UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF MATHEMATICS EDUCATION
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Bachelor of Science in Mathematics

Module name:	Mathematical Modelling
Module level,if applicable:	Undergraduate
Code:	MAT 6322
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	4th
Module coordinator:	Fitriana Yuli Saptaningtyas,M.Si.
Lecturer(s):	Fitriana Yuli Saptaningtyas,M.Si.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory 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)
Course outcomes:	After taking this course the students have ability to: CO1. Demonstrate collaborative attitude and independence in carrying out individual tasks and group assignments CO2. Mastering the concepts and basics of mathematical modelling process CO3. Use Matlab software to solve a simple mathematical

	modelling of real problem CO4. Make a simple mathematical modelling of real problem
Content:	The discussion in this course emphasizes the process of modeling a case. Therefore, the discussion material is divided into three basic topics: terminology, examples of mathematical models and mathematical modeling projects.
Study/exam achievements:	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 attitudeif they show it significantlycompared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of therequirements to pass the course. Students will pass from this course if at least have a good attitude. The final mark will be weight as follow:

No	CO	Assesment Object	Assessment Techniques	Weigh
1	CO2 and CO 3	a. Individual assignments	Written test	20%
		b. group assignments		10%
		c. Mid Exam		25%
		d. Final Exam		30%
2	CO 4	Presentation and Project	Observation	15%
			Total	100%

Forms of media:	Board, LCD Projector, Laptop/Computer
Literature:	1. Jonathan Simon (2011), *Head First Android Development (e*-Maki, Daniel P. Thompson, Maynard. Mathematical Models and Applications. 1973. Prentice-Hall. United States of America. 2. Huntley, I.D. James, D.J.G. Mathematical Modelling A Source Book of Case Studies. 1990. Oxford University Press. New York

	3. Bender, Edward A. An Introduction to Mathematical Modeling. 1978. John Willey & Sons. Canada
	4. Tuharto. Diktat KuliahPengantar Model Matematika. 2001. JurusanPendidikanMatematika FMIPA UNY.
	5. Giordano, Frank R. Weir, Maurice D. A First Course in Mathematical Modelling 3rd Ed. 2003. Thomson Learning. USA

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1		✓								
CO2				✓						
CO3					✓					
CO4							✓			