

<b>Course Information</b>	
Course title	Computer Programming Language
Semester	110-1
Designated for	DEPARTMENT OF MECHANICAL ENGINEERING
Instructor	<a href="#">I-FAN LIN</a>
Curriculum Number	ME2009
Curriculum Identity Number	502 10100
Class	02
Credits	2.0
Full/Half Yr.	Half
Required/ Elective	Required
Time	Friday 3,4,5(10:20~13:10)
Remarks	The upper limit of the number of students: 55.
Course introduction video	
Table of Core Capabilities and Curriculum Planning	<a href="#">Table of Core Capabilities and Curriculum Planning</a>

### Course Syllabus

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Course Description	This is an introductory course to computer programming in Python. Introduction to programming basics (what it is and how it works), binary computation, problem-solving methods and algorithm development. Includes procedural and data abstractions, program design, debugging, testing, and documentation. Covers data types, control structures, functions, parameter passing, library functions, arrays, inheritance and object oriented design. Laboratory exercises in Python.
Course	The students should be able to

Objective	<p>Understand basic principles of computers</p> <p>Understand basics of binary computation</p> <p>Understand the programming basics (operations, control structures, data types, etc.)</p> <p>Readily use the Python programming language</p> <p>Apply various data types and control structure</p> <p>Understand class inheritance and polymorphism</p> <p>Understand the object-oriented program design and development</p> <p>Understand and begin to implement code</p>
Course Requirement	待補
Office Hours	Appointment required.
References	待補
Designated reading	待補
Grading	

### Progress

Week	Date	Topic
第1週	9/24	<p>The Context of Software Development</p> <ul style="list-style-type: none"> <li>- Software</li> <li>- Learning Programming with Python</li> </ul>
第2週	10/01	<p>Values and Variables</p> <ul style="list-style-type: none"> <li>- Integer and String Values</li> <li>- Identifiers</li> <li>- User Input</li> <li>- String Formatting</li> </ul>
第3週	10/08	<p>Expressions and Arithmetic</p> <ul style="list-style-type: none"> <li>- Expressions</li> <li>- Arithmetic Examples</li> </ul>
第4週	10/15	<p>Conditional Statements</p> <ul style="list-style-type: none"> <li>- Boolean expressions</li> <li>- If/Else statement</li> <li>- Other Conditional Expressions</li> </ul>
第5週	10/22	<p>Iteration</p> <ul style="list-style-type: none"> <li>- Loops</li> </ul>
第6週	10/29	<p>Using Functions</p> <ul style="list-style-type: none"> <li>- Introduction to Using Functions</li> <li>- Functions and Modules</li> </ul>
第7週	11/05	Writing Functions -1

		<ul style="list-style-type: none"> <li>- Function Basics</li> <li>- Parameter Passing</li> <li>- Custom Functions vs Standart Functions</li> <li>- Refactoring</li> </ul>
第8週	11/12	<p>Writing Functions -2</p> <ul style="list-style-type: none"> <li>- Global Variables</li> <li>- Making Functions Reusable</li> </ul>
第9週	11/19	<p>Objects</p> <ul style="list-style-type: none"> <li>- Using Objects</li> <li>- String, File Objects</li> </ul>
第10週	11/26	<p>Lists</p> <ul style="list-style-type: none"> <li>- Using Lists</li> <li>- Building Lists</li> <li>- List Traversal</li> </ul>
第11週	12/03	<p>Tuples, Dictionaries, and Sets</p> <ul style="list-style-type: none"> <li>- Storing Aggregate Data</li> <li>- Enumerating the Elements of a Data Structure</li> </ul>
第12週	12/10	<p>Class Design</p> <ul style="list-style-type: none"> <li>- Composition and Inheritance</li> </ul>
第13週	12/17	<p>Class Design</p> <ul style="list-style-type: none"> <li>- Composition and Inheritance</li> </ul>
第16週	1/07	Final Exam