



**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 make a program to solve mathematics problem using loop command in MATLAB
6. Indicator :
Student can:
 - make a program to solve loop problem using for-end command in MATLAB
 - make a program to solve loop problem using while-end command in MATLAB
 - convert the program that uses for-end command into while-end command
7. Essential Concepts : Computer application for handle loop problems using for-end and while-end command in MATLAB
8. Learning Activity : 23

| Component | Detail Activity | Time | Method | Media | References | Character |
|-----------------|---|------|--|---------------|------------|---|
| Opening | <ul style="list-style-type: none"> • 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:70 | Thinking logically, critically, creatively, and innovatively |
| Main Activities | <ul style="list-style-type: none"> • Students try the script m-file to solve a problem using for-end and while-end command by following the instruction in handout • In pair, students discuss the difference between for-end and while-end command. • After 30 minutes, Lecturer ask students to make a group of 4 (2 pairs) to share their discussion results. • Lecturer facilitate students if they have some problems or questions about the | 80' | Explanation Demonstration, Discussion, practice, group work | | | Caring about social matters and environment Appreciative of works and achievements of others |

| | | | | | | |
|-----------|---|-----|--|--|--|--|
| | topic <ul style="list-style-type: none"> • Students get opportunity to visit the other group to share and compare their result. • Students present their conclusion | | | | | |
| Closure | Lecturer asks students to share their conclusion about the topic | 10' | | | | |
| Follow up | Students get task to find or create their own problem to be solved using for-end and while-end command | 5' | | | | |

Learning Activity : 24 (practice, 1 sks practice = 100')

| Component | Detail Activity | Time | Method | Media | References | Character |
|-----------------|--|------|--|---------------------|------------------|--|
| Opening | Lecturer greets students 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 | <ul style="list-style-type: none"> • Students practice and exercises to make some script m-file that solve problem using for-end and while-end command. • Students share their results | 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:

Write a for-end and while-end loop to display the following output

```
1
22
333
4444
55555
```

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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