Course Information	
Course title	Computer Programming Language
Semester	111-1
Designated for	DEPARTMENT OF MECHANICAL ENGINEERING
Instructor	I-FAN LIN
Curriculum Number	ME2009
Curriculum Identity Number	502E10100
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	Table of Core Capabilities and Curriculum Planning
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.
Course Objective	The objective of this course is that by the end of the semester, you will have • understood why Python is a useful scripting language for developers; • learned how to design and program Python applications; • learned how to use lists, tuples, and dictionaries in Python programs; • learned how to identify Python object types; • learned how to use indexing and slicing to access data in Python programs; • defined the structure and components of a Python program; • learned how to write loops and decision statements in Python; • learned how to write functions and pass arguments in Python; • learned how to build and package Python modules for reusability; • learned how to read and write files in Python; • learned how to design object-oriented programs with Python classes; • learned how to use class inheritance in Python for reusability; • learned how to use exception handling in Python applications for error handling.
Course Requirement	
Student Workload (expected study time outside of class per week)	
Office Hours	Appointment required.
References	
Designated reading	

No.	Item	%	Explanations for the conditions

Grading	1.	Homework	20%	Three questions(basic, intermediate, and hard) are in each homework. You must submit your homework through NTU COOL by every Thursday (11:59 pm). 50% off for the late submission in the following week. 0 point for two weeks later.
	2.	Lab	20%	Laboratory will be based upon the lecture notes. Lab is an opportunity for students to practice skills, apply knowledge, review and build on past learning, and extend learning. Also lab is individualized and based on each student's progress towards established standards. The purpose of the assignment will determine whether or not a grade is given and will be clearly articulated to students. Through independent learning tasks, students assume more responsibility for their learning and are given opportunities to apply what they have learned to new situations or experiences. You will submit your report through NTU COOL by end of each lab session. 20% off for the late submission at the same day (till 11:59pm). 0 point from the next day.
	3.	Quiz	10%	(5% each). The quizzes are scheduled on – Quiz I: October 07 in class. – Quiz II: November 25 in class. The quiz will be a 10-15 minutes long in the beginning of the class. You will answer some short questions or complete part of the codes on NTU COOL.
	4.	Midterm	20%	The mid terms are scheduled on – Mid-term: October 28 in class. The mid-term will be a two-hour exam, closed-book, and closed-note. The first part of the exam is written based (40 minutes). The second part of the exam is computer based (80 minutes). No electronics, including calculators, cell phones, and smart watches are allowed. Mid-terms will be used to access demonstration of the learning objectives and may include the combinations of true & false, multiple choices, and work-out problems.
	5.	Final	20%	The date of the final exam will be on December 23. The final is closed-book, closed- note. No electronics, including calculators, cell phones, and smart watches are allowed. The final is cumulative and may include the combinations of true & false, multiple choice and work-out problems.
	6.	Class Participation	10%	Attend the class and have discussions with your classmates/group for some class exercises. Demonstrate your code and explain your thought process in class. Also be active in class by asking questions, solving the class exercises on the blackboard.

Progress		
Week	Date	Topic
No data		