

**Catalog Year 2019-2020**

Industrial Cybersecurity Engineering Technology-AAS

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 |
| ESET 0100: Introduction to Engineering Technology | 1 | C- |  | F, S, D |  | ESET 0100L |
| ESET 0100L: Introduction to Engineering Technology Laboratory | 1 | C- |  | F, S, D |  | ESET 0110 |
| ESET 0121: Basic Electricity and Electronics **AND** ESET 121L: Basic Electricity and Electronics Lab **(Recommended)****OR**ESET 0101: Electrical Circuits I **AND** ESET 0102: Electrical Circuits II  | 710 | C-C- |  | F, D |  | ESET 0121L |
| ESET 0140: Applied Technical Intermediate Algebra **(Recommended)****OR**ESET 0141: Applied Mathematics I **AND** ESET 0142: Applied Mathematics 0142 | 58 | C-C- |  | F, D |  |  |
| ESET 0181: Information Technology Fundamentals | 3 | C- |  | F, D |  |  |
|  |  |  |  |  |  |  |
| Total | 17 |  |  |  |  |  |
| Semester Two |
| ESET Elective: ESET 0120: Introduction to Energy Systems **(Recommended)** | 2 | C- |  | F, S, D |  | ESET 0120L |
| ESET Elective: ESET 0120L: Introduction to Energy Systems Lab **(Recommended)** | 1 | C- |  | F, S, D |  | ESET 0120 |
| ESET Elective: ESET 0122: Electrical Systems and Motor Control Theory **(Recommended)** | 3 | C- |  | S, D | ESET 0121 | ESET 0122L |
| ESET Elective: ESET 0122L: Electrical Systems and Motor Control Theory Lab **(Recommended)** | 1 | C- |  | S, D | ESET 0121L | ESET 0122L |
| PHYS 1101: Elements of Physics | 3 | C- | GE | F, S |  |  |
| PHYS 1101L: Elements of Physics Lab | 1 | C- | GE | F, S |  |  |
| ENGL 1101: English Composition | 3 | C- | GE | F, S |  |  |
| MATH 1153: Introduction to StatisticsorMath 1160: Applied CalculusorMath 1170: Calculus I | 334 | C- | GE | F, S |  |  |
|  |  |  |  |  |  |  |
| Total | 17-18 |  |  |  |  |  |
| Semester Three |
| ESET Elective: ESET 0223: Digital Control Theory **(Recommended)** | 2 | C- |  | F, S, D |  |  |
| ESET Elective: ESET 0227: Digital Control Systems Laboratory **(Recommended)** | 1 | C- |  | F, S, D |  |  |
| ESET Elective: ESET 0242: Practical Process Measurements and Control **(Recommended)** | 2 | C- |  | F, D |  |  |
| ESET 0282A: Introduction to Network Security | 1 | C- |  | F, D |  |  |
| ESET 0282B: Introduction to Network Security | 2 | C- |  | F, D |  |  |
| ESET 0283: Information Security Design | 3 | C- |  | F, D |  |  |
| ESET 0284: Risk Management for Critical Data Systems | 3 | C- |  | F, D |  |  |
| ESET 0289: Capstone orESET 0297: Internship | 3 | C- |  | D |  |  |
|  |  |  |  |  |  |  |
| Total | 17 |  |  |  |  |  |
| Semester Four |
| ESET 0281: Defending Critical Infrastructure & Cyber Physical Systems | 3 | C- |  | S, D |  |  |
| ESET 0286: Critical Network Security | 3 | C- |  | S, D |  |  |
| ESET 0287: Professional Certification | 3 | C- |  | S, D |  |  |
| ESET 0289: Capstone orESET 0297: Internship | 3 | C- |  | D |  |  |
| COMM 1101: Principles of Speech | 3 | C- | GE | F, S |  |  |
| GE: Objective 6 | 3 | C- | GE | F, S |  |  |
|  |  |  |  |  |  |  |
| Total  | 18 |  |  |  |  |  |
| \*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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| **2019-2020 Major Requirements** | **CR** | **GENERAL EDUCATION OBJECTIVES****Satisfy Objectives 1,2,3,5, and 6**  | **16-17 cr. min** |
| **MAJOR REQUIREMENTS** |  | 1. Written English (6 cr. min) ENGL 1101 | 3 |
| ESET 0100: Introduction to Engineering Technology | 1 |   |  |
| ESET 0100L: Introduction to Engineering Technology Laboratory | 1 | 2. Spoken English (3 cr. min) COMM 1101 | 3 |
