

**Catalog Year 2019-2020**

Nuclear Operations 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 | | | | | | |
| GE Objective 1: ENGL 1101 English Composition | 3 | D- | GE | F, S, Su |  |  |
| ESET 0100: Engineering Technology Orientation | 1 | C- |  | F, S, D |  |  |
| ESET 0100L: Engineering Technology Orientation Lab | 1 | C- |  | F, S, D |  |  |
| ESET 0121: Basic Electricity and Electronics | 4 | C- |  | F, D |  | ESET 0121L |
| ESET 0121L: Basic Electricity and Electronics Laboratory | 3 | C- |  | F, D |  | ESET 0121 |
| ESET 0140: Applied Technical Intermediate Algebra | 5 | C- |  | F, D | C- in [MATH 0025](http://coursecat.isu.edu/search/?P=MATH%200025), a Math ACT score of 18 or higher, an SAT score of 460 or higher, an ALEKS score of 30 or higher, or 35 on the Algebra section (MAPL 2 |  |
| ESET 0151: Nuclear Industry Fundamental Concepts | 3 | C- |  | F, D |  | ESET 0151L |
| ESET 0151L: Nuclear Industry Fundamental Concepts Laboratory | 1 | C- |  | F, D |  | ESET 0151 |
| Total | 21 |  |  |  |  |  |
| Semester Two | | | | | | |
| GE Objective 1: ENGL 1102: Critical Reading and Writing | 3 | D- | GE | F, S, Su | ENGL 1101 or ENGL 1101P |  |
| GE Objective 2: COMM 1101 Principles of Speech | 3 | D- | GE | F, S |  |  |
| GE Objective 5: PHYS 1101/1101L | 4 | D- | GE | F, S |  |  |
| ESET 0122: Electrical Systems and Motor Control | 3 | C- |  | S, D | ESET 0121, ESET 0121L | ESET 0122L |
| ESET 0122L: Electrical Systems and Motor Control Laboratory | 1 | C- |  | S, D | ESET 0121 | ESET 0122 |
| ESET 0152: Nuclear Careers and Information | 1 | C- |  | F, S, D | 3 credits required for graduation (take 3 times, 1 credit each 2nd, 3rd, 4th Semester) |  |
| ESET 0153: Radiological Control Fundamentals (Lec/Lab) | 3 | C- |  | F, S | ESET 0151 or permission |  |
|  |  |  |  |  |  |  |
| Total | 18 |  |  |  |  |  |
| Semester Three | | | | | | |
| GE Objective 5: CHEM 1101 or CHEM 1111/L | 3-5 | D- | GE | F, S, Su |  |  |
| ESET 0152: Nuclear Careers and Information | 1 | C- |  | F, S, D | 3 credits required for graduation (take 3 times, 1 credit each 2nd, 3rd, 4th Semester) |  |
| ESET 0220: Thermal Cycles and Heat Transfer | 2 | C- |  | F, D | ESET 0102 or ESET 0122 or permission |  |
| ESET 0242: Practical Process Measurements and control (Lec/Lab) | 2 | C- |  | F, D | ESET 0122 or permission of instructor |  |
| ESET 0248: Power Plant Drawings | 2 | C- |  | F, D | ESET 0151, ESET 0151L |  |
| ESET 0249: Reactor Plant Materials | 3 | C- |  | F, D | ESET 0151, ESET 0151L |  |
| ESET 0252: Power Plant Components | 2 | C- |  | S, D |  | ESET 0248 |
| ESET 0279: Conduct of Operations | 2 | C- |  | S, D | ESET 0151, ESET 0151L |  |
|  |  |  |  |  |  |  |
| Total | 17-19 |  |  |  |  |  |
| Semester Four | | | | | | |
| GE Objective 3: MATH 1170 (recommended) or 1153, or 1160 | 3-4 | D- | GE | F, S, Su |  |  |
| GE Objective 4: TGE 1257, PHIL 1101, or PHIL 1103 | 3 | D- | GE | F, S, D |  |  |
| GE Objective 6 | 3 | D- | GE | F, S, Su |  |  |
| ESET 0152: Nuclear Careers and Information | 1 | C- |  | F, S, D | 3 credits required for graduation (take 3 times, 1 credit each 2nd, 3rd, 4th Semester) |  |
| ESET 0221: Boiler, Reactor, and Turbine Principles | 2 | C- |  | S | ESET 0102 or ESET 0122 |  |
| ESET 0250: Radiation Detection and Protection | 2 | C- |  | F, D |  |  |
| ESET 0251: Reactor Theory Safety and Design | 4 | C- |  | S, D |  | ESET 0252, ESET 0250 |
