

**Catalog Year 2019-2020**

Bachelor of Science

Surveying and Geomatics Engineering Technology

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.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Subject and Title** | **Cr.** | **Min.**  **Grade** | **\*GE,**  **UU or UM** | **\*\*Sem. Offered** | **Prerequisite** | **Co Requisite** |
| Semester One | | | | | | |
| GE Objective 1: ENGL 1101 English Composition | 3 |  | GE |  | Appropriate placement score |  |
| \*\*\*CET 0110: Applied Mathematics 1 | 3 | C- |  | F |  |  |
| CET 0111: Drawing with CAD | 3 | C- |  | F |  |  |
| CET 0112: Beginning Surveying | 3 | C- |  | F |  |  |
| CET 0115A: Materials Testing and Specifications I **OR**  BT 0170: Introduction to Computers | 3 or 4 | C- |  | F  F, S |  |  |
| Total | **15-16** |  |  |  |  |  |
| Semester Two | | | | | | |
| GE Objective 2: COMM 1101 Principles of Speech | 3 |  | GE | F, S |  |  |
| \*\*\*CET 0120: Applied Mathematics II | 3 | C- |  | S | CET 0110 |  |
| CET 0121: Civil Engineering Technology Drafting | 3 | C- |  | S | CET 0111/GEMT 1111 |  |
| CET 0122 Intermediate Surveying and Spatial Analysis | 3 | C- |  | S | CET 0112/GEMT 1112 |  |
| CET 0125A: Materials Testing and Specifications II **OR**  GEMT 2231: Survey Computations | 3 or 4 | C- |  | S | CET 0115A (for CET 0125A) |  |
| Total | **15-16** |  |  |  |  |  |
| Semester Three | | | | | | |
| GE Objective 5: PHYS 1101/L Element of Physics & Lab | 4 |  | GE | F, S | MATH 1108 or equivalent |  |
| CET 0216: Route Survey and Design | 3 | C- |  | F | CET 0122/GEMT 1122 |  |
| CET 0232: Plan Reading and Worksite Safety | 3 | C- |  | F |  |  |
| CET 0243: Public Works | 3 | C- |  | F |  |  |
| CET 0250: Unmanned Aerial Systems/Imagery Analysis | 3 | C- |  | F |  |  |
| Total | **16** |  |  |  |  |  |
| Semester Four | | | | | | |
| GE Objective 6: ECON 1100 Economic Issues **OR**  ECON 2201 Principles of Macroeconomics **OR**  ECON 2202 Principles of Microeconomics | 3 |  | GE | F, S |  |  |
| GE Objective 3: MATH 1153 Introduction to Statistics | 3 | C- | GE | F, S | MATH 1108 |  |
| CET 0226: Construction Surveying | 3 | C- |  | S |  |  |
| CET 0228: Principles of GIS | 3 | C- |  | S |  |  |
| CET 0251: Introduction to Legal Descriptions | 1 | C- |  | S |  |  |
| GEMT 3312: Public Land Surveying | 3 | C- |  | S | CET 0226/GEMT 2226 |  |
| Total | **16** |  |  |  |  |  |
| Semester Five | | | | | | |
| GE Objective 3: MATH 1170 Calculus I –or-  RCET 0264 Introductory Calculus | 4 | C- |  | F, S | MATH 1144 or 1147  RCET 0142 or equivalent |  |
| GE Objective 1: ENGL 1102 | 3 |  | GE | S |  |  |
| GEMT 3311: Advanced Surveying | 3 | C- |  | F | CET 0226/GEMT 2226 or instructor permission |  |
| GEMT 4430: GPS Principles and Application | 3 | C- |  | F | CET 0226/GEMT 2226 or instructor permission |  |
| GEMT 3313: Surveying Software Applications | 2 | C- |  | F | CET 0226/GEMT 2226 or instructor permission |  |
| GEMT 3317: Subdivision Planning and Platting | 2 | C- |  | F | GEMT 2226, GEMT 3313 |  |
| Total | **17** |  |  |  |  |  |
| **Continued on next page.** |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Semester Six | | | | | | |
| MATH 1175: Calculus II or  GE Objective 3: RCET 1372, Calculus for Advanced Electronics | 4 | C- |  | F, S | MATH 1170  See advisor |  |
