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 draw 3D graph of a function using MATLAB  
6. Indicator :  
   - Student can use basic 3-D Plotting  
   - Student can plot Matrix Data  
   - Student can use functions for Plotting Data Grids  
   - Student can plot Surfaces  
   - Student can emphasize Surface Shape  
   - Student can create a Surface Plots of Nonuniformly Sampled Data  
   - Student can draw a parametric Surfaces  
7. Essential Concepts : Computer application for drawing 3D graph using MATLAB  
8. Learning Activity : 15  
   
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</table>
| Opening           | Lecturer greets the students and asks some students to tell some important points of the topic in the last meeting  
                    | 5’    | Explanation and Discussion       | Computer, LCD | A:52       | Thinking logically, critically, creatively, and innovatively  
                    | Lecturer explains the objective of the topic and gives motivation  
                    | 80’   | Demonstration, Discussion, practice, group work  |                |            | Caring about social matters and environment  
                    | Students try the commands to plot 3D function and its formatting by following the instruction in handout and using computer,  
                    |       |                                 |                |            | Appreciative of works and achievements of others  
                    | In pair, students discuss to get the main meaning of the commands  
                    |       |                                 |                |            |                                                                 |
| Main Activities   | Lecturer observes the students activity and gives some comments or explanations.  
                    |       |                                 |                |            |                                                                 |
|                   | Lecturer activates discussion in order students get the important information  

Learning Activity : 16 (practice, 1 sks practice = 100’)

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<tbody>
<tr>
<td>Opening</td>
<td>Lecturer greets students and asks some students to tell the main idea of last topic, and delivers a lab sheet</td>
<td>5’</td>
<td>Explanation and Discussion</td>
<td>Computer, worksheet</td>
<td></td>
<td>Thinking logically, critically, creatively, and innovatively</td>
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</table>
| Main Activities | • Students practice and do exercises to plot 3D of some functions.  
• Students share their results on using other software to solve the problem.                                                                      | 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 handout and open HELP in MATLAB about the topic                                                                 | 5’   | Explanation                   |                     |                                                                           |                                                                           |
Additional:
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
NIP 197204261997022001