



## CIS 262: Computer Organization and Design

Laws of computer organization and design for RISC architectures. Interfaces between hardware and software are studied. Influence of instruction set on performance is presented. Design of a processor with pipelining is analyzed. Computer arithmetic is studied. Memory hierarchy and their influence on performance are documented. Elements of interfacing and I/O organization are included. The course has design, implementation, and analytical components. Prerequisite: CIS 261 or permission of the instructor. Three lecture hours and two lab hours per week. Instructional Support Fee applies. Gen. Ed. Competencies Met: Information Literacy.

### Course Student Learning Outcomes

1. Explain how a program written in a high level language such as C or Java is translated into the language of the hardware.
2. Explain how hardware executes programs that have been translated.
3. Determine the interface between hardware and software.
4. Describe how software instructs hardware to perform a certain task.
5. Understand how hardware design determines the performance of a program.

**Credits:** 4

**Program:** Computer Information Systems