

Global Learning Semesters

Course Syllabus

Course: CENG-335 Computer Organization and Architecture

Department: Engineering

Host Institution: Intercollege, Nicosia, Cyprus



Course Summary		
Course Code	Course Title	Recommended Credit Hours
CENG-335	Computer Organization and Architecture	3
Semester Offered	Contact Hours	Prerequisites
Please contact us	42-45	CENG -280
Department	Level of Course	Language of Instruction
Engineering	Upper Division	English

Course Description

The study of the software/hardware boundary as defined in the Von Neumann architecture. Review of the technological framework. Effects on machine instructions and formats, addressing techniques, advanced memory hierarchy and I/O practices. Discussions include pipelined machines, RISC machines and multiprocessor architectures. Lab-based experience in designing, simulating and implementing the hardware and software components of a computer system will be acquired.

Prerequisites

CENG -280

Topic Areas

1. Computer systems organization. Fundamentals of computer design.
2. Performance evaluation.
3. Instruction set design and examples.
4. Pipeline design techniques.
5. Vector processors.
6. Memory hierarchy design.
7. Input/Output.
8. Future directions.

Readings and Resources

Required Textbook

- D. A. Patterson, J. L. Hennessy, Computer Organisation & Design: The Hardware/Software Interface, 2nd Edition, 1998, Morgan Kaufmann Publishers, (ISBN: 1-55860-428-6).

Recommended Readings

- D. A. Patterson, J. L. Hennessy, Computer Architecture; a Quantitative Approach, 2nd ed., 1996, Morgan Kaufmann Publishers Inc. (ISBN: 1-55860-329-8).
- Dominic Sweetman, See MIPS Run, Morgan Kaufmann Publishers, 1999 (ISBN 1-55860-410-3).