

[수업기본정보]

년도/학기	2021/2학기	교과목명	프로그래밍언어론	교과목번호/강좌번호	109324/31001
이수구분	전선	학점	3	강의시간	금(1 ~ 4)

[담당교수정보]

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HOME PAGE					

[강의계획]

과목개요	<p>Pre-requisite: this course is about programming languages, hence you are expected to understand basics of a few languages such as C++, Java, and Python.</p> <p>It might be more difficult to understand course material and examples if you are not familiar with these languages.</p> <p>This course provides understanding of programming language design principles, concepts and paradigms. By understanding common concepts and paradigms, we can learn new programming languages more easily and choose an appropriate programming language to satisfy various software requirements.</p> <p>The first half of the course covers language design principles and concepts. During this period, you will learn which things are considered to design a programming language, as well as concepts such as names, bindings, expressions, statements, etc. There will be practice sessions to provide simple tasks to understand such principles and concepts.</p> <p>In the other half of the course, we will discuss about various programming language paradigms, including OOP, functional and logic languages. As a practice, you will also learn two programming languages Scala (functional) and Prolog (logic).</p> <p>Most of the lectures will be held online, which may include lecture videos and online practice sessions via Zoom. However, mid-term and final exams will be offline, and no alternative methods will be provided and allowed. Hence if you are not able to take the exams in campus, you must not apply for this course.</p>
교육목표	<ul style="list-style-type: none"><li>- Understand programming language concepts such as types, control flows, syntax, semantics, compilation and interpretation.</li><li>- Know about programming language paradigm including imperative, object oriented, functional and logic programming languages.</li><li>- Learn basic features of several programming languages in different paradigms with practice.</li></ul>
학습성과관련도 (L3=상) (L2=중) (L1=하)	<ul style="list-style-type: none"><li>- 이론이나 알고리즘을 수식 또는 프로그래밍 등을 통해 검증할 수 있는 능력 (L2)</li><li>- 컴퓨팅 분야의 문제를 해결하기 위해 최신 정보, 연구 결과, 프로그래밍 언어를 포함한 적절한 도구 등을 활용할 수 있는 능력 (L1)</li><li>- 사용자 요구사항과 현실적 제한요건을 고려하여 하드웨어 또는 소프트웨어 시스템을 설계할 수 있는 능력 (L3)</li><li>- 다양한 환경에서 효과적으로 의사소통할 수 있는 능력 (L2)</li><li>- 컴퓨팅 분야의 해결방안이 안전, 경제, 사회, 환경 등에 미치는 영향을 이해할 수 있는 능력 (L2)</li></ul>
교재 및 참고서적	<p>There is no official textbook.</p> <p>If you want to study further, you may check the following books as references.</p> <ul style="list-style-type: none"><li>- Michael L. Scott, Programming Language Pragmatics, 4th Edition, Morgan Kaufmann</li><li>- Maurizio Gabbriellini and Simone Martini, Programming Languages: Principles and Paradigms, Springer-Verlag London</li><li>- Robert W. Sebesta, Concepts of Programming Languages, 11th edition, Pearson</li></ul>
활용 기자재	PC, laptop, etc.
성적평가방법	<ul style="list-style-type: none"><li>- Midterm (40%)</li><li>- Final (40%)</li><li>- Assignments (20%)</li></ul> <p>Exams include problem solving questions as well as writing simple code.</p> <p>You are required to submit assignments after practice sessions.</p>

[주별강의계획]

주차	내용	비고
1	Introduction	Online Lecture & Practice
2	Programming Language Principles 1	Online Lecture & Practice
3	Programming Language Principles 2	Online Lecture & Practice
4	Names, Bindings and Scopes	Online Lecture & Practice
5	Memory Management	Online Lecture & Practice
6	Control Structure	Online Lecture & Practice
7	Control Abstraction + Data Types	Online Lecture & Practice
8	Mid-term Exam	Offline Exam
9	Programming Language Paradigm Overview and Scripting Language	Online Lecture & Practice
10	Programming Language Paradigm: Object Oriented	Online Lecture & Practice
11	Programming Language Paradigm: Functional 1	Online Lecture & Practice
12	Programming Language Paradigm: Functional 2	Online Lecture & Practice
13	Programming Language Paradigm: Logic 1	Online Lecture & Practice
14	Programming Language Paradigm: Logic 2	Online Lecture & Practice
15	Final Exam	Offline Exam
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