

**SEMESTER LEARNING ACTIVITY PLANS
(SLAP)
SEMESTER ODD/EVEN 2022/2023**



Thesis

MFF6001 / 8 Credits

Lecturer Coordinator:

**UNIVERSITAS GADJAH MADA
FACULTY OF MATHEMATICS AND NATURAL SCIENCE
2022**



Universitas Gadjah Mada

Faculty of Mathematics and Natural Science

Physics Department / Study Program Master of Physics

Semester Odd/Even2022/2023

SEMESTER LEARNING ACTIVITY PLANS (SLAP)

| Code | Course Name | Credits (credits) | Semester | Status | Prerequisite | | | | | | | | | | | | |
|--|--|-------------------|-----------------|-------------------|--------------|-------|--|-------|---|-------|---|-------|---|-------|--|-------|--|
| <i>MFF6001</i> | <i>Thesis</i> | 8 | <i>Odd/Even</i> | <i>Compulsory</i> | <i>None</i> | | | | | | | | | | | | |
| Short Description | <p>Thesis course is Compulsory course 8 credits (Theory) in the 2022 Curriculum Master of Physics Study Program, Faculty of Mathematics and Natural Science UGM.</p> <p>The syllabus of this course is as follows: Independent research in a particular field of physics ends with writing a thesis as the final project of the master's program. This thesis is expected to contain an element of authenticity in how students formulate, handle and solve research problems. The thesis assessment is based on the quality of the thesis and the student's performance when presenting the thesis in the examination session. The aspects of the assessment are: (a) the quality of the thesis which includes the material, methodology, systematics of writing and language, and (b) the performance of the exam time which includes the expertise in the material and the methodology. Note: The final thesis score consists of 80% thesis test scores and 20% thesis proposal test scores.</p> <p>The courses are held in class for 14 weeks, each week's session last for 8 x 50 minutes. Four weeks of course period is used for Midterm Exam and Final Exam, each held for two weeks as scheduled.</p> <p>Student evaluation for course assessments is performed summative and formative. The summative evaluation is implemented as written exams, both Midterm and Final Exam, which take a maximum of 120 minutes. The formative evaluation is implemented as individual assignments for each student in the form of completing an assignment individually. Monitoring is carried out by observing student activities during the course, such as attendance, Q&A and discussion about the material presented, and student performance in completing individual assignments.</p> | | | | | | | | | | | | | | | | |
| Program Learning Outcomes (PLO) Imposed on the Course | <table border="1"> <tbody> <tr> <td>PLO 1</td> <td>Have a commendable attitude and ethics as a scientist.</td> </tr> <tr> <td>PLO 2</td> <td>Having the professional ability of a scientist.</td> </tr> <tr> <td>PLO 3</td> <td>Mastering further knowledge of classical and modern physics theory, and its relationship with other disciplines, and has mastered an advanced field of physics specialization that allows him to keep up with the latest international research developments.</td> </tr> <tr> <td>PLO 4</td> <td>Mastering various mathematical disciplines related to an advanced field of physics, and able to develop physical models using various mathematical and computational tools with an inter or multidisciplinary approach to solving problems related to an advanced field of physics.</td> </tr> <tr> <td>PLO 5</td> <td>Able to plan, manage and carry out experiments and conclude the results, or be able to create and use modeling and simulations based on the basic principles of physics to study and solve a problem in a scientific field of Physics or applied Physics that produces models, methods, or theories tested and innovative.</td> </tr> <tr> <td>PLO 6</td> <td>Able to apply knowledge to analyze, synthesize, formulate problems and solve problems comprehensively in one of advanced field of physics, through</td> </tr> </tbody> </table> | | | | | PLO 1 | Have a commendable attitude and ethics as a scientist. | PLO 2 | Having the professional ability of a scientist. | PLO 3 | Mastering further knowledge of classical and modern physics theory, and its relationship with other disciplines, and has mastered an advanced field of physics specialization that allows him to keep up with the latest international research developments. | PLO 4 | Mastering various mathematical disciplines related to an advanced field of physics, and able to develop physical models using various mathematical and computational tools with an inter or multidisciplinary approach to solving problems related to an advanced field of physics. | PLO 5 | Able to plan, manage and carry out experiments and conclude the results, or be able to create and use modeling and simulations based on the basic principles of physics to study and solve a problem in a scientific field of Physics or applied Physics that produces models, methods, or theories tested and innovative. | PLO 6 | Able to apply knowledge to analyze, synthesize, formulate problems and solve problems comprehensively in one of advanced field of physics, through |
| PLO 1 | Have a commendable attitude and ethics as a scientist. | | | | | | | | | | | | | | | | |
| PLO 2 | Having the professional ability of a scientist. | | | | | | | | | | | | | | | | |
| PLO 3 | Mastering further knowledge of classical and modern physics theory, and its relationship with other disciplines, and has mastered an advanced field of physics specialization that allows him to keep up with the latest international research developments. | | | | | | | | | | | | | | | | |
| PLO 4 | Mastering various mathematical disciplines related to an advanced field of physics, and able to develop physical models using various mathematical and computational tools with an inter or multidisciplinary approach to solving problems related to an advanced field of physics. | | | | | | | | | | | | | | | | |
| PLO 5 | Able to plan, manage and carry out experiments and conclude the results, or be able to create and use modeling and simulations based on the basic principles of physics to study and solve a problem in a scientific field of Physics or applied Physics that produces models, methods, or theories tested and innovative. | | | | | | | | | | | | | | | | |
| PLO 6 | Able to apply knowledge to analyze, synthesize, formulate problems and solve problems comprehensively in one of advanced field of physics, through | | | | | | | | | | | | | | | | |

