

## Syllabus (Computer Programming: GEN1031): Spring, 2015

**Course Description:** This course involves engineering problem solving based on computers especially C languages. First it covers variable types, control structures, modular programming, arrays, pointers, and structures. It also deals with integration of computer programs such as C, C++, and visual basics.

본 과목은 C 언어를 통하여 컴퓨터를 이용한 공학적 문제 해결 과정을 학습한다. C 언어의 변수 타입, 제어문, 함수, 포인터, 구조체 등을 학습하고, C 언어와 다른 언어와의 통합의 방법에 대해 배운다.

### **Course Aim:**

The aim of this course is to enable students to learn basic computer-based engineering approaches mainly focusing on C language and apply them to real-life engineering problems.

본 과목의 목표는 학생들이 주로 C 언어의 컴퓨팅 환경을 이용하여 다양한 공학적 문제풀이 방법을 학습하고 현실적인 공학적 문제를 풀 수 있도록 하는 것이다.

**Instructor:** Kichun Lee, Ph.D.

**Class Meetings and Classroom:** To be determined later.

**Evaluation:** Midterm (30%), Final (35%), Homework (15%), Project (15%) Presence (5%)

### **Text:**

1) [Main textbook] Engineering Problem Solving with C (4 th edition); Delores Etter; Prentice Hall; ISBN-13: 978-0273768203; <http://www.amazon.com/Engineering-Problem-Solving-Delores-Etter/dp/0273768204>

2) [Additional reference book] C 언어 스케치; 강환수, 이동규, 최재승; 인피니티북스; [http://www.infinitybooks.co.kr/book/2dap\\_bookview.php?goods\\_data=aWR4PTQmc3RhenRQYWdlIPTAmcGFydF9pZHG9MjE=](http://www.infinitybooks.co.kr/book/2dap_bookview.php?goods_data=aWR4PTQmc3RhenRQYWdlIPTAmcGFydF9pZHG9MjE=)

### **Tentative Class Schedule**

Week	Content	Homework	Note
1	C compiler using DOS Window Command Prompt	HW1	
2	Engineering Problem Solving	HW2	
3	Simple C Programs: Constants, variables, assignments	HW3	
4	Simple C Programs: operators, simple I/O, math functions	HW4	

5	Control Structures	HW5	
6	Data Files	HW6	
7	Modular Programming with Functions: Functions	HW7	
8	<b>Midterm Exam</b>	HW8	
9	Modular Programming with Functions: macros, recursion	HW9	Final Project announced
10	Arrays and Matrices: Arrays, sorting	HW10	
11	Arrays and Matrices: searching, multi-dimensional arrays	HW11	
12	Programming with Pointers	HW12	
13	Programming with Structures	HW13	
14	Introduction to C++, VBA	HW14	
15	Integrating C with C++, VBA, Further topics		
16	<b>Final Exam</b>		