



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Systems I: Introduction to Low-Level Programming and Computer Organization

CSE 5042

Credit Hours:

3.00

Course Levels:

Graduate (5000-8000 level)

Course Components:

Lecture

Course Description:

Introduction to computer architecture at machine and assembly language level; pointers and addressing; C programming at machine level; computer organization.

Prerequisites and Co-requisites:

Prereq: 2122, 2123, or 2231; and 2321 or Math 2566; or Grad standing.

Course Goals / Objectives:

- To master programming with pointers in C
 - To be competent with application development and debugging in Unix environments
 - To be competent in programming with dynamic data structures in C, and in using C string and I/O features, bit operations, and function pointers
 - To be familiar with overall organization and design of computer systems
 - To be competent with representation and manipulation of information in computer systems
 - To be familiar with machine encoding of instructions, and be competent with a particular real or hypothetical instruction set
 - To be familiar with programming in assembly language
 - To be familiar with Linking (static linking, relocatable object files, symbols and symbol tables, symbol resolution, relocation, loading executable object files)
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Course Topics:

Designation:

Elective