Teaching

- **16.317 Microprocessor I**

  This three credit course provides an introduction to microprocessors. It uses assembly language to develop a foundation on the hardware, which executes a program. Memory and I/O interface design and programming. Study of microprocessor and its basic support components, including CPU architecture, memory interfaces and management, coprocessor interfaces, bus concepts, serial I/O devices, and interrupt control devices. Laboratories directly related to microprocessor functions and its interfaces.

- **16.480/552 Microprocessor II**

  This three credit course provides a continuation of the study of microprocessors begun in 16.317. Topics include CPU architecture, memory interfaces and management, coprocessor interfaces, bus concepts, bus arbitration techniques, serial I/O devices, DMA, interrupt control devices. Focus will be placed on the design, construction, and testing of dedicated microprocessor systems (static and real-time). Hardware limitations of the single-chip system will be investigated along with microcontrollers, programming for small systems, interfacing, communications, validating hardware and software, microprogramming of controller chips, and design methods and testing of embedded systems. Laboratories directly related to microprocessor functions and its interfaces.

- 16.650 Advanced Computer Architecture

  This course covers interesting topics of computer architecture such as pipelining, instruction level parallelism, memory hierarchy, VLIW, multithreading etc. The course intends to give a picture on recent technology trends and state-of-art platforms such as chip-multiprocessor, network processor and FPGAs. Case studies such as Google search engine and Playstation are also to be covered. The format of the class is lecture and projects.