 Statics (3)		C E 2080 Dynamics (2)
MATH 2060 Calculus of Several Variables (4)		MATH 2080 Intro to Ordinary Diff. Equations (4)
Arts, Humanities or Social Science Reqmt. <sup>1</sup> (3)		COMM 2500 Public Speaking (3)
PHYS 2210 Physics with Calculus II (3)		C E 2060 Structural Mechanics (4)
PHYS 2230 Physics Lab (1)		C E 3520 Economic Evaluation of Projects (2)
CE 2550 Geomatics (3)		

**Junior Year**

First Semester		Second Semester
Course	Taken	Course
C E 3010 Structural Analysis (3)		C E 3530 Professional Seminar (1)
C E 3410 Intro to Fluid Mechanics (3)		C E 3110 Transportation Engr Planning & Design (3)
C E 3430 Intro to Fluid Mechanics Lab (1)		C E 3210 Geotechnical Engr (4)
C E 3510 C E Materials (4)		Design Technical Requirement <sup>2</sup> (3)
C E 3310 Construction Engr (3)		EE&S 4010 Environmental Engr (3)
MATH 3020 Statistics for Engineering & Sci (3)		C E 3420 Appl Hydraulics & Hydrology (3)

<b>Senior Year</b>		<b>Second Semester</b>
<b>First Semester</b>	<b>Taken</b>	<b>Course</b>
<b>Course</b>		C E 4590 Capstone Design Project (3)
Technical Requirement Restricted <sup>3</sup> (3)		Technical Requirement <sup>3</sup> (3)
Design Technical Requirement <sup>2</sup> (3)		Arts and Humanities (Literature) Requirement <sup>1</sup> (3)
Technical Requirement <sup>3</sup> (3)		Arts and Humanities/Social Science Reqmt. <sup>1</sup> (3)
Technical Requirement <sup>3</sup> (3)		Elective (3)
ENGL 3140 Technical Writing (3)		

<b>Arts, Humanities/Social Science Requirements</b>	
Lit:	CCA:
Non-Lit:	STS:
SS 1	
SS 2	

<b>Technical/Technical Design Requirements</b>	
_____	_____
_____	_____
_____	_____

<b>Notes:</b>
_____
_____
_____

<b>Emphasis Area:</b> _____
_____
_____
_____

*See notes on next page*

## Civil Engineering Curriculum Worksheet

*Note: Civil Engineering students may neither enroll in nor receive credit for any CE or EM course unless they have a 2.0 engineering grade-point ratio.*

