



UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Mathematics Department

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Graduate Program in Mathematics

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MODULE HANDBOOK

Doctoral in Mathematics

Module name:	Literature Review
Module level, if applicable:	Doctor Program
Code, if applicable:	
Semester(s) in which the module is taught:	First Year
Person responsible for the module:	Chair of The Study Program
Lecturer(s):	Assigned advisor
Language:	Bahasa Indonesia
Relation to curriculum:	Doctor Degree in Mathematics, Compulsary Courses
Credit points:	3
Type of teaching, contact hours:	3x50 minutes lectures, 3x50 minutes structured activities.
Workload:	<ul style="list-style-type: none"> • 3x50 minutes lectures, • 3x50 minutes structured activities, • 3x50 minutes individual study, • In 16 weeks per semester (including mid-term and final examinations). • Total: 144x50 minutes per semester.
Requirements according to the examination regulations:	NONE
Recommended prerequisites:	Before taking this course, the students must have a good understanding the abstract concept.
Module objectives/intended learning outcomes:	<p>On satisfying the requirements of this course, students will have the knowledge and skills to:</p> <p>CO-1: recognize different research methods and select the appropriate one for their research.</p> <ul style="list-style-type: none"> • Relate mathematics to other disciplines and develop mathematical models for multidisciplinary problems • Understand relevant research methodologies and techniques and their appropriate application within his/her research field <p>CO-2: conduct a detailed literature review in a defined topic</p> <ul style="list-style-type: none"> • Acquire scientific knowledge and work independently • Analyze critically and evaluate his/her findings and those of others <p>CO-3: report the findings of literature review</p> <ul style="list-style-type: none"> • Write progress reports clearly on the basis of published documents, thesis, etc • Effectively express his/her research ideas and findings both orally and in writing.

<p>Content:</p>	<p>The objectives of these course are</p> <ul style="list-style-type: none"> • To determine a research topic for thesis study and to develop the defined thesis by completing literature review, design and realization phases. • To guide students to review literature about a previously-defined topic, analyze and interpret the collected data. <p>So there topics will be</p> <ul style="list-style-type: none"> • Establishing a draft of keywords, theoretical resources and areas of interest • Literature review • Assessment of literature review • Reporting the research results • Preparation of draft seminar • Determination of seminar topic • Literature review about the defined topic • Assessing the improvement • Analyzing the collected data • Preparing a report on the preliminary research findings <p>Emphasizing on understanding the meaning of</p> <ul style="list-style-type: none"> • Originality, • Critical Evaluation, • Conjecture, • Theoretical Frame Work 															
<p>Study and examination requirements and forms of examination:</p>	<p>The final mark will be weighted as follows:</p> <table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">No</th> <th style="text-align: left;">Assessment methods (components, activities)</th> <th style="text-align: right;">Weight (percentage)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Formulation the originality of research problem</td> <td style="text-align: right;">25%</td> </tr> <tr> <td>2</td> <td>Formulation the theoretical framework</td> <td style="text-align: right;">25%</td> </tr> <tr> <td>3</td> <td>Formulation the conjecture and methodology</td> <td style="text-align: right;">20%</td> </tr> <tr> <td>4</td> <td>Presentation</td> <td style="text-align: right;">30%</td> </tr> </tbody> </table> <p>Final grade will be determined as follows:</p> <p>Final grade will be determined as follows: Grade Criteria</p> <p>The initial cut-off points for grades A, B, C, and D should not be less than 80%, 65%, 50%, and 40%, respectively.</p>	No	Assessment methods (components, activities)	Weight (percentage)	1	Formulation the originality of research problem	25%	2	Formulation the theoretical framework	25%	3	Formulation the conjecture and methodology	20%	4	Presentation	30%
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1	Formulation the originality of research problem	25%														
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3	Formulation the conjecture and methodology	20%														
4	Presentation	30%														
<p>Media employed:</p>	<p>White/Black Board, LCD Projector, Laptop/Computer</p>															
<p>Reading List:</p>	<p>The related references to the dissertation will be nominated as per the selected topic and content.</p> <p>General references:</p> <ol style="list-style-type: none"> 1. https://writing.wisc.edu/Handbook/ReviewofLiterature.html 2. http://www.duluth.umn.edu/~hrallis/guides/researching/litreview.html 3. http://advice.writing.utoronto.ca/types-of-writing/literature-review/ 4. etc 															

Mapping of The COs and PLOs

	PLO – 1 S3 Math	PLO – 2 S3 Math	PLO – 3 S3 Math	PLO – 4 S3 Math	PLO – 5 S3 Math	PLO –6 S3 Math
CO 1	√	√	√			√
CO 2	√		√	√		√
CO 3	√	√	√			√

Programme Learning Outcomes (PLO) Doctoral Programme in Mathematics

PLO-1	:	<p>Attitude:</p> <p>Devote to God Almighty, uphold the humanity values, internalize academic values and ethics, responsible in working in the area of expertise independently.</p>
PLO-2	:	<p>Knowledge:</p> <p>Mastering philosophy of mathematics and one of the fields in mathematics (algebra, analysis, applied mathematics, statistics, computational mathematics, computational statistics).</p>
PLO-3	:	<p>Knowledge:</p> <p>Able to think logically, analytically, inductively, deductively, and structured; having the ability to manage, lead, and develop research programs independently, and able to communicate the thoughts as well as his work to the scientific community and the general public.</p>
PLO-4	:	<p>Skill:</p> <p>Creating new concepts and / or new methods (original) in the field of mathematics that are recognized nationally and internationally.</p>
PLO-5	:	<p>Skill:</p> <p>Able to apply mathematics according to their field of expertise to solve problems including those that require a multidisciplinary, cross-disciplinary, or trans-disciplinary approach.</p>
PLO-6	:	<p>Life Long Learning:</p> <p>Having lifelong learning skills and adaptive to the development of science and technology, especially in fields related to Mathematics and its applications.</p>