YOGYAKARTA STATE UNIVERSITY
FACULTY OF MATHEMATICS AND NATURAL SCIENCE

LESSON PLAN

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 can solve problem of systems of linear equation using MATLAB
6. Indicator   :
   - Student can explain the category of systems of linear equation
   - Student can solve the problem of systems of linear equation
7. Essential Concepts   : Computer application for solving systems of linear equations using MATLAB
8. Learning Activity   : 7

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 • Some students are asked to share their idea about the next topic (in last meeting they have asked to read the material)	5'	Explanation and Discussion	Computer, LCD	A:34	Thinking logically, critically, creatively, and innovatively Caring about social matters and environment Appreciative of works and achievements of others
Main Activities	• Students are invited to give active participation in the discussion to find some problems in systems of linear equation • Lecturer helps students to get the right concepts of the topic • In pair, students discuss to solve their own problem • Students share their result to others in front of class, and others give their comments • Lecturer guides students to get the main meaning	80'	Explanation Demonstration, Discussion, practice, group work			

Component	Detail Activity	Time	Method	Media	References	Character
	of the command, make some notes in handout and conclusions • Lecturer facilitate students to get more information about the material					
Closure	Student and lecturer conclude the discussion of the topic	10'				
Follow up	Students are asked to collect some problems of systems of linear equations from journal, articles, and Internet	5'				

Learning Activity   : 8 (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 Lecturer delivers a lab sheet	5'	Explanation and Discussion	Computer, worksheet		Thinking logically, critically, creatively, and innovatively
Main Activities	• Students practice and doing exercises to solve some problem of systems of linear equation • Students share their results on finding some problem of systems of linear equation	80'	Practicum using computer, by self/in a group		worksheet / quiz	Caring about social matters and environment Appreciative of works and achievements of others
Closure	Lecturer gives feedback to the result of students' work	10'	Explanation			
Follow up	Lecturer gives introduction of the next material Students are asked to read the next material in handout and open HELP in MATLAB about the material	5'	Explanation			

9. Assessment

Quiz:
- Solve the systems of linear equation below:

1. $3x_1 - x_2 + 2x_3 = 10$
   $3x_2 - x_3 = 15$
   $2x_1 + x_2 - 2x_3 = 0$

2. $-1x + 7y + 5z = 12$
   $6x + 3y - 2z = 3$
   $8x + z = 10$
   $4x - 4y + 2z = -9$

3. $-2x_1 + x_2 + 5x_3 = 1$
   $3x_2 - x_3 = 4$
   $8x_1 + 2x_2 = 5$

Assignment:
Write down 5 problems in daily live that can be represented in a system of linear equations. And then solve them using MATLAB.

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,

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