

Electronic Intelligent Systems

The Electronic Intelligent Systems minor offers the opportunity to gain breadth as well as depth in the area 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/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

- All courses taken to fulfill the minor requirements must be taken for graded credit.
- All upper division courses taken to fulfill the minor must be completed with an overall GPA of 2.0 or above.
- No more than one upper division course may be used to simultaneously fulfill requirements for a student's major and minor programs.
- Completion of the minor program cannot delay a student's graduation.
- EECS majors should not be pursuing an EIS minor.
- All students must complete the EIS Minor Completion Form during their final semester.

Requirements

Lower Division Requirements

EL ENG 16A Course Not Available

EL ENG 16B Course Not Available

Select from one of the following:

COMPSCI 61A The Structure and Interpretation of Computer Programs 4

COMPSCI C8 Foundations of Data Science 4
& COMPSCI 88 and Computational Structures in Data Science

Upper Division Requirements¹

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 3

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 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.