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| **Catalog Year 2023-2024**  BS, Civil Engineering  Engineering Geology | ***(For internal use only)***  *No change*  *UCC proposal* |

A Major Academic Plan (MAP) is one way to complete a degree in a set number of semesters. The *example* below is an efficient strategy only. Actual plans for individual students will vary based on advisor recommendations and academic needs. Official Program Requirements including Major, General Education, Elective, and university requirements (see pg.2) are based on Catalog Year.

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| **Course Subject and Title** | **Cr.** | **Min.**  **Grade** | **\*GE,**  **UU or UM** | **\*\*Sem. Offered** | **Prerequisite** | **Co Requisite** | | | | |
| Semester One | | | | | | | | | | |
| GE Objective 1: ENGL 1101 Writing and Rhetoric I | 3 | C- | GE | F, S, Su | Appropriate placement score |  | | | | |
| GE Objective 3: MATH 1170 Calculus I | 4 | C- | GE | F, S, Su | Appropriate Placement score or MATH 1147 or MATH 1144 | | | | |  |
| GE Objective 5: CHEM 1111 & 1111L General Chem I & Lab | 5 | C- | GE | F, S, Su | MATH 1143 or 1147 or equivalent | | | | |  |
| GEOL 1100/L OR BIOL 1101/L OR GEOL 2204 OR GEOL 2205 | 4 |  | GE | F, S, Su |  |  | | | | |
| Total | 16 |  |  |  |  |  | | | | |
| Semester Two | | | | | | | | | | |
| GE Objective 1: ENGL 1102 Writing and Rhetoric II | 3 | C- | GE | F, S, Su | ENGL 1101 or equivalent |  | | | | |
| MATH 1175 Calculus II | 4 | C- |  | S, S, Su | MATH 1170 |  | | | | |
| GE Objective 5: PHYS 2211 Engineering Physics I | 4 |  |  | F, S, Su |  | MATH 1175 | | | | |
| CE 1105 Engineering Graphics | 2 |  |  | F, S | MATH 1147 or equivalent |  | | | | |
| GE Objective 7: CS/INFO 1181 | 3 |  | GE | F, S | MATH 1143 or 1147 | MATH 1143 or MATH 1147 | | | | |
| Total | 16 |  |  |  |  |  | | | | |
| Semester Three | | | | | | | | | | |
| CE/ME 2210 Engineering Statistics | 3 |  |  | F, S | CE 1105, PHYS 2211, MATH 1175 | | | | | |
| MATH 3352 Introduction to Probability | 3 |  | UM | F, S | MATH 1175 or permission of instructor | |  | | | |
| MATH 2240 Linear Algebra | 3 |  |  | F, S, Su | MATH 1170 |  | | | | |
| CE 2200 Civil Engineering Tools | 1 |  |  | F | MATH 1170, CS/INFO 1181 |  | | | | |
| GE Objective 2: COMM 1101 Principles of Speech | 3 |  | GE | F, S, Su |  |  | | | | |
| GE Objective 4 | 3 |  | GE | F, S, Su |  |  | | | | |
| Total | 16 |  |  |  |  |  | | | | |
| Semester Four |  |  |  |  |  |  | | | | |
| CE/ME 2220 Engineering Dynamics | 3 |  |  | F, S | CE/ME 2210, CE/ME 1105, PHYS 2211, MATH 1175 | | | |  | |
| CE/ME 3350 Mechanics of Materials | 3 | C- | UM | F, S | CE/ME 2210, CE/ME 1105, PHYS 2211, MATH 1175 | | | |  | |
| MATH 3360 Differential Equations | 3 |  | UM | F, S | MATH 1175; MATH 2240 or MATH 2275 recommended | | | |  | |
| CE 3332 Basic Geotechnics | 3 | C- | UM | S | CE/ME 2210, CE/ME 1105, PHYS 2211, MATH 1175 | | | |  | |
| CE 3337 Geotechnical Engineering Lab | 1 |  | UM | S | ENGL 1102, CE.ME 3332 | CE/ME 3332 | | | | |
| GE Objective 4 | 3 |  | GE | F, S, Su |  |  | | | | |
| Total | 16 |  |  |  |  |  | | | | |
| Semester Five |  |  |  |  |  |  | | | | |
| CE 3362 Structural Analysis | 3 |  | UM | F | CE/ME 2210, CE/ME 3350, MATH 2240 | |  | | | |
| CE 3366 Civil Engineering Materials | 2 |  | UM | F | CE/ME 3350, CE/ME 2210 | CE 3367 | | | | |
| CE 3367 Civil Engineering Materials Lab | 1 |  | UM | F | ENGL 1102, CE/ME 3350, CE/ME 2210, | | CE 3366 | | | |
| CE 3301 Surveying | 3 |  | UM | F, D | CE/ME 2210 |  | | | | |
