

PROGRAMMING I

DITP1113

SEMESTER 1

SESI 2020/2021

DITP 1113 PROGRAMMING I (3, 2, 2)

TYPE OF COURSE: P

EDITION: 1

UPDATED: 01-10-2020

1.0 LEARNING OUTCOMES

Upon completion this course, students will be able to:

- i. Express solution of a problem with suitable tool, programming techniques and structures. (C2, A2)
- ii. Discover program codes in troubleshooting program and problem solving. (C3, CTPS1)
- iii. Construct computer program codes by applying suitable programming techniques and structures. (C3, P4)

2.0 SYNOPSIS

This course covers the introductory topics in structured programming language. It includes the introduction to computers and programming as well as the fundamentals of programming problem. Data types and operators, selection, repetition, function are among the topics covered in the course.

3.0 PRE-REQUISITE

None

4.0 PRACTICAL

Students will attend the laboratories for constructing programs using programming techniques that they have learnt.

5.0 REFERENCES

- [1] Gaddis, T., Walters, J., Muganda, G., (2011), "Starting Out with C++: Early Objects: International Version 7th Edition", Pearson Education International.
- [2] Gaddis, T., (2018), "Starting Out with C++: From Control Structures Through Objects 8th Edition", Pearson Education International.
- [3] Malik, D.S (2011), "C++ Programming from Problem Analysis to Program Design 5th Edition", Cengage Learning.
- [4] Liang, Y. D.(2010), "Introduction to Programming with C++ 2nd Edition", Pearson Education International.
- [5] Friedman, Koffman (2011), "Problem Solving, Abstraction and Design using C++ 6th Edition", Pearson.

6.0 COURSE IMPLEMENTATION

- i. Lecture
 - 2 hours per week for 14 weeks (Total = 28 hours)
- ii. Laboratory Activities
 - 2 hours per week for 14 weeks (Total = 28 hours)

6.0 COURSE EVALUATION

Assessment Method	Percentage	LO1	LO2	LO3	Scheme, Rubric/ guideline
Quiz (4)	5%	Q1(1.25%) Q2(1.25%) Q3(1.25%) Q4(1.25%)			AnsQuiz1.docx AnsQuiz2.docx AnsQuiz3.docx AnsQuiz4.docx
Lab Test (3)	30%			T1(10%) T2(10%) T3(10%)	AnsLabTest1.docx AnsLabTest2.docx AnsLabTest2.docx
Lab Assessment	10%		LA (10%)		AnsLabAssmt.docx
Assignment (Group)	10%			A(10%)	AnsAssgn.docx
Mid Term	15%	M1(10%)	M2(5%)		MTScheme.docx
Final	30%	F1(15%)	F2(15%)		FEScheme.docx
TOTAL (=100%)	100%	30%	30%	40%	

7.0 STUDENT LEARNING TIME (SLT)

8.0

		Guided Learning Time				Independent Learning								Assessment Time				
Week	CLO	L	T	P	O	L	T	P	O	F	T	A	O	F	T	A	O	SLT
W1	1	2		2		1	0	1		0	0	0	0					6
W2	1	2		2		1	0	1		0	0	0	0					6
W3	1	2		2		1	0	1		0	0	0	0					6
W4	1	2		2		1	0	1		0	0	0	0					6
W5	1	2		2		1	0	1		0	0	2	0					8
W6	1	2		2		1	0	1		0	6	0	0		1.5			13.5
W7	3	2		2		1	0	1		0	4	0	0		1			11
W8	3	2		2		1	0	1		0	0	0	0					6
W9	2	2		2		1	0	1		0	0	4	0					10
W10	2	2		2		1	0	1		0	0	0	3					9
W11	2	2		2		1	0	1		0	0	0	0					6
W12	2	2		2		1	0	1		0	0	0	0					6
W13	2	2		2		1	0	1		0	0	0	0					6
W14	3	2		2		1	0	1		0	4	0	1		1		0.25	12.25
>W14										8	0	0	0	2				10
Overall		28	0	28	0	14	0	14	0	8	14	6	4	2	3.5	0	0.25	121.75
															SLT Credit Equivalent			3.04

