



**YOGYAKARTA STATE UNIVERSITY
FACULTY OF MATHEMATICS AND NATURAL SCIENCES**

SYLLABI

SIL/MAA 320/01

1 April 2010

Faculty : Mathematics and Natural Science
Study Program : Mathematics
Course / Code : Computer Programming, MAA 320
Credit : Theory: 2 Practice: 1
Semester : 4
Prerequisite/Code : Computer and Information Technology/MAA 303
Lecturer : Sri Andayani, M.Kom

I. Course Description:

The course introduces a concept and technique in programming using Pascal Language. This include the basic of programming (i.e. algorithm), program structure in Pascal, variable declaration, data types, standart operations, making decision, loops, extended data types (i.e. records, enumerated, subranges), procedure and function.

II. Standard of Competence

The students have ability to compose a program using Pascal Language.

III. Activity

Meeting#	Basic Competence	Essentials Concept	Learning Strategy	Learning Materials/References	Character
1,2	Students are able to compose an algorithm to solve a given problem	ALGORITHM	Explanation Demonstration, Discussion, practicum, team work	A:1-3	Thinking logically, critically, creatively, and innovatively Caring about social matters and environment
3,4	Students are able to compose a simple program in Pascal	Program Structure, Identifier, Constanta, Variable	Explanation Demonstration, Discussion, practicum, team work	A:4-8, B.2	Thinking logically, critically, creatively, and innovatively
5,6	Students are able to compose a program to solve a problem in mathematics that has various data types	Assignment And Operations, Data Type	Explanation Demonstration, Discussion, practicum, team work	A:9-17, B.3	Thinking logically, critically, creatively, and innovatively
7,8	Students are able to use various standard functions in Pascal to	STANDARD FUNCTIONS	Explanation Demonstration, Discussion,	A:17-20, B.3	Thinking logically, critically,

Meeting#	Basic Competence	Essentials Concept	Learning Strategy	Learning Materials/References	Character
	compose a program		practicum, team work		creatively, and innovatively Curious
9,10	Students are able to compose a program to solve a problem of making decision using if-then statement	MAKING DECISIONS: if-then, if then else	Explanation Demonstration, Discussion, practicum, team work	A:21-22, B.1, B.4	Thinking logically, critically, creatively, and innovatively
11,12	Students are able to compose a program to solve a problem of making decision using case of statement	MAKING DECISIONS: nested if, case of	Explanation Demonstration, Discussion, practicum, team work	A:23-28, B.1, B.4	Thinking logically, critically, creatively, and innovatively
13,14	Students are able to compose a program that contain a looping using for-do statement	LOOPS: for do	Explanation Demonstration, Discussion, practicum, team work	A:29-31 B.4	Thinking logically, critically, creatively, and innovatively
15,16	Progress test 1 (theory and practicum)				
17,18	Students are able to compose a program that contain a looping using while do and repeat until statement	LOOPS: while do, repeat until	Explanation Demonstration, Discussion, practicum, team work	A:32-33, B.4	Thinking logically, critically, creatively, and innovatively
19,20	Students are able to compose a program to solve a problem using One-Dimensional Arrays	ONE-DIMENSIONAL ARRAYS	Explanation Demonstration, Discussion, practicum, team work	A:34-35 B.1, B.4	Thinking logically, critically, creatively, and innovatively
21,22	Students are able to compose a program to solve a problem using Two-Dimensional Arrays	TWO DIMENSIONAL ARRAYS	Explanation Demonstration, Discussion, practicum, team work	A:36, B.1, B.3	Thinking logically, critically, creatively, and innovatively
23,24	Students are able to compose a program to solve a problem using Enumerated Data Type and Subranges	ENUMERATED DATA TYPE and SUBRANGES	Explanation Demonstration, Discussion, practicum, team work	A:37-39	Thinking logically, critically, creatively, and innovatively
25,26	Students are able to compose a program to solve a problem using Records	RECORDS	Explanation Demonstration, Discussion, practicum, team work	A:40-41, B.1, B.3	Thinking logically, critically, creatively, and innovatively

Meeting#	Basic Competence	Essentials Concept	Learning Strategy	Learning Materials/References	Character
27,28	Students are able to compose a program that contain procedures	PROCEDURES	Explanation Demonstration, Discussion, practicum, team work	A:42-46, B.2	Thinking logically, critically, creatively, and innovatively
29,30	Students are able to compose a program that contain functions	FUNCTIONS	Explanation Demonstration, Discussion, practicum, team work	A:46-48, B.2	Thinking logically, critically, creatively, and innovatively
31,32	Progress test 2 (theory and practicum)				

IV. REFERENCES

A. Compulsory :

Sri Andayani, 2010. Handout of Computer Programming, FMIPA UNY.

B. Additional

1. Jogyanto, H.M. (1989). Turbo Pascal, Yogyakarta, Andi Offset
2. <http://pascalprogramming.byethost15.com>
3. <http://www.taoyue.com>
4. <http://www.geocities.com/SiliconValley/Horizon/5444/>

V. EVALUATION

No	Component	Worth
1	Participation	15 %
2	Assignment	15 %
3	Practicum	20%
4	Progress test	25%
5	Final Exam	25%
		100%

Yogyakarta, 14 February 2011

Lecturer,

Sri Andayani, M.Kom

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