



# UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Department of Mathematics

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## Doctor in Mathematics

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## MODULE HANDBOOK

Module Name	Topics in Differential Equations
Module level, if applicable	Doctor
Code, if applicable	MMM-7316
Subtitle, if applicable	-
Courses, if applicable	Topics in Differential Equations
Semester(s) in which the module is taught	1 <sup>st</sup> or 2 <sup>nd</sup> semester
Person responsible for the module	Chair of the Lab. of Applied Mathematics
Lecturer(s)	Prof. Dr. Ch. Rini Indrati, M.Si. Dr. rer.nat. Lina Aryati, M.S.
Language	Bahasa Indonesia
Relation to curriculum	Elective course in the 1 <sup>st</sup> or 2 <sup>nd</sup> semester of doctor's degree
Teaching methods	Lecture, classroom discussion, flipped classroom.
Workload (incl. contact hours, self-study hours)	The total workload is 136 hours per semester, which consists of 150 minutes of lectures per week for 14 weeks, 180 minutes of structured activities per week, and 180 minutes of individual study per week, in total is 16 weeks per semester, including mid-exam and final exam.
Credit points	3
Required and recommended prerequisites for joining the module	Students have strong knowledge of fundamental theorems in differential equations.

Module objectives/intended learning outcomes	<p>After completing this course, the students should have the ability to:</p> <p>CO 1 integrate some theories in differential equations to solve the application or problems related to differential equations</p> <p>CO 2 use the suitable available methods to solve the application's differential equation or their related problems in a differential equation.</p> <p>CO 3 do simply research a differential equation or its application.</p>												
Content	It will be derived from the research topic of the students. It will be focused on the theory and method of differential equations used in doing research.												
Examination forms	Oral presentation, essay, portfolio.												
Study and examination requirements	<p>The final mark will be weighted as follows:</p> <table border="1"> <thead> <tr> <th>No</th> <th>Assessment methods (components, activities)</th> <th>Weight (percentage)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Final Examination (portfolio/essay/oral presentation)</td> <td>35%</td> </tr> <tr> <td>2</td> <td>Mid-Term Examination (portfolio/essay/presentation)</td> <td>35%</td> </tr> <tr> <td>3</td> <td>Class Activities: Presentation</td> <td>30%</td> </tr> </tbody> </table> <p>To pass the course, the minimum grade is B.</p>	No	Assessment methods (components, activities)	Weight (percentage)	1	Final Examination (portfolio/essay/oral presentation)	35%	2	Mid-Term Examination (portfolio/essay/presentation)	35%	3	Class Activities: Presentation	30%
No	Assessment methods (components, activities)	Weight (percentage)											
1	Final Examination (portfolio/essay/oral presentation)	35%											
2	Mid-Term Examination (portfolio/essay/presentation)	35%											
3	Class Activities: Presentation	30%											
Media employed	Board, LCD Projector, Laptop/Computer												
Reading list	<ol style="list-style-type: none"> <li>Perko L., 2000, Differential Equations and Dynamical Systems, 3rd Edition, Springer-Verlag, New York.</li> <li>Logan J. D., 2008, An Introduction to Nonlinear Partial Differential Equations, 2nd Edition, John Wiley and Sons, New Jersey.</li> </ol>												

### CO-PLO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
CO 1	v	v	v		v	v
CO 2	v	v	v		v	v
CO 3	v	v	v	v	v	v

Last Modified Date : 11 August 2022

