YOGYAKARTA STATE UNIVERSITY
FACULTY OF MATHEMATICS AND NATURAL SCIENCE

LESSON PLAN

FRM/FMIPA/063-00
1 April 2010

1. Faculty /Study Program : Mathematics and Science/Mathematics Education
2. Course & Code : Computer Application, MAA311
3. Credit : Theory : 2 sks   Practice: 1 sks
4. Semester/Time : IV   Time: 100 minutes
5. Basic competence : Students are able to use script m-file in MATLAB to solve the all problems of the previous topic

6. Indicator :
   Student can:
   - Make script m-file to solve a simple math problem.
   - Use input command
   - Add comment in a script m-file
   - Use echo command
   - Use disp command
7. Essential Concepts : Computer application for programming in mathematics problem using script m-file in MATLAB

8. Learning Activity : 21

Component	Detail Activity	Time	Method	Media	References	Character
Opening	• Lecturer greets the students and asks some students to tell some important points of the topic in the last meeting • Lecturer describes its relation to the next topic.	5'	Explanation and Discussion	Computer, LCD	A:65	Thinking logically, critically, creatively, and innovatively Caring about social matters and environment Appreciative of works and achievements of others
Main Activities	• By following the instruction in handout and using computer, students try the commands to make script m-file to solve a mathematics problem • In pair, students discuss to get the main meaning of the commands • After 50 minutes, Lecturer ask students to make a group of 4 (2 pairs) to share their discussion results.	80'	Explanation Demonstration, Discussion, practice, group work			

Component	Detail Activity	Time	Method	Media	References	Character
	• Lecturer facilitate students if they have some problems or questions about the topic • Students get opportunity to visit the other group to share and compare their result. • Students present their conclusion					
Closure	Student and lecturer conclude the topic	10'				
Follow up	Students are asked to find or create the mathematics problem and solve it using script m-file.	5'				

Learning Activity   : 22 (practice, 1 sks practice = 100')

Component	Detail Activity	Time	Method	Media	References	Character
Opening	Lecturer greets tudents and asks some students to tell the main idea of last topic, and delivers a lab sheet	5'	Explanation and Discussion	Computer, worksheet		Thinking logically, critically, creatively, and innovatively
Main Activities	• Students practice and excercises to make some script m-file • Students share their results in solving some problems using script m-file	80'	Practicum using computer, by self/in a group		worksheet / quiz	Caring about social matters and environment
Closure	Lecturer gives feedback to the result of students' work	10'	Explanation			Appreciative of works and achievements of others
Follow up	Lecturer gives introduction of the next material Students are asked to read the next topic in the handout and open HELP in MATLAB about the topic	5'	Explanation			

9. Assessment
Quiz:

Create a script m-file to find the minimum and maximum value of the function $f(x) = x^2 + \dfrac{1}{x^2}$

10. Reference

Compulsory:

A. Sri Andayani, Handout of Computer Application, FMIPA UNY 2009

Additional:

B. Hanselman, D. & Littlefield, B. 2000. Mastering MATLAB, A Comprehensive Tutorial and Reference. Prentice-Hall International, Inc.

C. http://www.matworks.com/**access/helpdesk/help/**

D. http://www.math.siu.edu/matlab/tutorial2.pdf

Yogyakarta, 21 December 2010
Professor,

Sri Andayani, M.Kom
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