

Connected Devices and Making

Write firmware and design hardware for smart devices that connect to computers, phones, and the web. Devices are now becoming data collection tools that can act, inform, and interface with many different aspects of our world — in the form of wearables, home automation systems, cutting-edge medical devices, and more.

units required for minor: 16	units required for specialization: 8	minor code: CNDM	department: ITP
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Skills

- » C/C++
- » 3D printing
- » Hardware design
- » Firmware programming
- » Data collection

Careers

- » Software Developer
- » Hardware Engineer
- » Data Analyst
- » Product Designer
- » Product Tester
- » UX Designer

Policies

- » All minors at USC need **16 units** that only meet minor requirements and do not meet any other major, minor, or GE requirement.
- » All courses completed for your minor or specialization must be completed for a **letter grade**.
- » You must earn a **2.0 minimum** cumulative GPA in the courses completed for your minor or specialization.

Minor requirements

Complete one of the following (2 units):

ITP-109 “Introduction to Java Programming”

ITP-115 “Programming in Python”

ITP-165 “Introduction to C++ Programming”

Core requirements (6 units):

ITP-228 “Computer-Aided Modeling for 3D Product Design” (2 units)

ITP-348 “Introduction to Physical Computing” (4 units) [prerequisite: ITP-109, ITP-115, ITP-165]

Electives (8 units):

ITP-249 “Introduction to Data Analytics” (4 units)

ITP-341 “Android App Development” (4 units) [prerequisite: ITP-265 or CSCI-103]

ITP-342 “iOS App Development” (4 units) [prerequisite: ITP-265 or CSCI-103]

ITP-388 “Developing Connected Devices” (4 units) [prerequisite: ITP-348]

ITP-466 “Building the High Tech Startup” (4 units)

ITP-468 “Connected Devices Project” (4 units) [prerequisites: ITP-228 and ITP-348]

ITP-476 “Technologies for Interactive Marketing” (4 units)

Specialization requirements

Core requirements (8 units):

ITP-109, ITP-115, or ITP-165 (2 units)

ITP-228 “Computer-Aided Modeling for 3D Product Design” (2 units)

ITP-348 “Introduction to Physical Computing” (4 units) [prerequisite: ITP-109, ITP-115, or ITP-165]

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 [Schedule appointment](#)

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