



UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF MATHEMATICS EDUCATION

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Bachelor of Science in Mathematics

MODULE HANDBOOK

Module name:	Introduction to Systems Theory
Module level,if applicable:	Undergraduate
Code:	MAT6355
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	7 th
Module coordinator:	Kus Prihantoso Krisnawan,M.Si.
Lecturer(s):	1. Kus Prihantoso Krisnawan,M.Si. 2. Fitriana Yuli Saptaningtyas,M.Si.
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective course
Teaching format / class hours perweek during the semester:	150 minutes lectures and 180 minutes structured activities per week.
Workload:	Total workload is 136 hours per semester which consists of 150 minutes lectures, 180 minutes structured activities, and 180 minutes self-study per week for 16 weeks.
Creditpoints:	3
Prerequisites course(s):	Differential Equations (MAT6314)
Courseoutcomes:	After taking this course the students have ability to: CO1. Demonstrate collaborative attitude and independence in carrying out independent tasks and group assignments

	<p>CO2. Communicate ideas in solving mathematical problems in writing or verbally</p> <p>CO3. Understand the basics of system theory</p> <p>CO4. Explain the application and use of system theory.</p> <p>CO5. Use Matlab and Maple to solve system numerically</p>																									
Content:	<p>This course discusses the things that support system theory and how to control the input of a system to produce the expected output. In general, this lecture provides an introduction to system theory which is a study in physics and engineering through the approach of theories in mathematics.</p>																									
Study/exam achievements:	<p>CO1: Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least have a good attitude.</p> <p>The final mark will be weight as follow:</p> <table border="1"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assesment Object</th> <th>Assessment Techniques</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CO 2</td> <td>Presentation</td> <td>Observation</td> <td>10%</td> </tr> <tr> <td>2</td> <td>CO 3 and CO 4</td> <td>a. Individual assignments b. group assignments c. Quiz d. MID e. Final Exam</td> <td>Written test</td> <td>10% 10% 20% 25%</td> </tr> <tr> <td>3</td> <td>CO 5</td> <td>Media to demonstrate</td> <td>Observation</td> <td>15%</td> </tr> <tr> <td colspan="3"></td> <td>Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assesment Object	Assessment Techniques	Weight	1	CO 2	Presentation	Observation	10%	2	CO 3 and CO 4	a. Individual assignments b. group assignments c. Quiz d. MID e. Final Exam	Written test	10% 10% 20% 25%	3	CO 5	Media to demonstrate	Observation	15%				Total	100%
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Formsof media:	Board, LCD Projector, Laptop/Computer																									
Literature:	<p>1. Olsder, G.J. & van der Woude, J.W..2004. <i>Mathematical Systems Teory</i>. Intermediate third edition.</p> <p>2. Engelberg, S. 2005. <i>A Mathematical Introduction to Control Theory</i>.Imperial College Press: London.</p>																									