| ESET 0280: Capstone and Case Studies in Nuclear Engineering Technology | 2 | C- |  | S, D | ESET 0151, ESET 0151L, ESET 0153, ESET 0220, ESET 0242, ESET 0248, ESET 0249, ESET 0252 | ESET 0250 |
|  |  |  |  |  |  |  |
| Total | 20-21 |  |  |  |  |  |
| \*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 1,2,3,4,5,6 (7 or 8) and 9** | | | | | | **25 cr. min** |
| **MAJOR REQUIREMENTS** | **51** | 1. Written English (6 cr. min) ENGL 1101 | | | | | | 3 |
| ESET 0100: Engineering Technology Orientation | 1 | ENGL 1102 | | | | | | 3 |
| ESET 0100L: Engineering Technology Orientation Lab | 1 | 2. Spoken English (3 cr. min) COMM 1101 | | | | | | 3 |
| ESET 0121: Basic Electricity and Electronics | 4 | 3. Mathematics (3 cr. min) MATH 1153, 1160, or 1170 | | | | | | 3-4 |
| ESET 0121L: Basic Electricity and Electronics Lab | 3 | 4. Humanities, Fine Arts, Foreign Lang. **(1 courses; 1 categories; 3 cr. min)** | | | | | | |
| ESET 0122: Electrical Systems and Motor Control Theory | 3 | TGE 1257, PHIL 1107, or PHIL 1103 | | | | | | 3 |
| ESET 0122L: Electrical Systems and Motor Control Theory Laboratory | 1 |  | | | | | |  |
| ESET 0140: Applied Technical Intermediate Algebra | 5 | 5. Natural Sciences **(2 lectures-different course prefixes, 1 lab; 7 cr. min)** | | | | | | |
| ESET 0151: Nuclear Industry Fundamental Concepts | 3 | PHYS 1101L | | | | | | 4 |
| ESET 0151L: Nuclear Industry Fundamental Concepts Lab | 1 | CHEM 1101 or CHEM 1111/L | | | | | | 3-5 |
| ESET 0152: Nuclear Careers and Information | 3 |  | | | | | |  |
| ESET 0153: Radiological Control Fundamentals | 3 | 6. Behavioral and Social Science **(1 course; 3 cr. min)** | | | | | | |
| ESET 0220: Thermal Cycles and Heat Transfer | 2 | Any course that fulfills this Objective | | | | | | 3 |
| ESET 0221: Boiler Reactor and Turbine Principles | 2 |  | | | | | |  |
| ESET 0242: Practical Process measurement and Control | 2 | One Course from EITHER Objective 7 OR 8 | | | | | | |
| ESET 0248: Power Plant Drawings | 2 | 7. Critical Thinking | | | | | |  |
| ESET 0249: Reactor Plant materials | 3 | 8. Information Literacy | | | | | |
| ESET 0250: Radiation Detection and Protection | 2 | 9. Cultural Diversity | | | | | | |
| ESET 0251: Reactor Theory Safety and Design | 4 |  | | | | | |  |
| ESET 0252: Power Plant Components | 2 | General Education Elective to reach 36 cr. min. **(if necessary)** | | | | | | |
| ESET 0279: Conduct of Operations | 2 |  | | | | | |  |
| ESET 0280: Capstone and Case Studies in Nuclear Engineering Tech | 2 | **Total GE** | | | | | | **25-28** |
|  |  | Undergraduate Catalog and GE Objectives by [Catalog Year](https://www.isu.edu/advising/academic-support/general-education/) | | | | | | |
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|  |  | **MAP Credit Summary** | | | | | **CR** | |
|  |  | Major | | | | | 51 | |
|  |  | General Education | | | | | 25-28 | |
|  |  | Free Electives to reach 120 credits | | | | | - | |
|  |  | TOTAL | | | | | 76-79 | |
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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)*** | | | | | | |
| It is recommended that students complete MATH 1170. Please see | |  | *Date* | | | | | |
| Program Coordinator or Advisor on most efficient way to accomplish | | *Department:* | TIM 06/18/2019 | | | | | |
| this recommendation. | | *CAA or COT:* |  | | | | | |
|  | | *Registrar:* |  | | | | | |
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Form Revised 1.24.2018