| CE 3361 Engineering Economics & Management | 3 |  | UM | F, S | CE/ME 2210 |  | | | | |
| CE 4434 Geotechnical Design | 3 |  | UM | F | CE/ME 3350, CE 3332 |  | | | | |
| CE/GEOL 4454 Basic Engineering Geology | 3 |  | UM | D | CE 3332 or GEOL 3314 |  | | | | |
| Total | 18 |  |  |  |  |  | | | | |
| Semester Six |  |  |  |  |  |  | | | | |
| CE/ME 3341 Fluid Mechanics | 3 | C- | UM | F, S | CE/ME 2220, MATH 3360 |  | | | | |
| CE 3351 Engineering Hydrology | 3 |  | UM | S | CE/ME 3341 | CE/ME 3341 | | | | |
| ENVE 4408 Water & Waste Water Quality | 3 |  | UM | S, D | Minimum of C- in CHEM 1111 and 1111L | | |  | | |
| Either CE 4462 Steel Structure OR  CE 4464 Concrete Structure | 3 |  | UM | OS  ES | CE 3362 |  | | | | |
| CE 4480/GEOL 4483 Earthquake Engineering | 3 |  | UM | D | CE 3332/GEOL 3313 |  | | | | |
| CE/GEOL 4455 Geologic Data Methods | 3 |  | UM | D | CE/GEOL 4454 |  | | | | |
| Total | 18 |  |  |  |  |  | | | | |
| Semester Seven |  |  |  |  |  |  | | | | |
| ENVE 4410 Intro to Environmental Engineering | 3 |  | UM | F | ENVE 4408 or equivalent |  | | | | |
| CE 4435 Hydraulic Design | 3 |  | UM | F | C- in CE/ME 3341 |  | | | | |
| CE 4496 A Project Design I | 3 |  | UM | F | See Catalog |  | | | | |
| CE Technical Elective (consult catalog and advisor) | 3 |  | UM | F | See Catalog |  | | | | |
| CE Technical Elective (consult catalog and advisor) | 3 |  | UM | F | See Catalog |  | | | | |
| CE/GEOL 4475 Essentials of Geomechanics | 3 |  | UM | D | CE/ME 3350 or GEOL 4421 |  | | | | |
| Total | 18 |  |  |  |  |  | | | | |
| Semester Eight |  |  |  |  |  |  | | | | |
| CE 4436 Transportation Engineering | 3 |  | UM | S | CE 3301, CE 3337, CE 3367 |  | | | | |
| CE 4496 B Project Design II | 3 |  | UM | S | CE 4496 A |  | | | | |
| CE Technical Elective (consult catalog and advisor) | 3 |  | UM | S | See Catalog |  | | | | |
| CE/GEOL 4476 Engineering Geology Project | 1 |  | UM | D | CE/GEOL 4454 |  | | | | |
| GE Objective 6 (two different departments) | 6 |  | GE | F, S, Su |  |  | | | | |
| GE Objective 9 | 3 |  | GE | F, S, Su |  |  | | | | |
| Total | 19 |  |  |  |  |  | | | | |
| \*GE=General Education Objective, UU=Upper Division University, UM= Upper Division Major  \*\*See Course Schedule section of Course Policies page in the e-catalog (or input F, S, Su, etc.) | | | | | | | | | | |

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| BS, Civil Engineering, Engineering Geology Page 2 | | | | | | | | |
| **2023-2024 Major Requirements** | **CR** | **GENERAL EDUCATION OBJECTIVES**  **Satisfy Objectives 1,2,3,4,5,6 (7 or 8) and 9** | | | | | | **36 cr. min** |
| **MAJOR REQUIREMENTS** | **97** | 1. Written English (6 cr. min) ENGL 1101 | | | | | | 3 |
| ENGL 1102 Critical Reading & Writing (included in Gen Ed Obj. 1) | | ENGL 1102 | | | | | | 3 |
| MATH 1170 Calculus I (included in Gen Ed Obj. 3) | | 2. Oral Communication (3 cr. min) COMM 1101 | | | | | | 3 |
| Choose one of the following: GEOL 1100/L The Dynamic Earth and Lab^^^, GEOL 2204 Fluid Earth, GEOL 2205 Solid Earth, OR BIOL 1101/L Biology I and Lab^^^ | 4 | 3. Mathematics (3 cr. min) MATH 1170 | | | | | | 4 |
| 4. Humanities, Fine Arts, Foreign Lang. **(2 courses; 2 categories; 6 cr. min)** | | | | | | |
| CHEM 1111 & CHEM 1111L General Chem I (included in Gen Ed Obj. 5) | |  | | | | | | 6 |
| MATH 1175 Calculus II | 4 |  | | | | | |  |
| PHYS 2211 Engineering Physics I (included in Gen Ed. Obj. 5) | | 5. Natural Sciences **(2 lectures-different course prefixes, 1 lab; 7 cr. min)** | | | | | | |
| CE 1105 Engineering Graphics | 2 | CHEM 1111 & 1111L | | | | | | 5 |
