The Computer Engineering program involves the design and engineering of computers including hardware and software design. It is a carefully chosen synthesis of computer engineering, computer science, and electrical engineering courses to train students how to design complex digital systems, from transistors to software. Computer engineering is a broad area involving many possible areas of specialization including Computer Architecture, VLSI Systems, Computer-Aided Design, Software Design, Robotics, Computer Vision, and Embedded Systems.

**QUICK FACTS:**
- 10 faculty members
- 66 undergraduate students
- 27 students per course on average

**HOW STUDENTS REPORT THAT THEY LEARN**

- Giving/preparing for presentations
- Group projects
- Working on problem sets
- Studying for/taking written exams
- Building things
- Working in a Lab
- Computer programming

**5 CHALLENGES in the NEXT 5 YEARS**
1. Building integrated cyber-physical systems that connect humans with the rest of the world
2. Building ubiquitous but invisible systems for health monitoring/intervention
3. Building more energy-efficient, sustainable, and resilient systems to permit exascale computing
4. Developing tools and methodologies that make sensor network technology accessible to application scientists
5. Harnessing parallelism in many-core computers

**UPPER-LEVEL COURSES**
- EECS 355 - ASIC and FPGA Design
- EECS 346 - Microprocessor Systems
- EECS 358 - Parallel Programming
- EECS 361 - Computer Architecture

**RESEARCH AREAS**
- Computer Architecture
- Design Automation
- Embedded Systems
- Sensor Networks
- Data Analytics and Mining
- High Performance and Parallel Computing

**INDUSTRY: Examples of Positions held by ‘12 Grads**
- Quality Assurance Analyst, ThoughtWorks
- Network Manager, National Security Agency
- Component Design Engineer, Intel
- Software Engineer, Google

**WANT TO LEARN MORE?**
Take: EECS 203, EECS 205
Join: HackNorthwestern, Women in Computing, Computer Systems Reading Group, Computer Engineering Reading Group (CERG)
Ask: Prof. Russ Joseph
Explore the Department website