Global Learning Semesters
Course Syllabus
Course: COMP-254 Assembly Language Programming
Department: Computer Science
Host Institution: University of Nicosia, Nicosia, Cyprus

Course Summary		
Course Code	**Course Title**	**Recommended Credit Hours**
COMP-254	Assembly Language Programming	3
Semester Offered	**Contact Hours**	**Prerequisites**
Fall	42	COMP-152 Pascal/Program Development: General knowledge of procedural programming, arithmetic operations, arrays, conditional execution and loops and procedures. CENG-200 Digital Systems: Boolean algebra, truth tables and Karnaugh maps, basic logic gates, flip-flops, combinational and sequential circuit design, registers, counters, adders, and binary arithmetic.
Department	**Level of Course**	**Language of Instruction**
Computer Science	Lower Division	English

Course Description

Review of computer arithmetic, digital systems and computer hardware. Machine language and Assembly language programming models, registers and architectural characteristics, addressing modes and their relation to high-level language concepts. Overview of move, arithmetic and logical instructions. Conditional execution (jump instructions) and their relation to high-level language constructs. Procedures and functions, parameter passing techniques and the use of the stack. Privileged instructions, interrupt handling and exceptions. Interfacing with input/output devices. Comparative study of Assembly Languages.

Instructor

Dr Socrates Mylonas

Course Aims and Objectives

To introduce students to the essential architectural features of contemporary computers, fundamental aspects of computer architecture and the design rationale of different instruction sets. It will focus on acquiring assembly language programming skills and understanding issues such as memory organization, addressing modes, interrupt handling, interfacing and the relation of machine language to high-level language elements.

Teaching Methods

The course is delivered through a mixture of lectures, lab presentations, lab tutorials and practical exercises and assignments.

Course Teaching Hours

42 hours of lectures with additional lab hours arranged for practical work and presentations. The course is delivered during the fall and spring semesters in 14 weeks (3 hours/week).

Evaluation and Grading

Homework, Exercises, Quizzes, Participation: 10–15%
Test(s):   35–40%
Final Exam: 50%

Readings and Resources

Required Textbook
Kip R. Irvine, Assembly Language for Intel-based Computers, 4th ed., Prentice-Hall, 2003.

Recommended Reading
Dominic Sweetman, See MIPS Run, Morgan Kaufmann Publishers, 1999.
D. A. Patterson, J. L. Hennessy, Computer Organization & Design: The Hardware/Software Interface, 2nd ed., Morgan Kaufmann Publishers, 1998.