| GE Objective 7: HIST 1118, US History and Culture | 3 |  | GE | F, S |  |  |
| GEMT 3310: Surveying Law and Boundary Surveying | 3 | C- |  | S | GEMT Jr status or instructor permission |  |
| GEMT 3314: Research and Evidence in Surveying | 3 | C- |  | S | CET 0226/GEMT 2226 |  |
| GEMT 4411: Geodesy | 3 | C- |  | S | GEMT 3311 or instructor permission |  |
| GEMT 4415: Survey Office Practice | 3 | C- |  | S | Sr status or instructor permission |  |
| Total | **19** |  |  |  |  |  |
| Semester Seven | | | | | | |
| GE Objective 6: Choose one class (Not ECON) | 3 |  | GE | F, S |  |  |
| ENGL 3307: Professional and Technical Writing | 3 |  |  | F, S | 45 credits & ENGL 1102 |  |
| GE Objective 4: PHIL 1103 Intro to Ethics | 3 |  | GE | F, S |  |  |
| GEMT 4416: Surveying Project | 3 | C- |  | D | Sr status or instructor permission |  |
| GEMT 3319: Writing Legal Descriptions | 1 | C- |  | F | Permission of Instructor |  |
| GEMT 3315: Surveying Adjustments and Coordinate Systems | 3 | C- |  | S | MATH 1170, 1153 and CET 0226. |  |
| GEMT 4425: Principles of Cartography **OR**  GEOL 4427: Information Technology for GIS **OR**  GEOL 4404: Advanced Geographic Information System | 3 | C- |  | S  D  S | GEMT Jr status or instructor permission  GEOL 4403 & L or instructor permission |  |
| Total | **19** |  |  |  |  |  |
| Semester Eight | | | | | | |
| GE Objective 4: Min of 3 credits (Fine Arts or Foreign Language) | 3 |  | GE |  |  |  |
| GE Objective 5: Choose one class that satisfies this objective | 3 |  | GE |  |  |  |
| GE Objective 9: Choose one class that satisfies this objective | 3 |  | GE |  |  |  |
| GEMT 4400: Essentials of Surveying | 2 | C- |  | F, S | Sr status or instructor permission |  |
| GEMT 4432: Principles of Photogrammetry **OR**  GEOL 4409: Remote Sensing | 3 | C- |  | S | CET 0226/GEMT2226 or instructor permission  Computer operation systems competency |  |
| Total | **14** |  |  |  |  |  |
| \*Key for Attribute: U=Upper division GE=General Education Objective  \*\*Key for When Offered: F=Fall S=Spring Su=Summer D=contact department (more…)  \*\*\*Students may choose to take MATH 1147 - Precalculus (5 cr) instead of CET 0110 and CET 0120 | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **2019-2020 Major Requirements** | **CR** | **GENERAL EDUCATION OBJECTIVES**  **Satisfy Objectives 1,2,3,4,5,6 (7 or 8) and 9** | | | | | **36 cr. min** |
| **MAJOR REQUIREMENTS** | **93-96** | 1. Written English (6 cr. min) ENGL 1101 | | | | | 3 |
| CET 0111: Drawing with CAD | 3 | ENGL 1102 | | | | | 3 |
| CET 0112: Beginning Surveying | 3 | 2. Spoken English (3 cr. min) COMM 1101 | | | | | 3 |
| CET 0121: Civil Engineering Technology Drafting | 3 | 3. Mathematics (3 cr. min) MATH 1153 | | | | | 3 |
| CET 0122 Intermediate Surveying and Spatial Analysis | 3 | 4. Humanities, Fine Arts, Foreign Lang. **(2 courses; 2 categories; 6 cr. min)** | | | | | |
| CET 0216: Route Survey and Design | 3 | PHIL 1103 | | | | | 3 |
| CET 0232: Plan Reading and Worksite Safety | 3 | Choose Additional Class | | | | | 3 |
| CET 0243: Public Works | 3 | 5. Natural Sciences **(2 lectures-different course prefixes, 1 lab; 7 cr. min)** | | | | | |
| CET 0250: Unmanned Aerial Systems/Imagery Analysis | 3 | PHYS 1101/L | | | | | 4 |
