Global Learning Semesters
Course Syllabus
Course: MATH-275 Scientific Programming Laboratory
Department: Computer Science
Host Institution: University of Nicosia, Nicosia, Cyprus

GLOBAL LEARNING SEMESTERS

Course Summary		
Course Code	**Course Title**	**Recommended Credit Hours**
MATH-275	Scientific Programming Laboratory	3
Semester Offered	**Contact Hours**	**Prerequisites**
Spring	42	MATH-191: Calculus and Analytic Geometry II
Department	**Level of Course**	**Language of Instruction**
Computer Science	Lower Division	English

Course Description

The following topics are covered: Scientific Modeling, Fundamental Principles of Numerical Methods, Computers for Numerical Data Processing, Numerical Data and Numerical Operations, Numerical Algorithms, Numerical Programs and Numerical Software, Introduction to Fortran Programming, Mata lab Basics.

Instructor

Dr Nectarios Papanicolaou

Course Aims and Objectives

This course deals with various aspects of scientific numerical computing. A general discussion about principles and methods for the numerical solutions of problems are presented. Relevant algorithms are developed and their efficiency and accuracy of is assessed (Introduction to error analysis). The students will be acquainted with the programming language Fortran, the symbolical numerical software Mathematics and with the numerical software Mat lab.

Teaching Methods

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

Course Teaching Hours

42 hours (42 hours lectures/presentations/tutorials). The course is delivered during the Spring semester in 14-weeks (3 hours/week).

Evaluation and Grading

Class Participation/Homework/Quizzes: 0-30%

Mid-Term(s):   30-50%
Final Exam: 40-50%

Readings and Resources

Required Textbook
Ueberhuber Christof, Numerical Computation, First Edition, Springer, 1997. (ISBN: 3-540-62058-3)