Programming 3

Basic Course Information

Course Number	02005087	**Subject Category**	Compulsory (C)
Class Format	Lecture	**Credit Type and Number of Credits**	1.5
Department	Computer	**Student Category**	Year 2
Period of Study	Semester 1	**Classes per Week**	1
Required Materials	Hardware: Laptop and Tablet, Software: Visual Studio Code (with Python), Visual Studio 2022, J		
Instructor	Saung Hnin Pwint Oo	Pirapat Tangsukknirun; Yuki Yoshikawa	

Course Objective

This course builds the knowledge and understanding introduced in the previous subject and extends students' prior knowledge and understanding of programming language by practicing solving scientific computing problems with the benefits of Python's modules.

Evaluation (Rubric)

Evaluation (Rubric)	Ideal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement (Fail)
Understanding how to make an environment for python programming and debugging own self.	Demonstrates very good knowledge and understanding of how to create an environment for python programming and debugging.	Demonstrates good knowledge and understanding of how to create an environment for python programming and debugging.	Lacks the appropriate knowledge and understanding of how to create an environment for python programming and debugging.
Understanding how to use a module of NumPy on python program to solve the drill-problem at the exercise task.	Demonstrates very good knowledge and understanding how to use basic Numpy module in the right way.	Demonstrates good knowledge and understanding how to use basic Numpy module in the right way.	Lacks the appropriate knowledge and understanding how to use basic Numpy module in the right way.
Understanding how to use a module of Matplotlib and SciPy module on python program to solve the drill-problem at the exercise task.	Demonstrates very good knowledge and understanding how to use Matplotlib and Scipy module correctly in the given way.	Demonstrates good knowledge and understanding how to use Matplotlib and Scipy module correctly in the given way.	Lacks the appropriate knowledge and understanding how to use Matplotlib and Scipy module correctly in the given way.

Relationship with Learning Outcomes

C(1) Ability to operate and administer the computer software and hardware

C(2) Ability to understand the operating system and to develop software to solve specific problems.

C(5) Ability to apply the update technology (e.g., artificial intelligent (AI , Big data etc.) to build up computer system to support the development of society

Teaching Method

Outline:	Lecture and Practice
Class Format:	Lecture, Practice and Homework Assignments
Please Note :	Students are required to ask any questions after sufficient self-learning.

Course Plan

Semester 1	Contents and Method of Course	Goals	Related MCC	
1st week	Guidance: Introduction, Confirmation of laptop setting and NumPy	Understanding Guidance: Introduction, Confirmation of laptop setting and NumPy	V-D	1
			V-D	7
			V-D	8
2nd week	NumPy	Understanding NumPy	V-D	1
			V-D	7
			V-D	8
3rd week	NumPy	Understanding NumPy	V-D	1
			V-D	7
			V-D	8
4th week	NumPy	Understanding NumPy	V-D	1
			V-D	7
			V-D	8
5th week	Matplotlib	Understanding Matplotlib	V-D	1
			V-D	7
			V-D	8
6th week	Matplotlib	Understanding Matplotlib	V-D	1
			V-D	7
			V-D	8
7th week	Matplotlib/HTTP Client	Understanding Matplotlib/HTTP Client	V-D	1
			V-D	7
			V-D	8
8th week	Review before mid-term report	Reviewing before mid-term report	V-D	1
			V-D	7
			V-D	8
9th week	Mid term report	Practicing Mid term report	V-D	1
			V-D	7
			V-D	8
10th week	Return of mid-term report	Returning mid-term report		
11th week	Replaced by Friday class	Friday class		
12th week	SciPy	Understanding SciPy	V-D	1
			V-D	7
			V-D	8
13th week	Pandas	Understanding Pandas	V-D	1
			V-D	7
			V-D	8
14th week	Pandas	Understanding Pandas	V-D	1
			V-D	7
			V-D	8
15th week	Pandas & SciPy	Understanding Pandas & SciPy	V-D	1
			V-D	7
			V-D	8
16th week	Small Project	Developing Small Project	V-D	1
			V-D	7
			V-D	8
17th week	Small Project	Developing and presenting Small Project	V-D	1
			V-D	7
			V-D	8
18th week	Review before final exam	Reviewing before final exam		
19th week	Final Exam	Final exam		
20th week	Final Exam	Final exam		

Do not

	Examination	Quiz	Mutual Evaluations between students	Report	Portfolio	Other
Basic Ability	20	6		20		6
Technical Ability	15	6		15		6
Interdisciplinary Ability	0	0		0		6

Project