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Undergraduate Programme in Physics

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MODULE HANDBOOK

Module Name	Geothermal Exploration
Module level, if applicable	Bachelor
Code, if applicable	FIS425054
Subtitle, if applicable	-
Courses, if applicable	Geothermal Exploration
Semester(s) in which the module is taught	6th (sixth)
Person responsible for the module	Dr. Thaqibul Fikri Niyartama, S.Si., M.Si
Lecturer(s)	Dr. Thaqibul Fikri Niyartama, S.Si., M.Si
Language	Indonesia
Relation to curriculum	Elective course in the third year (6th semester) Bachelor Degree
Type of teaching, contact hours	150 minutes lectures and 180 minutes structured activities per week.
Workload	Total workload is 136 hours per semester, which consists of 150 minutes lectures per week for 14 weeks, 180 minutes structured activities per week, 180 minutes individual study per week, in total is 16 weeks per semester, including mid exam and final exam
Credit points	3
Requirements according to the examination regulations	
Recommended prerequisites	No prerequisites stated on
Module objectives/intended learning outcomes	After completing this course, the students: CO 1. able to compare and demonstrate various alternative energies to replace hydrocarbons as well as the relationship between plate tectonics and geothermal potential on earth in a structured manner.; CO 2. able to explain the geothermal system and its manifestations and show the working mechanism in geothermal exploration clearly and measurably CO 3. able to explain the relationship between geological, geophysical and geochemical methods in geothermal exploration and geothermal exploration case studies systematically and clearly.
Content	a. Strategic review of geothermal exploration as an alternative energy b. Plate tectonics and the distribution of geothermal potential c. Geothermal systems and their manifestations d. Geothermal energy exploration technology and its stages e. Study of geological-geophysical-geochemical data on geothermal potential prospect areas f. Geothermal exploration case study

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<table>
<tr>
<td>Study and examination requirements and forms of examination</td>
<td>The final mark will be weighted as follows:
<table>
<tr><th>NO</th><th>Assessment methods (components, activities)</th><th>Weight (percentage)</th></tr>
<tr><td>1</td><td>Final Examination</td><td>40%</td></tr>
<tr><td>2</td><td>Mid-Term Examination</td><td>30%</td></tr>
<tr><td>3</td><td>Class Activities: Quiz, Homework, etc.</td><td>30%</td></tr>
</table>
The final assessment is expressed in the form of a letter value converted from a number value with the following categories:
<table>
<tr><th>NO</th><th>Number Value</th><th>Letter Value</th><th>NO</th><th>Number Value</th><th>Letter Value</th></tr>
<tr><td>1</td><td>≥ 95</td><td>A</td><td>7</td><td>65-69.99</td><td>B/C</td></tr>
<tr><td>2</td><td>90-94.99</td><td>A-</td><td>8</td><td>60-64.99</td><td>C+</td></tr>
<tr><td>3</td><td>85-89.99</td><td>A/B</td><td>9</td><td>55-59.99</td><td>C</td></tr>
<tr><td>4</td><td>80-84.99</td><td>B+</td><td>10</td><td>50-54.99</td><td>C-</td></tr>
<tr><td>5</td><td>75-79.99</td><td>B</td><td>11</td><td>55-34.99</td><td>D</td></tr>
<tr><td>6</td><td>70-74.99</td><td>B-</td><td>12</td><td><35</td><td>E</td></tr>
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<tr><td>Media employed</td><td>White-board, Lcd Projector, e-learning (https://daring.uin-suka.ac.id/)</td></tr>
<tr><td>Reading list</td><td>1. Huanges, E., Ledru, P., 2010, Geothermal energy systems, exploration, development, and utilization, Wiley.
2. Harsh, Gupta., and Roy, S., 2008, Geothermal Energy, Elsevier.</td></tr>
</table>

PLO and CO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9
CO 1		√	√	√					
CO 2		√	√	√					
CO 3		√	√	√					