

## UNIVERSITAS NEGERI YOGYAKARTA

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## **Bachelor of Science in Mathematics**

## MODULE HANDBOOK

Module name:	Initial and Boundary Value Problems
Module level, if applicable:	Undergraduate
Code:	MAT6354
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	7 <sup>th</sup>
Module coordinator:	Husna 'Arifah, M.Sc.
Lecturer(s):	Husna 'Arifah, M.Sc.
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)
Course Outcomes	<ul> <li>After taking this course the students have ability to:</li> <li>CO1. Communicate ideas in solving mathematical problems in writing or verbally.</li> <li>CO2. Demonstrate collaborative attitude and independence in carrying out individual tasks and group assignments</li> <li>CO3.Able to understand the notions of partial differential</li> </ul>

	equations, Fourier series, Integral Fourier and Fourier							
	transforms							
	CO4. Able to use the concepttravelling waves equations to							
	find the solution of initial and boundary value problems							
	This	course	discusses the application	ation ofpartial	differential			
Content:	equations, fourier series, Fourier integrals, Fourier transforms							
	and travelling waves equations.							
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         Assessment Object       Assessment							
	No	CO	Assessment Object	Assessment	Weight			
	No	<b>CO</b>	Assessment Object	Assessment Technique	Weight			
	<b>No</b> 1	<b>CO</b> CO2, CO3	Assessment Object a. Individual Assignment	Assessment Technique Presentation / written	Weight 10%			
	<b>No</b> 1	CO2, CO2, CO3 and CO4	Assessment Object a. Individual Assignment b. Group Assignment c. Ouiz	Assessment Technique Presentation / written test	Weight 10% 20% 20%			
	<b>No</b>	CO2, CO3 and CO4	Assessment Object a. Individual Assignment b. Group Assignment c. Quiz d. Mid	Assessment Technique Presentation / written test	Weight           10%           20%           20%           20%			
	<b>No</b> 1	CO2, CO3 and CO4	Assessment Object a. Individual Assignment b. Group Assignment c. Quiz d. Mid e. Final Exam	Assessment Technique Presentation / written test	Weight 10% 20% 20% 20% 30%			
Forms of media:	No 1 Boar	CO CO2, CO3 and CO4	Assessment Object a. Individual Assignment b. Group Assignment c. Quiz d. Mid e. Final Exam Projector, Laptop/Compu	Assessment Technique Presentation / written test Total	Weight           10%           20%           20%           30%           100%			
Forms of media:	No 1 Boar	CO CO2, CO3 and CO4 rd, LCD F	Assessment Object a. Individual Assignment b. Group Assignment c. Quiz d. Mid e. Final Exam Projector, Laptop/Comput. And Miller, Wil B	Assessment Technique Presentation / written test Total Jter ,1992, Bound	Weight           10%           20%           20%           30%           100%			
Forms of media:	No 1 Boar 1.	CO CO2, CO3 and CO4 rd, LCD F Humi, M Problems	Assessment Object a. Individual Assignment b. Group Assignment c. Quiz d. Mid e. Final Exam Projector, Laptop/Comput A. And Miller, Wil B and Partial Differential	Assessment Technique Presentation / written test Total uter ,1992, Bound	Weight           10%           20%           20%           30%           100%			
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Forms of media: Literature:	No           1           Boar           1.           2.           3.	CO CO2, CO3 and CO4 d, LCD F Humi, N Problems Publishin Braun, Applicatio Verlag No Zill, Den Equation Edition. L	Assessment Object a. Individual Assignment b. Group Assignment c. Quiz d. Mid e. Final Exam Projector, Laptop/Comput A. And Miller, Wil B a and Partial Differential g Company, Boston. M. Differential I ons. 1983. Third Ed ew York, Inc. inis G., Cullen, Micha s with Boundary-va JSA : Brooks/Cole Publi	Assessment Technique Presentation / written test Total uter ,1992, Bound al Equations, I Equation a ition. USA ael R. 1997. lue Proble	Weight10%20%20%20%30%100%dary ValuePWS KENTnd Their: Springer-Differentialems. Fourthny.			

## PLO and CO mapping

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