Global Learning Semesters
Course Syllabus
Course: COMP-375 Compiler Design
Department: Computer Science
Host Institution: University of Nicosia, Nicosia, Cyprus

Course Summary		
Course Code	**Course Title**	**Recommended Credit Hours**
COMP-375	Compiler Design	3
Semester Offered	**Contact Hours**	**Prerequisites**
Fall	42	COMP-255 C++ Language Programming: Good programming skills, understanding of functions, parameters, scope, and user-defined data types, etc. COMP-301 Data Structures: Abstract data types and pointers, lists, stacks, queues, trees, graphs, searching and sorting algorithms, etc.
Department	**Level of Course**	**Language of Instruction**
Computer Science	Upper Division	English

Course Description

Structure of a compiler. Compiler design and programming language design. Lexical analysis scanners, regular expressions, finite automata and scanner generators. Grammars and parsing, LL(1), LR parsing and generator tools. Semantic processing, the use and implementation of symbol tables and storage organization. Translating control structures, procedures and functions. Intermediate code generation and local and global code optimization.

Instructor

Dr Socrates Mylonas

Course Aims and Objectives

To introduce students to compiler structure, design and construction techniques. To gain appreciation of the theoretical background and practical considerations pertaining different aspects of compiler design (such as lexical analysis, syntax analysis, semantic analysis, code generation and optimization) as well as practical experience in the development of compilers.

Teaching Methods

The course is delivered through a mixture of lectures, supervised laboratory projects and practical exercises and assignments and a compiler development project.

Course Teaching Hours

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

Evaluation and Grading

Assignments:	5%
Project:	20%
Mid-Term:	25%
Final Exam:	50%

Readings and Resources

Required Textbook

A. Aho, R. Sethi, J. Ullman, Compilers: Principles, Techniques and Tools, Addison-Wesley, 1986.

Recommended Reading

C. Fischer, R. LeBlanc, Crafting a Compiler with C, Addison-Wesley, 1999.
R. Wilhelm, D. Maurer, Compiler Design, Addison-Wesley, 1995.
N. Wirth, Compiler Construction, Addison-Wesley, 1996