

INTERNET OF THINGS

Requirements

Required Courses

For ECE/CSSE majors : ECE 436 Internet of Things (4 cr)

For all other majors : MDS 210 Introduction to Internet of Things (4 cr)

Plus 20 additional credit hours in a plan approved by one of the minor advisors in collaboration with the student to suit their particular interests and field of study. To provide students with a breadth of knowledge in the Internet of Things, this plan should include courses in the areas of: (1) hardware design of end devices, including sensors and actuation; (2) software design and data analysis; and (3) networks and security. The guidelines are designed to be flexible to accommodate students from any major; the tables below provide some examples of courses which fit these categorizations. No more than 8 credit hours from a named required course for the student's major may be counted toward the minor requirements.

A sampling of courses which could be used to satisfy minor requirements This is not an exhaustive list. Students may propose alternate courses which align with the intent of this minor.

Hardware Design

Include at least one course in this category:

Code	Title	Hours
BE 211	Circuits, Sensors, and Measurements	3
BE 321	Biosignal Processing	4
CHE 340	Process Control	4
CHE 405/ ECE 416/NE 410/ ME 416	Introduction to MEMS: Fabrication & Applications	4
CHEM 420	Electronics for Scientists	4
CSSE/ME 435	Robotics Engineering	4
ECE 230	Introduction to Embedded Systems	4
NE 408	Microsensors and Actuators	4
MDS 310	Appropriate Technology for Developing Communities	4
ME 230	Mechatronic Systems	4

Software Design and Data Analysis

Include at least one course in this category:

Code	Title	Hours
BMTH 312	Bioinformatics	4
CHE 310	Numerical Methods for Chemical Engineers	4
CHE 525	Process Analytics	4
CSSE 386	Data Mining with Programming	4
MA/CSSE 335	Introduction to Parallel Computing	4
MA 384	Data Mining	4

Networks and Security

Include at least one course in this category:

Code	Title	Hours
CSSE 132	Introduction to Systems Programming	4
CSSE 140 & CSSE 141	Practical Security I and Practical Security II	2
CSSE 340	Foundations of Cybersecurity	4
CSSE 432	Computer Networks	4
ECE 310	Communication Systems	4
ECE 312	Communication Networks	4
MA/CSSE 479	Cryptography	4

As is the case with any minor at Rose-Hulman, the Institute does not guarantee to any student that the courses that fulfill the minor will be available in all quarters to suit the student's plan of study.