| | | | | |
|---|--|--|-------------------------|------------------------|
| | | experimental or theoretical research, then be able to classify and draw conclusions about their findings for the development of science and technology. | | |
| | PLO 7 | Able to communicate and discuss orally and in writing the results of studies, and mastery of various problems in the field of physics and other related fields in Indonesian and English, as well as being able to document and save the results of the study and mastery, and publish them in reputable scientific forums or scientific journals. | | |
| Course Outcomes (CO) | Upon completion of this course, students should be able to: | | | |
| | <i>CO1</i> | Formulate problems to be researched, make research boundaries, and set research objectives. | | |
| | <i>CO2</i> | Can formulate problems to be researched, make research boundaries, and set research objectives. | | |
| | <i>CO3</i> | Can conduct literature searches and compile literature reviews related to research problems to be studied. | | |
| | <i>CO4</i> | Can make research designs and determine appropriate research methods related to the problems to be studied. | | |
| | <i>CO5</i> | Can perform analysis and conclusions on the results of their research. | | |
| | <i>CO6</i> | | | |
| | <i>CO7</i> | | | |
| The Correlation of CO to Learning Materials and Methods, and Time Allocation | | Learning Materials | Learning Methods | Time Allocation |
| | | | | |
| | <i>CO1</i> | | | 8 x 50 minutes |
| | <i>CO1</i> | | | 8 x 50 minutes |
| | <i>CO1</i> | | | 8 x 50 minutes |
| | <i>CO2</i> | | | 8 x 50 minutes |
| | <i>CO2</i> | | | 8 x 50 minutes |
| | <i>CO2</i> | | | 8 x 50 minutes |
| | <i>CO2</i> | | | 8 x 50 minutes |
| | | | | |
| | <i>CO3</i> | | | 8 x 50 minutes |
| | <i>CO3</i> | | | 8 x 50 minutes |
| | <i>CO3</i> | | | 8 x 50 minutes |
| | <i>CO4</i> | | | 8 x 50 minutes |
| | <i>CO4</i> | | | 8 x 50 minutes |
| | <i>CO4</i> | | | 8 x 50 minutes |

