

Electronic Intelligent Systems

The Electronic Intelligent Systems minor offers the opportunity to gain breadth, as well as depth, in the areas of electronic intelligent systems that connect to the physical and social world. The minor includes sub-areas, such as robotics, machine learning, and artificial intelligence, as well as electronic and electrical engineering. Students learn computer programming, as well as computer engineering. EIS minors achieve an understanding of conceptual foundations and emerging applications over a broad range of electrical engineering, computer engineering, and computer science subjects.

General Guidelines

1. All minors must be declared no later than one semester before a student's Expected Graduation Term (EGT). If the semester before the EGT is fall or spring, the deadline is the last day of RRR week. If the semester before the EGT is summer, the deadline is the final Friday of summer sessions. To declare the minor, contact the EECS department advisor for information on requirements and the declaration process.
2. All courses taken to fulfill the minor requirements must be taken on a letter-graded basis.
3. All upper division courses taken to fulfill the minor must be completed with an overall GPA of 2.0 or above.
4. No more than one upper division course may be used simultaneously to fulfill requirements for a student's major and minor programs.
5. Completion of the minor program must not delay a student's graduation.
6. EECS and L&S CS majors may not pursue an EIS minor.
7. All students must complete the EIS Minor Completion Form by the tenth week of their final semester.

Requirements

Lower Division Requirements

| | | |
|----------|--|---|
| EECS 16A | Designing Information Devices and Systems I | 4 |
| EECS 16B | Designing Information Devices and Systems II | 4 |

Select from one of the following:

| | | |
|-------------------------|---|---|
| COMPSCI 61A | The Structure and Interpretation of Computer Programs | 4 |
| COMPSCI C8 & COMPSCI 88 | Foundations of Data Science and Course Not Available | 4 |

Upper Division Requirements ¹

Select two from the following:

| | | |
|-------------|--|---|
| EL ENG 105 | Microelectronic Devices and Circuits | 4 |
| EECS C106A | Introduction to Robotics | 4 |
| EL ENG 117 | Electromagnetic Fields and Waves | 4 |
| EL ENG 118 | Introduction to Optical Engineering | 4 |
| EL ENG 120 | Signals and Systems | 4 |
| EECS 126 | Probability and Random Processes | 4 |
| EECS 127 | Optimization Models in Engineering | 4 |
| EL ENG 130 | Integrated-Circuit Devices | 4 |
| EL ENG 134 | Fundamentals of Photovoltaic Devices | 4 |
| EL ENG 137A | Introduction to Electric Power Systems | 4 |

| | | |
|---|---|---|
| EL ENG 143 | Microfabrication Technology | 4 |
| EL ENG 147 | Introduction to Microelectromechanical Systems (MEMS) | 3 |
| EECS 149 | Introduction to Embedded and Cyber Physical Systems | 4 |
| EECS 151 | Introduction to Digital Design and Integrated Circuits | 3 |
| COMPSCI 152 | Computer Architecture and Engineering | 4 |
| COMPSCI 170 | Efficient Algorithms and Intractable Problems | 4 |
| COMPSCI 188 | Introduction to Artificial Intelligence | 4 |
| COMPSCI 189 | Introduction to Machine Learning | 4 |
| Select one from the following: | | |
| COMPSCI 61C | Great Ideas of Computer Architecture (Machine Structures) | 4 |
| COMPSCI 70 | Discrete Mathematics and Probability Theory | 4 |
| OR any upper division EE or EECS course | | |

- ¹ All courses used for the minor must be at least 3 units.