

Syllabus [2025Year 1 Term]

Course Information

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|------------------------|--|---|--------------------------|
| Course Title | SW Convergence Coding I | Credits | 3 |
| Course Code | 529540-9 | Required/Elective (For Undergraduate Courses) | basic Major |
| Department or Major | Department of Mobile Systems Engineering | Language | English |
| Methods of Teaching | | Lecture Room | 화9,10,11,12,13,14(국제205) |
| Time Allotment | Lecture(2) Experiments(0) Trainging & Practice(1) Performance(0) Designing & Planning(0) | Cyber Lectures | |
| Course Type | offline | | |
| Cyber Lectures Preview | | | |

Lecturer

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|----------|----------------------|--|------|---------------------|----------------------------|------|
| Lecturer | Name | Kyu-haeng Lee | Rank | Assistant Professor | Final Academic Degree | 공학박사 |
| | Department & college | Department of Mobile Systems Engineering | | Office | International Hall 603 | |
| | Office Phone Number | — | | e-mail | kyuhaeng.lee@dankook.ac.kr | |
| | Field of Interest | | | | | |

Course Summary

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| Course Description | <p>This course covers C programming techniques. The C language is the root of the object-oriented/functional languages that recently have attracted great attention, and to this day, OS kernels, real-time systems, and many applications are still being developed in C. Through this course, students can understand the principles of programming and write their own programs. In addition, since the C language provides flexible access to system resources, C programming will help students understand computer architectures.</p> <p>SW Convergence Coding is given over two semesters, and this course is the first part. In this semester, we focus on the syntax of the C language, and then advanced techniques will be discussed in the next semester.</p> |
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| Description Related Courses | Related courses: C++, system programming |
| Course Goals | Understand programming concepts and principles. Understand the C language syntax |
| Projected Results | Students can write their own C programs. Understand the principles of how programs are developed and run on computers. |
| Percentage of the original language classes(%) | |
| Cyber Lectures P review | |

Syllabus

| Times | Lecture Topic | Lecture Goals | Lecture Methods | Assignments |
|-------|-------------------------------------|--|-----------------|-------------|
| 1 | Introduction to C Programming | <ul style="list-style-type: none"> - Intro. to computer systems and C programming - Dev. env Setup - Hello World | 강의, | |
| 2 | Structured Program Development in C | <ul style="list-style-type: none"> - if/if-else statements - while statement | 강의, | |
| 3 | Structured Program Development in C | <ul style="list-style-type: none"> - Inc, dec, and assignment operators | 강의, | |
| 4 | Program Control | <ul style="list-style-type: none"> - Essentials of counter-controlled iteration - for statement - while statement | 강의, | |
| 5 | Program Control | <ul style="list-style-type: none"> - switch, break and continue statements - Logical operators | 강의, | |
| 6 | Functions | <ul style="list-style-type: none"> - Creating new functions - Mechanisms passing information b/w functions | 강의, | |
| 7 | Functions | <ul style="list-style-type: none"> - Function call and return - Recursive functions | 강의, | |
| 8 | Mid-term Exam | | Exam | |
| 9 | Arrays | <ul style="list-style-type: none"> - Defining and initializing an array - Referring to individual elements of an array | 강의, | |
| 10 | Arrays | <ul style="list-style-type: none"> - Passing arrays to functions | 강의, | |

| Times | Lecture Topic | Lecture Goals | Lecture Methods | Assignments |
|-------|---------------|---|-----------------|-------------|
| | | - Using arrays to store, sort and search lists of values | | |
| 11 | Arrays | - Manipulating multi dimensional arrays - Variable-length arrays | 강의, | |
| 12 | Pointers | - Passing arguments to functions by using pointers - const qualifier | 강의, | |
| 13 | Pointers | - Using pointer arithmetic to process the elements in arrays | 강의, | |
| 14 | Pointers | - Pointers for handling strings - Function pointers | 강의, | |
| 15 | Final Exam | | Exam | |

Methods of Grading

| sequence | Description | Percentage | Details |
|----------|-----------------------------|------------|---------|
| 1 | Mid-tem Exam | 25% | |
| 2 | Final-exam | 25% | |
| 3 | Pop Quizzes | 0% | |
| 4 | Assignments | 40% | |
| 5 | Reports | 0% | |
| 6 | Presentations & Discussions | 0% | |
| 7 | Attendance | 10% | |
| 8 | | 0% | |
| 9 | Others | 0% | |
| All | | 100% | |

Core of Value

| 핵심가치 | 전공역량 | 역량정의 | 역량구분 | 값(%) |
|-------------------|---------------------------------------|---------------------------------|------|------|
| 혁신 (Discovery) | 창의적문제해결 (Creative problem-solving) | 주어진 상황과 문제를 창의적으로 해결할 수 있는 능력 | 부역량 | 0% |
| 혁신 (Discovery) | 도전 (Challenging) | 전공 지식을 새로운 분야와 융합하고 아우를 수 있는 능력 | | 0% |

| 핵심가치 | 전공역량 | 역량정의 | 역량구분 | 값(%) |
|----------------------------|---------------------------------|--|------|------|
| 혁신 (Discovery) | 지식융합 (Knowledge convergence) | 새로운 분야를 개척하거나 도전적으로 임할 수 있는 능력 | | 0% |
| 헌신 (Dedication) | 세계시민 (Universal value) | 세계 공동체 구성원으로 전공자로서 국제적 이슈에 대응할 수 있는 능력 | | 0% |
| 헌신 (Dedication) | 상호협력 (Cooperation) | 공동의 목적 달성을 위해 타인과 상호협력을 할 수 있는 능력 | | 0% |
| 헌신 (Dedication) | 공동체 (Sense of community) | 공동체의 구성원으로서 필요한 태도와 윤리의식을 가질 수 있는 능력 | | 0% |
| 능동 (self-Determination) | 자기주도 (Self-Managing) | 주어진 상황과 문제를 주도적이고 능동적으로 해결할 수 있는 능력 | | 0% |
| 능동 (self-Determination) | 지식활용 (Knowledge application) | 주어진 상황과 문제에 대해 논리적으로 파악하고 분석할 수 있는 능력 | 부역량 | 0% |
| 능동 (self-Determination) | 논리적사고 (Logical thinking) | 전공관련 지식을 필요에 따라 다양하게 적용하고 활용할 수 있는 능력 | 주역량 | 0% |
| 능동 (self-Determination) | 의사소통 (Articulation) | 대화를 통해 다양한 의견을 조율하고 합의를 이끌어 낼 수 있는 능력 | | 0% |

Textbook(s) & References

| Description | Title | Author | Publisher |
|-------------------|-------------------|-------------------------------|-----------|
| Required Textbook | C: How to Program | Paul Deitel and Harvey Deitel | Pearson |

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