| CET 0226: Construction Surveying | 3 | Choose Additional Class | | | | | 3 |
| CET 0228: Principles of GIS | 3 |  | | | | |  |
| CET 0251: Introduction to Legal Descriptions | 1 | 6. Behavioral and Social Science **(2 courses-different prefixes; 6 cr. min)** | | | | | |
| GEMT 3310: Surveying Law and Boundary Surveying | 3 | ECON 1100, 2201, or 2202 | | | | | 3 |
| GEMT 3311: Advanced Surveying | 3 | Choose Additional Class | | | | | 3 |
| GEMT 3312: Public Land Surveying | 3 | One Course from EITHER Objective 7 OR 8 **(1course; 3 cr. min)** | | | | | |
| GEMT 3313: Surveying Software Applications | 2 | 7. HIST 1118 | | | | | 3 |
| GEMT 3314: Research and Evidence in Surveying | 3 | ~~8. Information Literacy~~ | | | | |
| GEMT 3315: Surveying Adjustments and Coordinate Systems | 3 | 9. Cultural Diversity **(1 course; 3 cr. min)** | | | | | |
| GEMT 3317: Subdivision Planning and Platting | 2 |  | | | | | 3 |
| GEMT 3319: Writing Legal Descriptions | 1 | General Education Elective to reach 36 cr. min. **(if necessary)** | | | | | |
| GEMT 4400: Essentials of Surveying | 2 |  | | | | |  |
| GEMT 4411: Geodesy | 3 | **Total GE** | | | | | **37** |
| GEMT 4415: Survey Office Practice | 3 | Undergraduate Catalog and GE Objectives by [Catalog Year](https://www.isu.edu/advising/academic-support/general-education/) | | | | | |
| GEMT 4416: Surveying Project | 3 |
| GEMT 4430: GPS Principles and Application | 3 |  | | | | | |
| GEMT 4425: Principles of Cartography **OR**  GEOL 4427: information Technology for GIS **OR**  GEOL 4404: Advanced Geographic Information System | 3 |
| GEMT 4432: Principles of Photogrammetry **OR**  GEOL 4409: Remote Sensing | 3 |
| ENGL 3307: Professional and Technical Writing | 3 | **MAP Credit Summary** | | | | | **CR** |
| GE Objective 3: MATH 1170 Calculus I **OR**  RCET 0264 Introductory Calculus | 4 | Major | | | | | 93-96 |
| MATH 1175: Calculus II **OR**  GE Objective 3: RCET 1372, Calculus for Advanced Electronics | 4 | General Education | | | | | 37 |
|  |  | Free Electives to reach 120 credits | | | | | 0 |
| **Complete the following two courses:** | **6-8** | TOTAL | | | | | **130-133** |
| CET 0115A: Materials Testing and Specifications I **and** | 4 |  | | | | | |
| CET 0125A: Materials Testing and Specifications II | 4 |
| **OR the following two courses:** |  |
| BT 0170: Computer Literacy and Business Software **and** | 3 |
| GEMT 2231: Survey Computations | 3 | **Graduation Requirement Minimum Credit Checklist** | | | **Confirmed** | | |
|  |  | Minimum 36 cr. General Education Objectives | | |  | | |
| **Complete the following two courses:** | **5-6** | Minimum 16 cr. Upper Division in Major | | |  |  | |
| CET 0110: Applied Mathematics I | 3 | Minimum 36 cr. Upper Division Overall | | |  |  | |
| CET 0120: Applied Mathematics II | 3 | Minimum of 120 cr. Total | | |  |  | |
| **OR complete the following course:** |  |  | |  | | | |
| MATH 1147: Precalculus (\*prereq: MATH 1108) | 5 |  | |  | | | |
|  |  |  | |  | | | |
| **Advising Notes** | | ***MAP Completion Status (for internal use only)*** | | | | | |
|  | |  | *Date* | | | | |
|  | | *Department:* |  | | | | |
|  | | *CAA or COT:* | TIM 06/11/2019 | | | | |
|  | | *Registrar:* |  | | | | |
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Form Revised 1.24.2018