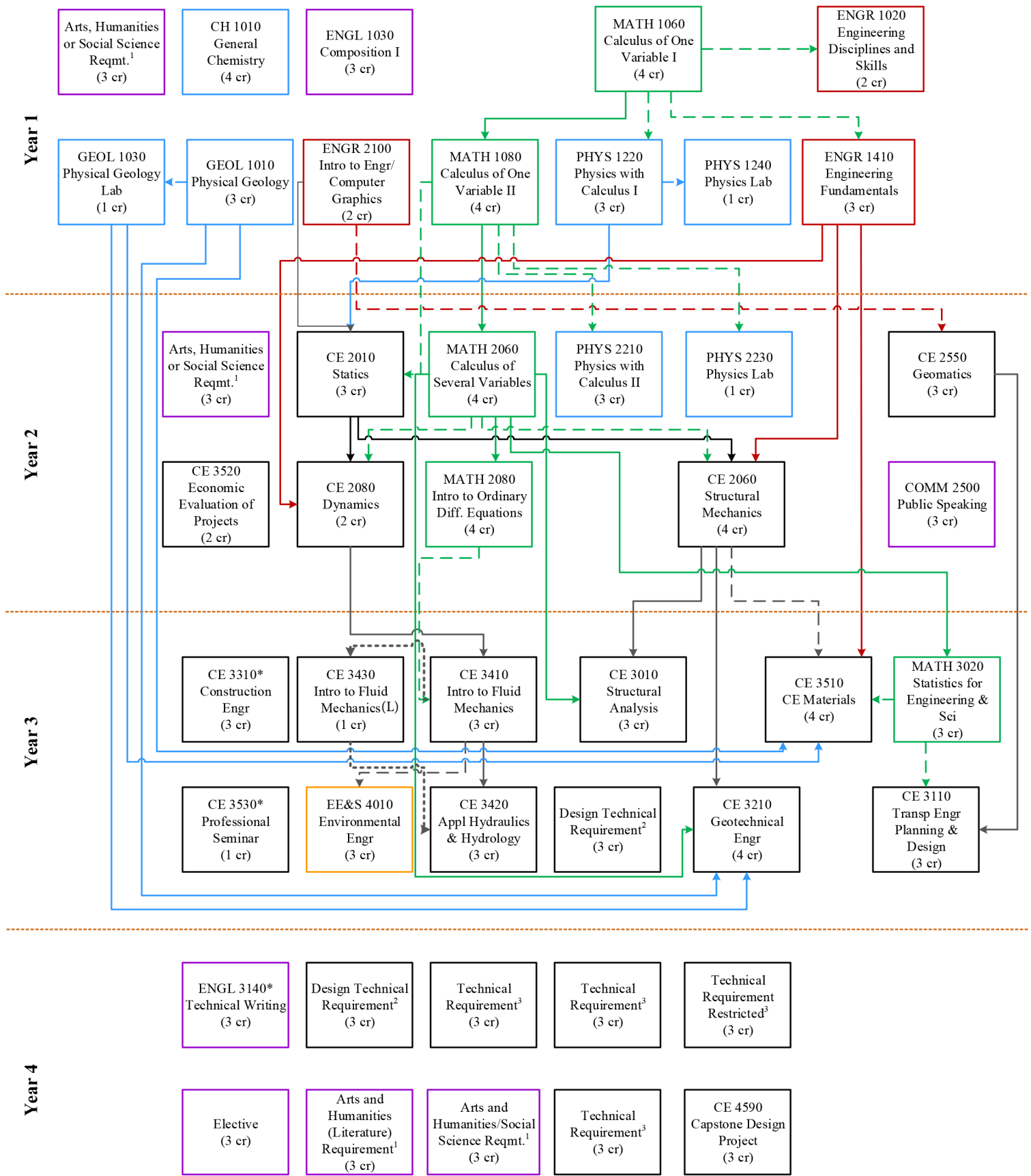
*Note: Civil Engineering students enrolling in any CE course (except CE 4590) must have a C grade or better in the prerequisites for that course.*

*<sup>1</sup> See Policy on Social Sciences and Humanities for Engineering Curricula. Six of these credit hours must also satisfy General Education Cross-Cultural Awareness and Science and Technology in Society Requirements. <sup>2</sup> See advisor for approved list. <sup>3</sup>*

*See advisor for approved list. Technical Requirements and electives may be used to complete an emphasis area in one or more of the following fields: Applied Fluid Mechanics, Construction, Environmental Engineering, Geotechnical/Geoenvironmental Engineering, Structural Engineering, or Transportation Engineering*

**NOTES:**

# 2022-2023 Civil Engineering Curriculum Flow Chart



Prerequisite

Pre-req or concurrent enrollment

\*Jr. Standing



## Department of Civil Engineering Technical Requirements Policy

*Students are required to take at least 18 units of technical requirements, including the design and restricted technical requirements. Any variation from the courses listed below must be pre-approved by the Department Chair.*

