COMPUTER ENGINEERING (4450)

4450:101 Tools for Computer Engineering (3 Credits)
Corequisite: 3450:221 or 3450:149. Orientation to degree programs and design practice in electrical and computer engineering. Introduction to computer applications and resources for engineering studies.

4450:208 Programming for Engineers (3 Credits)
Prerequisite: 4400:101 or permission. Introduction to programming. Environment and tools. C programming language. Machine level data forms and organization.

4450:220 Digital Logic Design (4 Credits)

4450:301 Undergraduate Research I: Computer Engineering (1 Credit)
Prerequisites: completion of [4400:101 or 4450:101], 4400:230, 4400:231, 4400:330, 4400:332 and 4450:220 with a combined average grade of 3.0 or higher; admission to an engineering major within the College of Engineering and Polymer Science, and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report.

4450:302 Undergraduate Research II: Computer Engineering (1 Credit)
Prerequisites: [4400:301 or 4450:301], admission to an engineering major within the College of Engineering and Polymer Science, and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report.

4450:303 Undergraduate Research III: Computer Engineering (1 Credit)
Prerequisites: [4400:302 or 4450:302], admission to an engineering major within the College of Engineering and Polymer Science, and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report.

4450:304 Undergraduate Research IV: Computer Engineering (1 Credit)
(May be repeated. May not be applied to degree requirements.) Prerequisite: 4450:303 or 4400:303, and permission. Research project, supervised by faculty member of the department; requires oral research presentation and written report.

4450:309 Design Project Seminar - Computer Engineering (1 Credit)
Prerequisites: Junior standing and admission to an engineering major within the College of Engineering and Polymer Science. Pre/Corequisites: [3460:426 or 4450:325], 4450:367, [4450:420 or 4450:427], 4450:422, and 4450:440. Engineering capstone project selection and proposal, including preliminary technical specifications. Professional ethics. Intellectual property. Societal impact issues in engineering design.

4450:320 Computer Systems (3 Credits)
Prerequisite: 3460:209 or 4450:208, 4450:220 or 3450:208. Introduces the design and architecture of modern computer systems. Data and instruction representation. Conventional computer organization. Hardware and software design processes. The hardware/software interface.

4450:325 Operating Systems Concepts (3 Credits)
4450:465 Programmable Logic (3 Credits)
Prerequisite: 4450:220, 3460:209 or 4450:208. Digital design with programmable devices. PLD and FPGA architectures. Logic design and technology mapping tools.

4450:467 VLSI Circuits & Systems (3 Credits)
Prerequisite: 4450:367. High performance adders and multipliers for very large scale integration (VLSI) systems. Architectural synthesis. Design for high performance, low power, and testability.

4450:498 Special Topics: Computer Engineering (1-3 Credits)
(May be taken more than once) Prerequisite: Permission of department chair. Special topics in computer engineering.