| CE/ME 2210 Engineering Statics | 3 | PHYS 2211 OR BIOL 1101 & 1101L OR GEOL 1100& 1100L | | | | | | 4 |
| CS 1181 Computer Science & Programing I (included in Gen Ed Obj. 7) | |  | | | | | |  |
| MATH 3352 Introduction to Probability | 3 | 6. Behavioral and Social Science **(2 courses-different prefixes; 6 cr. min)** | | | | | | |
| MATH 2240 Linear Algebra | 3 |  | | | | | | 6 |
| CE 2200 Engineering Tools | 1 |  | | | | | |  |
| COMM 1101 Principles of Speech (included in Gen Ed Obj. 2) | | One Course from EITHER Objective 7 OR 8 **(1 course; 3 cr. min)** | | | | | | |
| CE/ME 2220 Engineering Dynamics | 3 | 7. Critical Thinking | | CS/INFO 1181 | | | | 3 |
| CE/ME 3350 Mechanics of Materials^ | 3 | 8. Information Literacy | |
| MATH 3360 Differential Equations | 3 | 9. Cultural Diversity **(1 course; 3 cr. min)** | | | | | | |
| CE 3332 Basic Geotechnics^ | 3 |  | | | | | | 3 |
| CE 3337 Geotechnical Engineering Lab | 1 | General Education Elective to reach 36 cr. min. **(if necessary)** | | | | | | |
| CE 3301 Surveying | 3 |  | | | | | |  |
| CE 3362 Structural Analysis | 3 |  | | | | | |  |
| CE 3361 Engineering Economics & Management | 3 | Total GE | | | | | | 40 |
| CE 3366 Civil Engineering Materials | 2 | Undergraduate Catalog and GE Objectives by [Catalog Year](https://www.isu.edu/advising/academic-support/general-education/)  *http://coursecat.isu.edu/undergraduate/programs/* | | | | | | |
| CE 3367 Civil Engineering Materials Lab | 1 |
| CE 4434 Geotechnical Design | 3 |  | | | | |  | |
| CE/ME 3341 Fluid Mechanics^ | 3 | **MAP Credit Summary** | | | | | **CR** | |
| CE 3351 Engineering Hydrology | 3 | Major | | | | | 97 | |
| ENVE 4408 Water & Waste Water Quality^^ | 3 | General Education | | | | | 40 | |
| CE 4462 Dsgn of Steel -OR- CE 4464 Dsgn of Concrete Structures | 3 | Free Electives to reach 120 credits | | | | | 0 | |
| ENVE 4410 Introduction to Environmental Engineering | 3 | TOTAL | | | | | 137 | |
| CE 4435 Hydraulic Design | 3 |  | | | | | | |
| CE 4496A Project Design I | 3 | **Graduation Requirement Minimum Credit Checklist** | | | **Confirmed** | | | |
| CE 4436 Transportation Engineering | 3 | Minimum 36 cr. General Education Objectives (15 cr. AAS) | | | x | | | |
| CE 4496B Project Design II | 3 | Minimum 15 cr. Upper Division in Major (0 cr. Associate) | | | x | | | |
| CE Technical Electives (see approved list in Catalog) | 6 | Minimum 36 cr. Upper Division Overall (0 cr. Associate) | | |  | x | | |
| Technical Electives (see approved list in Catalog) | 3 | Minimum of 120 cr. Total (60 cr. Associate) | | |  | x | | |
| **Engineering Geology Emphasis** | **13** |  | | | | | | |
| CE/GEOL 4454 Basic Engineering Geology | 3 | ***MAP Completion Status (for internal use only)*** | | | | | | |
| CE/GEOL 4455 Geologic Data Methods | 3 |  | *Date* | | | | | |
| CE/GEOL 4475 Essentials of Geomechanics | 3 |  |  | | | | | |
| CE 4480/GEOL 4483 Earthquake Engineering | 3 | *CAA or COT:* |  | | | | | |
| CE/GEOL 4476 Engineering Geology Project | 1 |  |  | | | | | |
| **Advising Notes** | | **Complete College American Momentum Year**  **Math and English course in first year-Specific GE MATH course identified**  **9 credits in the Major area in first year**  **15 credits each semester (or 30 in academic year)**  **Milestone courses** | | | | | | |
| ^Students must earn at least a C- in the course | |
| ^^Prerequisite is a C- in CHEM 1111 & 1111L before enrolling | |
| ^^^ Counts towards Gen Ed Obj. 5 | |
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Form Revised 5.23.2023