

Assessment Questionnaire

It is important to the department and the faculty teaching this course to receive this assessment questionnaire from students. Please complete it and turn it in to the faculty the week before the finals.

How well the course has met its objectives?

Please circle your answer: 1 (excellent) to 5 (poor)

1. Students learn the fundamental hardware and software structures of microprocessors.

1 2 3 4 5

2. To learn the basic concept of microprocessor-based control systems.

1 2 3 4 5

3. To develop basic to moderate skills in assembly language programming.

1 2 3 4 5

4. To learn basic interface between computing systems and real-world devices.

1 2 3 4 5

5. To demonstrate their knowledge by performing 5 simple to moderate lab exercises using a 68000 MP actual training board connected to real-world I/O controls such as sensors and actuators.

1 2 3 4 5

Catalog Description

CDA3331C Introduction to Microcomputers

4 Credits

Prerequisite: CDA3201C and COP2212 (strictly enforced)

Architecture of a 32-bit microprocessor; addressing modes, instruction set, assembly language programming, program design, hardware model, exception handling and interface to memory and peripherals. Training kits will be used in the lab to run assembly programs. C cross compiler may be used for the course project.

Lab

The course includes lab experiments, which are mainly assembly language programs. You will use the software in the lab to edit, assemble, and load your programs to the 68000 boards to run them. These experiments are designed to put learned concepts into actions. The labs cover data arrays (sorting), math functions (factorial), bit manipulation (image processing), and interface with real-world controls (sensors and actuators).

Course Outlines

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|------------------------------|---------------------------|
| 1. Preliminaries | 5. Exception processing |
| 2. Introduction to the 68000 | 6. Programming the 68000 |
| 3. Addressing modes | 7. Memory and I/O systems |
| 4. Instruction set | 8. Advanced programming |