



UNIVERSITAS NEGERI YOGYAKARTA

FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF MATHEMATICS EDUCATION

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Bachelor of Education in Mathematics

MODULE HANDBOOK

Module name:	Differential Calculus
Module level, if applicable:	Undergraduate
Code:	MAT6302
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	1 st
Module coordinator:	Atmini Dhoruri, MS.
Lecturer(s):	Endang Listyani, MS.; Atmini Dhoruri, MS.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory course
Teaching format / class hours per week 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.
Credit points:	3
Prerequisites course(s):	-
course outcomes:	After taking this course the students have ability to: CO1. Demonstrate collaborative attitude and independence to do individual or group assignments CO2. Communicate ideas in solving mathematical problems related to Differential in writing or verbally CO3. Explain the Differential concept mathematically

	CO4. Solve problems using Differential concept CO5. Develop media related to Differential based on ICT																																									
Content:	The course contains discussion on concepts of real number systems, coordinate systems, functions, limit functions and continuity, derivative functions, minima and maxima problems, limits at infinity, infinite limits, graphs of equation and the mean value theorems for derivatives.																																									
Study / exam achievements:	<p>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>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CO2</td> <td>Presentation</td> <td>Observation</td> <td>10%</td> </tr> <tr> <td>2</td> <td>CO3, CO4</td> <td>a. Individual assessment</td> <td rowspan="5">Written test</td> <td>10%</td> </tr> <tr> <td></td> <td></td> <td>b. Group assessment</td> <td>10%</td> </tr> <tr> <td></td> <td></td> <td>c. Quiz</td> <td>20%</td> </tr> <tr> <td></td> <td></td> <td>d. Mid exam</td> <td>20%</td> </tr> <tr> <td></td> <td></td> <td>e..Final exam</td> <td>25%</td> </tr> <tr> <td>3</td> <td>CO5</td> <td>Media</td> <td>Observation</td> <td>5%</td> </tr> <tr> <td colspan="4" style="text-align: right;">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO2	Presentation	Observation	10%	2	CO3, CO4	a. Individual assessment	Written test	10%			b. Group assessment	10%			c. Quiz	20%			d. Mid exam	20%			e..Final exam	25%	3	CO5	Media	Observation	5%	Total				100%
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Total				100%																																						
Forms of media:	Board, LCD Projector, Laptop/Computer																																									
Literature:	1. Purcell, Edwin J. dan Varberg, D. 2001. Kalkulus, Edisi Tujuh, Jilid Satu. Alih Bahasa : I Nyoman Sulila. Batam: Interaksa.																																									

	<p>2. B. Louis Leithold. 1992. Kalkulus dan Ilmu Ukur Analitik, Edisi kelima, jilid 1. Alih bahasa: E. Hutahaeen. Jakarta: Penerbit Erlangga.</p> <p>3. C. Frank Ayres, JR. 2000. <i>Calculus</i> . Theory and Problems of Diferential and Integral. Scaum's Outline Series. New York : McGraw-Hills Book Company.</p>
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PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CO1		✓										
CO2			✓									
CO3					✓							
CO4							✓					
CO5									✓			