9.0 DETAILED SYLLABUS AND TEACHING PLAN

Week	Session	Contents	References	Delivery Method
1	Lecture 1	Introduction to Computer & Programming Language Lecture content <ul style="list-style-type: none"> • Introduction to Computer and its application area, computer components, hardware and software • Introduction to programming language: Machine Language, Assembly Language, High Level Language • How does a computer run a program • Write, edit, compile and link a program 	[1,2,3,4,5]	Lecture
	Lab 1	Laboratory content <ul style="list-style-type: none"> ▪ Compile and execute basic structured program. ▪ Example programs and exercise 		Lab
2	Lecture 2	Problem Solving Lecture content <ul style="list-style-type: none"> • Introduction to problem solving • Basic techniques of problem solving: Pseudo Code, Flow Chart • Introduction to function • Develop algorithm 	[1,2,3,4,5]	Lecture
	Lab 2	Laboratory content <ul style="list-style-type: none"> ▪ Developing algorithm using pseudo code and flow charts. ▪ Using MS Visio to draw flowchart 		Lab
3	Lecture 3	Basic Elements of Structured Program Lecture content <ul style="list-style-type: none"> • Basic elements of structured language • Character set, Token: keyword, identifiers, operator & punctuation, input, output • Data type and its declaration & statement • Operator – assignment operator, arithmetic operators, relational operators and logical operators • Formatting Input/Output 	[1,2,3,4,5]	Lecture
	Lab 3	Laboratory content <ul style="list-style-type: none"> ▪ Develop structured program. ▪ Exercise on operators, data types and input/output statements 		Lab

	Lab 12	Problem solving using Repetition Control Structure Lecture content <ul style="list-style-type: none"> The do...while Laboratory content <ul style="list-style-type: none"> Programs on repetition control structure do ... while loop 		Lab
14	Lecture 13 Lab 13	Problem solving using Repetition Control Structure Lecture content <ul style="list-style-type: none"> The for control structure Laboratory content <ul style="list-style-type: none"> Programs on repetition control structure for 	[1,2,3,4,5]	Lecture Lab
15	Lecture 14 Lab 14	Problem solving using Repetition Control Structure Lecture content <ul style="list-style-type: none"> The nested loops Conditional Statement within repetition Laboratory content <ul style="list-style-type: none"> Programs on repetition control structure based on lecture content 	[1,2,3,4,5]	Lecture Lab
16		REVISION WEEK		
17-18		FINAL EXAMINATION WEEK		

10.0 MATRIX OF LEARNING OUTCOMES

SUBJECT vs PROGRAM OUTCOME (PO)

Subject	PROGRAM OUTCOME (PO)								
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
DITP 1113	X	X			X				

LEARNING OUTCOME (LO) vs PROGRAM OUTCOME (PO)

LO	PROGRAM OUTCOME (PO)								
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
LO1	X								
LO2		X							
LO3					X				

LEARNING OUTCOME (LO)

LO1	Illustrate program codes by tracing and debugging in troubleshooting program applications (C2)
LO2	Construct computer program codes by applying suitable programming tools, structures and techniques. (P3)
LO3	Apply suitable programming structures and techniques in problem solving (A3,CTPS1)

SUBJECT vs SOFT SKILLS

Subject	SOFT SKILLS																							
	communication skill					critical thinking & problem solving					team work			lifelong learning			entrepreneurship skills			ethics&moral professionalism			leader	
	CS1	CS2	CS3	CS4	CS5	CTPS1	CTPS2	CTPS3	CTPS4	CTPS5	TS1	TS2	TS3	LL1	LL2	LL3	ES1	ES2	ES3	EM1	EM2	EM3	LS1	LS2
DITP 1113						X																		

LEARNING OUTCOME (LO) vs SOFT SKILLS

LO	SOFT SKILLS																							
	communication skill					critical thinking & problem solving					team work			lifelong learning			entrepreneurship skills			ethics & moral professionalism			leadership	
	CS1	CS2	CS3	CS4	CS5	CTPS1	CTPS2	CTPS3	CTPS4	CTPS5	TS1	TS2	TS3	LL1	LL2	LL3	ES1	ES2	ES3	EM1	EM2	EM3	LS1	LS2
LO1																								
LO2																								
LO3						X																		

SUBJECT vs TAXONOMY

Subject	Taxonomy																	
	Affective					Cognitive						Psychomotor						
	A1	A2	A3	A4	A5	C1	C2	C3	C4	C5	C6	P1	P2	P3	P4	P5	P6	P7
DITP 1113			X				X							X				

LEARNING OUTCOME (LO) vs TAXONOMY

LO	Taxonomy																	
	Affective					Cognitive						Psychomotor						
	A1	A2	A3	A4	A5	C1	C2	C3	C4	C5	C6	P1	P2	P3	P4	P5	P6	P7
LO1							X											
LO2														X				
LO3			X															

TEACHING PLAN APPROVAL

Prepared by;

Approved by;

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Name:

.....
Dean/Deputy Dean (Academic)/HOD

Stamp:

Stamp:

Date: _____

Date: _____

TEACHING PLAN IMPLEMENTATION (MID SEMESTER BREAK)

Comment :

Checked by;

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Dean/Deputy Dean (Academic)/HOD

Stamp :

Date: _____

TEACHING PLAN IMPLEMENTATION (WEEK 16)

Comment :

Checked by;

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Dean/Deputy Dean (Academic)/HOD

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Date: _____