



## **Hankuk University of Foreign Studies**

### **2023 Summer Session**

## **CSC 260 Introduction to Low-Level Programming and Computer Organization**

### **Course Outline**

**Course Code: CSC 260**

**Instructor: Dr. Suman Saha**

**Home Institution: Pennsylvania State University**

**Office Hours: By Appointment**

**Email: szs339@psu.edu**

**Credit: 4**

**Class Hours:**

This course will have 52 class hours, including 32 lecture hours, professor 8 office hours, 8-hour TA discussion sessions, 4-hour review sessions.

**Course Description:**

This course explores the art and methods of systems programming, using the C programming language. Topics include machine-level representation of data and programs, development tools, OS command and shell basics, file I/O; the computer architecture at assembly language level; computer organization.

**Required Course Materials:**

- Computer Systems: A Programmer's Perspective by Bryant and O'Hallaron
- Pointers with C by Kenneth Reek



**Grading:**

Category	Percentage
Programming Assignments	35%
Written Assignments	10%
Midterm	20%
Final Exam	35%

**Grading System (1 ~ 100)**

The final score will be scaled and the scaled score will be used to assign a Course grade.

A+ : 96 - 100	A : 91 - 95
B+ : 86 - 90	B : 81 - 85
C+ : 76 - 80	C : 71 - 75
D+ : 66 - 70	D : 60 - 65
F : 0 - 59	
Pa : Pass	Fa : Fail

**Course Schedule**

**WEEK 1**

- Session 1: Transforming from Java to C, C syntax, working in Unix
- Session 2: Transforming from Java to C, C syntax, working in Unix (Continue)
- Session 3: C Pointers, memory management
- Session 4: Dynamic data structure with C

(Written Assignment 1 and Programming Assignment 1)

**WEEK 2**

- Session 1: I/O operations, bit operations, function pointers, command line argument passing
- Session 2: Debugging and Use of Makefile



- Session 3: Computer System Organization
- Session 4: Midterm Exam

### WEEK 3

- Session 1: Representation and manipulation of information
- Session 2: Representation and manipulation of information (Continue)
- Session 3: Machine level representation of programs
- Session 4: Machine level representation of programs (Continue)  
(Written Assignment 2 and Programming Assignment 2)

### WEEK 4

- Session 1: Machine level representation of programs (Continue)
- Session 2: Programming with an assembly language
- Session 3: Linking (static linking, relocatable object files, symbols, symbol tables, symbol tables, symbol resolution, relocation, loading executable files)
- Session 4: Final Exam