Course No.	Course Title
CE 4010	Indeterminate and Matrix Structural Analysis
CE 4020	Reinforced Concrete Design
CE 4040	Masonry Structural Design
CE 4060	Structural Steel Design
CE 4070	Wood Design
CE 4080	Structural Loads and Systems
CE 4100	Traffic Engineering Operations
CE 4110	Roadway Geometric Designs
CE 4120	Urban Transportation Planning
CE 4210	Geotechnical Engineering Design
CE 4240	Earth Slopes and Retaining Structures
CE 4250	Soil-Structure Interaction
CE 4330	Construction Planning and Scheduling
CE 4340	Construction Estimating and Project Control
CE 4350	Infrastructure Project Planning
CE 4360	Sustainable Construction
CE 4370	Sustainable Energy Project Design & Analysis
CE 4380	Construction Support Operations
CE 4390	Construction Equipment Selection and Maintenance
CE 4400	Sustainable Energy Engineering
CE 4420	Hydrologic Analysis and Design
CE 4430	Water Resources Engineering
CE 4460	Flood Hazards and Protective Design
CE 4470	Stormwater Management
CE 4560	Pavement Design and Construction
CE 4570	Materials Testing and Inspection
CE 4620	Coastal Engineering I
CE 4820	Groundwater and Containment Transport
CE 4900 <sup>1</sup>	Special Projects (Requires Pre-approval by Dept. Chair)
CE 4910 <sup>2</sup>	Selected Topics in Civil Engineering
CE 4910 <sup>3</sup>	Selected Topics in Civil Engineering (Transportation)
CE 4910 <sup>3</sup>	Selected Topics in Civil Engineering (Geotechnical)
CE 4990 <sup>**1</sup>	Special Projects (Requires Pre-approval by Dept. Chair)
EE&S 4020	Water and Waste Treatment Systems
EE&S 4100	Environmental Radiation Protection I
EE&S 4300	Air Pollution Engineering
EE&S 4840	Municipal Solid Waste Management
EE&S 4850	Hazardous Waste Management
EE&S 4860	Pollution Prevention
ME 3100 <sup>**</sup>	Thermodynamics and Heat Transfer
ECE 3070 and 3090 <sup>**</sup>	Basic Electrical Engineering/Electrical Engineering Laboratory I
MSE 2100 <sup>**</sup>	Introduction to Materials Science
CSM 3040 <sup>**</sup>	Environmental Systems I
CSM 3050 <sup>**</sup>	Environmental Systems II
LAW 3220 <sup>**</sup>	Legal Environment of Business
LAW 3330 <sup>**</sup>	Real Estate Law

<sup>1</sup> CE 4900 and CE 4990 will not count as a technical requirement unless the course content is preapproved by the Dept. Chair. Consult instructor and your advisor.

<sup>2</sup> Depending on course content, may count as a technical requirement. Consult instructor and your advisor.

<sup>3</sup> Depending on course content, may count as a restricted technical requirement. Consult instructor.

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Approved Science\*\*<sup>1</sup>

GEOL 4080\*\*

See Notes Below

Geohydrology

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\*\*Students are permitted to take no more than one of their technical requirements from the courses marked with a double asterisk.

### **List of Approved Technical Design Requirement Courses**

*Students are required to take two design technical electives selected from different areas. Note that some of these classes may satisfy the restricted technical elective as well. Regardless, students must take at least 18 units of technical requirements, including the design and restricted technical requirements.*

#### Geotechnical Area:

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<sup>1</sup> A second approved science with laboratory selected from CH 1020, or BIOL 1030 and 1050, or 1100, or 1200 and 1210, 1220, 1230 or 1240.

CE 4210 Geotechnical Engineering Design CE

4240 Earth Slopes and Retaining Structures

Structures Area:

CE 4020 Reinforced Concrete Design

CE 4040 Masonry Design

CE 4060 Steel Design

CE 4070 Wood Design

CE 4080 Structural Loads and Systems

Transportation:

CE 4110 Roadway Geometric Design CE

4560 Pavement Design and Construction

Applied Fluid Mechanics:

CE 4420 Hydrologic Analysis and Design

CE 4470 Stormwater Management

Environmental Engineering:

EE&S 4020 Water and Waste Treatment Systems

**List of Approved Restricted Technical Requirement Courses**

*Students are required to take one restricted technical elective selected from the following list:*

Course No.	Course Title
CE 4100	Traffic Engineering Operations
CE 4110	Roadway Geometric Designs
CE 4120	Urban Transportation Planning
CE 4210	Geotechnical Engineering Design
CE 4240	Earth Slopes and Retaining Structures
CE 4560	Pavement Design and Construction
CE 4820	Groundwater and Contaminant Transport
CE 4910 <sup>1</sup>	Selected Topics in Civil Engineering (Transportation)
CE 4910 <sup>1</sup>	Selected Topics in Civil Engineering (Geotechnical)
EE&S 4020	Water and Waste Treatment Systems
EE&S 4100	Environmental Radiation Protection I
EE&S 4300	Air Pollution Engineering
EE&S 4840	Municipal Solid Waste Management
EE&S 4850	Hazardous Waste Management
EE&S 4860	Pollution Prevention

<sup>1</sup> Consult instructor to determine if course will satisfy the restricted technical requirement.