

## EECS12 INTRODUCTION TO PROGRAMMING

- Catalog Data:** **EECS12 Introduction to Programming (Credit Units: 4) F, W.** An introduction to computers and programming. Python programming syntax/style, types. Numbers and sequences. Control flow. I/O and errors/exceptions. Function calling, parameter passing, formal arguments, return values. Variable scoping. Corequisite: Mathematics 2A. Only one course from EECS10, EECS12, CEE10, ENGR10, and MAE10 may be taken for credit. Formerly ECE12. (Design Units: 0)
- Textbook:** Pilgrim, Mark, *Dive into Python*, 1<sup>st</sup> edition, Apress, 2004.
- References:**
- Coordinator:** Kwei-Jay Lin
- Course Objectives:** To understand the fundamentals of high-level language computer programming. To understand the concept of simple data structures. To understand the concept and skills of problem solving. To understand the concept of functions, objects and web interfaces.
- Course Outcomes:** Students will be able to:  
Express data of multiple types (numbers, strings, lists) in Python syntax.  
Write expressions and functions as Python statements.  
Use control flow constructs to combine multiple statements into a larger subprogram.  
Test and debug programs with I/O constructs.
- Prerequisites By Topic:** None.
- Lecture Topics:** Fundamentals of Python programming and Unix system commands.  
Data Types.  
Functions.  
Recursion and modules.
- Class Schedule:** Each class meets 3 hours per week for 10 weeks and students are assigned to a 1 hour discussion per week and 3 hour lab session per week.
- Computer Usage:** Python.
- Laboratory Projects:** The class will write programs to perform the basic functionalities of some web servers, simple computer game with web user interfaces.
- Professional Component:** Contributes toward the Computer Engineering Topics Courses.
- Relationship to Program Outcomes:** This course relates to Program Outcomes 2 and 3 as stated at: [http://www.eng.uci.edu/dept/objective\\_computer](http://www.eng.uci.edu/dept/objective_computer)

### Design Content Description

*Approach:*

*Lectures:*

***Laboratory Portion:***

**Grading Criteria:**

Programming	30%
Quizzes	15%
Midterm	25%
Final	<u>30%</u>
	100%

**Estimated ABET Category Content:**

Mathematics and Basic Science: 0 credit units or 0%

Engineering Science: 4 credit units or 100%

Engineering Design: 0 credit units or 0%

**Prepared by:** Kwei-Jay Lin **Date:** July 2005

**CEP Approved:** Fall 2004