

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. ¹ (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. ¹ (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 3530 Professional Seminar (1) |
| C E 3010 Structural Analysis (3) | | C E 3110 Transportation Engr Planning & Design (3) |
| C E 3410 Intro to Fluid Mechanics (3) | | C E 3210 Geotechnical Engr (4) |
| C E 3430 Intro to Fluid Mechanics Lab (1) | | |
| C E 3510 C E Materials (4) | | Design Technical Requirement ² (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) |

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

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

| | |
|--|-------|
| Technical/Technical Design Requirements | |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

| |
|---------------|
| Notes: |
| _____ |
| _____ |
| _____ |
| _____ |

See notes on next page

| |
|-----------------------------|
| Emphasis Area: _____ |
| _____ |
| _____ |
| _____ |

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.

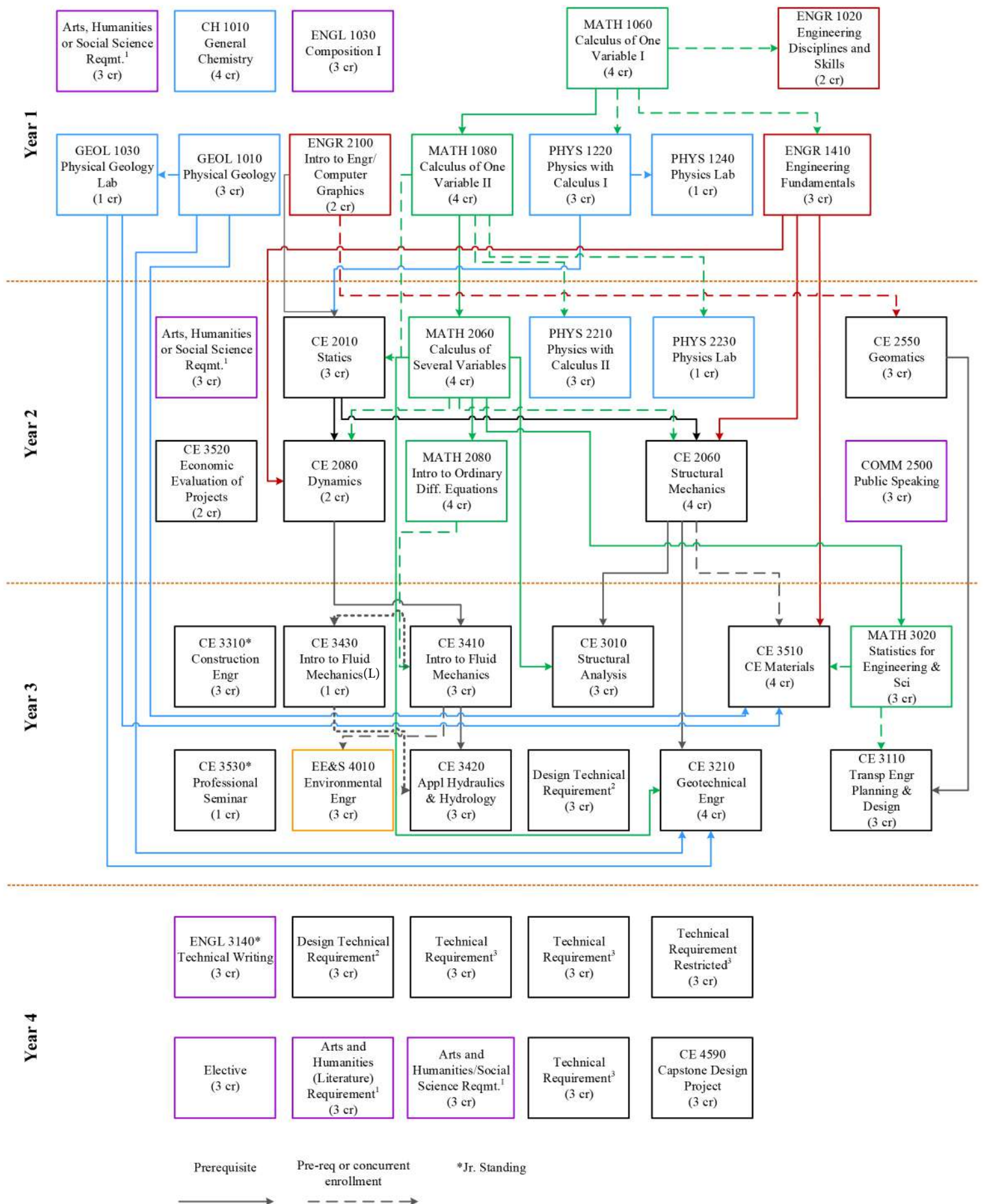
Note: Civil Engineering students enrolling in any CE course (except CE 4590) must have a C grade or better in the prerequisites for that course.

¹ 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. ² See advisor for approved list. ³

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



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 ¹ | Special Projects (Requires Pre-approval by Dept. Chair) |
| CE 4910 ² | Selected Topics in Civil Engineering |
| CE 4910 ³ | Selected Topics in Civil Engineering (Transportation) |
| CE 4910 ³ | Selected Topics in Civil Engineering (Geotechnical) |
| CE 4990 ^{**1} | 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 ^{**} | Thermodynamics and Heat Transfer |
| ECE 3070 and 3090 ^{**} | Basic Electrical Engineering/Electrical Engineering Laboratory I |
| MSE 2100 ^{**} | Introduction to Materials Science |
| CSM 3040 ^{**} | Environmental Systems I |
| CSM 3050 ^{**} | Environmental Systems II |
| LAW 3220 ^{**} | Legal Environment of Business |
| LAW 3330 ^{**} | Real Estate Law |

¹ 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.

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

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

Approved Science**¹
GEOL 4080**

See Notes Below
Geohydrology

**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:

¹ 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 ¹ | Selected Topics in Civil Engineering (Transportation) |
| CE 4910 ¹ | 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 |

¹ Consult instructor to determine if course will satisfy the restricted technical requirement.