| ESET 0181: Information Technology Fundamentals | 3 | 3. Mathematics (3 cr. min) MATH 1153, MATH 1160, or MATH 1170 | 3-4 |
| ESET 0281: Defending Critical Infrastructure and Cyber Physical Systems | 3 | 4. Humanities, Fine Arts, Foreign Lang.  |
| ESET 0282A: Introduction to Network Security I | 1 |  |  |
| ESET 0282B: Introduction to Network Security II | 2 |  |  |
| ESET 0283: Information System Security Design | 3 | 5. Natural Sciences **(1 lecture, 1 lab; 4 cr. min)** |
| ESET 0284: Risk Management for Critical Data Systems | 3 | PHYS 1101, PHYS 1101L | 4 |
| ESET 0286: Critical Network Security | 3 |  |  |
| ESET 0287: Professional Certification | 3 |  |  |
| ESET 0289 (Capstone) OR ESTEC 0297 (Internship) (Take twice) | 6 | 6. Behavioral and Social Science **(1 course; 3 cr. min)** |
| **Choose a minimum of 7 credits** |  | Any course that fills this Objective  | 3 |
| ESET 0121: Basic Electricity and Electronics **AND** ESET 121L: Basic Electricity and Electronics Lab **(Recommended)****OR**ESET 0101: Electrical Circuits I **AND** ESET 0102: Electrical Circuits II  | 710 |  |  |
| **Choose a minimum of 5 credits** |  | One Course from EITHER Objective 7 OR 8  |
| ESET 0140: Applied Technical Intermediate Algebra **(Recommended)****OR**ESET 0141: Applied Mathematics I **AND** ESET 0142: Applied Mathematics 0142 | 58 | 7. Critical Thinking |  |
| **ESET Elective Courses: Choose a minimum of 12 credits** |  | 8. Information Literacy  |
| ESET 0120: Introduction to Energy Systems | 2 | 9. Cultural Diversity  |
| ESET 0120L: Introduction to Energy Systems Laboratory | 1 |  |  |
| ESET 0122: Electrical Systems and Motor Control Theory | 3 | General Education Elective to reach 36 cr. min. **(if necessary)** |
| ESET 0122L: Electrical Systems and Motor Control Theory Laboratory | 1 |   |  |
| ESET 0220: Thermal Cycles and Heat Transfer | 2 |  **Total GE** | **16-17** |
| ESET 0221: Boiler Reactor and Turbine Principles | 2 | Undergraduate Catalog and GE Objectives by [Catalog Year](https://www.isu.edu/advising/academic-support/general-education/)  |
| ESET 0222: Process Control Theory | 3 |
| ESET 0223: Digital Control Theory | 2 |  |
| ESET 0226: Process Control Devices Laboratory | 1 |
| ESET 0227: Digital Control Systems Laboratory  | 1 |
| ESET 0242: Practical Process Measurement and Control | 2 | **MAP Credit Summary** | **CR** |
| ESET 0245: Fundamentals of Heat Exchange | 2 | Major  | 53-59 |
| ESET 0251: Reactor Theory Safety and Design | 4 | General Education  | 16-17 |
| ESET 0292: Electrical Engineering Technology I | 7 | Free Electives to reach 120 credits | - |
| ESET 0292L: Electrical Engineering Technology I Laboratory | 5 |  TOTAL | 69-76 |
| INST 0281: Electrical Automation Theory | 8 |  |
| INST 0282: Electrical Automation Laboratory | 5 |
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|  |  |
|  |  | **Graduation Requirement Minimum Credit Checklist** | **Confirmed** |
|  |  | Minimum 36 cr. General Education Objectives (15 cr. AAS) |  |
|  |  | Minimum 16 cr. Upper Division in Major (0 cr. Associate) |  |  |
|  |  | Minimum 36 cr. Upper Division Overall (0 cr. Associate) |  |  |
|  |  | Minimum of 120 cr. Total (60 cr. Associate) |  |  |
|  |  |  |  |
| **Advising Notes** | ***MAP Completion Status (for internal use only)*** |
|  |  | *Date* |
|  | *Department:*  | TIM 06/18/2019 |
|  | *CAA or COT:* |  |
|  | *Registrar:*  |  |
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 Form Revised 1.24.2018