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Course code:	SPPP2102	Academ	ic Session/Semester:	20202021 / 1
Course name: Credit hours:	Programming Language	Pre/co i and cod	requisite (course name e, if applicable):	

COURSE INFORMATION

Course synopsis	This course introduces students problem solving technique. At the exposed to programming ter programming development and put translating and editing). This co program using design tools (pseud problems will also be discussed. A selection, looping, function and a programming syntax. At the end of apply the knowledge and skill programming software.	to bas beginni minolog ogramn urse wil o and fle dvancec array) w of the co by deve	sic programming of the cours ies, followed ning concepts (Il provide pra- powchart). Seve I programming ill be explaine purse, student cloping progra	ng language and e, students will be by phases of such as compiling, ctice in designing ral ways of solving concepts (include d using high level should be able to m using selected
Course coordinator (if applicable)	Nil			
Course lecturer(s)	Name	Office	Contact no.	E-mail
	Dr. Norah Md Noor	-	017-7106419	norah@utm.my
	Dr. Nurbiha A. Shukor	-	017-3745760	nurbiha@utm.my
	Dr. Norasykin Mohd Zaid	-	011-65411060	norasykin@utm.my

Mapping of the Course Learning Outcomes (CLO) to the Programme Learning Ou	tcomes (PLO), Teaching & Learr	ning
(T&L) methods and Assessment methods:			

No.	CLO	PLO (ICGPA CODE)	Weight (%)	*Taxonomies and **generic skills*	T&L methods	***Assessment methods
1.	Describe the basics concept of programming and problem solving.	KW	40%	C3	Lecture, active learning, Hands-on lab activity	Final Exam
2.	Solve problem using design tools (flowcharts and pseudo code).	PS	10%	C3	Lecture, active learning, Hands-on lab activity	Assignment 1
3.	Apply the fundamental of programming technique (such as variable and basic operators, selection and looping, functions and array) in building	АР	15%	TH3 C3	Lecture, active learning, Hands-on lab activity	Project Group (Product) Class Activity
4.	Identify and correct errors in program.	TW	10%	TW2	Hands-on, active learning	Project Group (Report)

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Credit hours:				

No.	CLO	PLO (ICGPA CODE)	Weight (%)	*Taxonomies and **generic skills*	T&L methods	***Assessment methods
5.	Produce a small application of programming for teaching and learning purposes.	PS	15%	C4	Hands-on, active learning Student Presentation	Mini Project (Block Programming)
Refe	Refer *Taxonomies of Learning and **UTM's Graduate Attributes, where applicable for measurement of outcomes achievement ***T – Test; Q – Quiz; HW – Homework; PR – Project; Pr – Presentation; F – Final Exam etc.					

Transferable skills (generic skills learned in course of study which can be useful and utilised in other settings):

Skills in designing computer program Skills to write computer program

Problem Solving Skills using computer program

Student learning time (SLT) details:

Distribution of student Learning					Teaching and L	earning Activities	TOTAL SLT
Time (SLT) Course content outline	Gi (uided Face t	Learni o Face	ng e)	Guided Learning Non-Face to Face	Independent Learning Non-Face to face	
CLO	L	Т	Р	0			
CLO 1	4h					6h	10h
CLO 2	4h					10h	14h
CLO3	4h			4h		16h	24h
CLO4	2h			2h		8h	12h
CLO 5	2h			6h		10h	18h
Total SLT	16h			8h		50h	78h

(Continuous Assessment	PLO	Percentage	Total SLT
1	Assignment	PS	10	As in CLO 2
2	Class Activity	AP	10	As in CLO 3
3	Project	TH	15	As in CLO 3
				& CLO 4
		TW	10	
4	Project mini	PS	15	As in CLO 5
	Final Assessment		Percentage	Total SLT
1	Final Examination	KW	40	2h
	Gr	and Tot	al SLT	8oh

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Identify special requirement to deliver the course (e.g: software, nursery, computer lab, simulation room)

Facilities : Computer Lab completed with computer, LCD Projector and Internet Line Software : Python compiler software, Block Programming Software Application

Week 1	1.0 Introduction to programming
	1.1 Programming definition
	1.2 Programming history
	1.3 Programming generation
	1.4 Current programming language
Week 2	2.0 Programming Cycle
	2.1 Main phase of programming cycle
	2.2 Design tools: pseudo and flowchart
	2.3 Problem solving in programming
	2.4 Good practices in programming
Week 3	3.0 Programming Structure concept
	3.1 Linear
	3.2 Selection
	3.3 Looping
	3.4 Programming structure exercise using design tools
Week 4	4.0 Introduction to Python Part 1
	4.1 Python basics syntax
	4.2 Python program structure
	4.3 Variables and constant
Week 5	5.0 Introduction to Python Part 2
	5.1 PYTHON Operators
Week 6	6.0 Python Programming Structure Part 1
	6.1 If
	6.2 If-Else
	6.3 Switch Case
Week 7	7.0 Python Programming Structure Part 2
	7.1 While
	7.2 Do-While
	7.3 For
Week 8	Semester Break
Week 9	9.0 Python Functions Part 1
	9.1 Functions introduction
	9.2 Function declaration

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	9.3 User-defined functions
Week 10	10.0 Python Functions Part 2
	10.1 Built-in functions
	10.2 Function examples
Week 11	11.0 Python Arrays Part 1
	11.1 Array concept
	11.2 Array declaration
	11.3 Two-dimensional array
Week 12	12.0 Python Arrays Part 2
	12.1 String concept
	12.2 Create and use string
	12.3 String library
Week 13	Project Discussion and Presentation
Week 14	13.0 Introduction to Block Programming Part 1
	13.1 Concept of Block Programming
	13.2 Selection
	13.3 Looping
Week 15	13.3 Looping 14.0 Introduction to Block Programming Part 2
Week 15	13.3 Looping 14.0 Introduction to Block Programming Part 2 14.1 Operator
Week 15	 13.3 Looping 14.0 Introduction to Block Programming Part 2 14.1 Operator 14.2 Interactivity and Multimedia elements
Week 15	 13.3 Looping 14.0 Introduction to Block Programming Part 2 14.1 Operator 14.2 Interactivity and Multimedia elements 14.3 Packaging and sharing
Week 15 Week 16 - 18	13.3 Looping14.0 Introduction to Block Programming Part 214.1 Operator14.2 Interactivity and Multimedia elements14.3 Packaging and sharingFinal Examination

- a. Harold J. R. (2001). Logic and Structured Design for Computer Programmers. 3rd Edition. USA: Cole Publishers
- b. Maruch, S., & Maruch, A. (2006). *Python for dummies*. John Wiley & Sons.
- c. How To Code in Python 3 DigitalOcean, <u>https://assets.digitalocean.com/books/python/how-to-code-in-python.pdf</u>
- d. McManus, S. (2013). Scratch programming in easy steps: covers Versions 2.0 and 1.4. In Easy Steps.
- e. Hirako San (2019). *Scratch 3: The Practical Guide To Create Games Using Block Programming,* Independent Publisher, **ISBN-13:** 978-1794277748

Additional references

Please refer in e-Learning

Online

http://elearning.utm.my

Academic honesty and plagiarism:

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Credit hours:				

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