UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF PHYSICS EDUCATION
PHYSICS STUDY PROGRAM
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Bachelor of Physics **MODULE HANDBOOK**

Module name:	Reactor Physics
Module level, if applicable:	Undergraduate Programme
Code:	FSK6364
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	5
Module coordinator:	Dr. Rida SN Mahmudah, M.Si.
Lecturer(s):	Dr. Rida SN Mahmudah, M.Si.
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective 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 individual study per week for 16 weeks.
Credit points:	3 sks (4.86 ECTS)
Prerequisites course(s):	FSK6226
Course Outcomes	Students graduating from this course will be able to: CO1. Demonstrate collaborative attitude and independence in carrying out individual tasks and group assignments CO2. Understand the basic concept of nuclear reactor theory CO3. Mastering the reactor systems and types CO4. Understand the reactor design and reactor safety

<table>
<tr><td>Content:</td><td>This course discusses the neutronics of thermal nuclear reactors, as well as their types, design and safety aspects.</td></tr>
<tr><td>Study / exam achievements:</td><td>Attitude assessment is carried out at each meeting by observing several achievements, i.e. attendance, engagement in class activities, language usage and ethics. Results of these observations are not being a component of the final grades, but students must attend at least 12 of the 16 classes and have generally good attitude to pass the course.

The final grade will be weighted as follow:

<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO2, CO3, and CO4</td><td>a. Individual Assignment
b. Group Assignment
c. Quiz
d. Case Study
e. Final Exam</td><td>Presentation / written test</td><td>15%
15%
15%
25%
30%</td></tr>
<tr><td colspan="3"></td><td>Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Forms of media:</td><td>Board, LCD Projector, Laptop/Computer</td></tr>
<tr><td>Literature:</td><td>1. Duderstadt and Hamilton, “Nuclear Reactor Analysis”, John Wiley and Sons, 1976.
2. John R. Lamarsh, “Introduction to Nuclear Reactor Physics”, Addison-Wesley, 1966.
3. A review on the development of nuclear power reactors, Mark Ho, Edward Obbard, et al., Energy Procedia (2019) 459–466, https://doi.org/10.1016/j.egypro.2019.02.193</td></tr>
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PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
CO1	✓							

CO2		✓						
CO3		✓			✓			
CO4					✓			