**Environmental Studies in Physics Learning**

<table>
<tr><td>Module Name :</td><td colspan="2">Environmental Studies in Physics Learning</td></tr>
<tr><td>Module Level :</td><td colspan="2">Undergraduate</td></tr>
<tr><td>Code :</td><td colspan="2">32259012</td></tr>
<tr><td>Sub-heading, if applicable :</td><td colspan="2"></td></tr>
<tr><td>Classes, if applicable :</td><td colspan="2"></td></tr>
<tr><td>Semester :</td><td colspan="2">5st/6st/8st</td></tr>
<tr><td>Module coordinator :</td><td colspan="2">Prof. Dr. Sunaryo, M.Si.</td></tr>
<tr><td>Lecturer(s) :</td><td colspan="2">Prof. Dr. Sunaryo, M.Si.</td></tr>
<tr><td>Language :</td><td colspan="2">Indonesian</td></tr>
<tr><td>Classification within the curriculum :</td><td colspan="2">Compulsory course</td></tr>
<tr><td>Type of Teaching</td><td>Contact hours per week during the semester</td><td>Class Size</td></tr>
<tr><td>Lecture (Expository, discussion, exercise)</td><td>100 minutes</td><td>40</td></tr>
<tr><td>Workload</td><td colspan="2">Total workload of this course 90,6 hours (3 ECTS) per semester which consist of 26,67 hours (0,89 ECTS) classroom activity, 32 hours (1.06 ECTS) structured task, and 32 hours (1.06 ECTS) per semester.</td></tr>
<tr><td>Credit points :</td><td colspan="2">3 ECTS</td></tr>
<tr><td>Prerequisite course(s) :</td><td colspan="2">-</td></tr>
<tr><td>Course Outcomes :</td><td colspan="2">After taking this course the student have ability to :<br>CLO150. Able to master the basic principles of the environment for learning<br>CLO151. Able to solve problems related to the environment for learning<br>CLO152. Able to master new scientific facts using the basic principles of environmental studies</td></tr>
<tr><td>Content :</td><td colspan="2">1. Understanding of the educational environment<br>2. The influence of the environment on education<br>3. Function of environment in education<br>4. The role of environment in education<br>5. Implementation of environmental knowledge for learning</td></tr>
<tr><td>Study/exam achievements:</td><td colspan="2">Examination are conducted as unit test, as following
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<tr><th>No</th><th>Assesment Object</th><th>Assesment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>Case-based learning</td><td>Project Assessment (for group project assignments)</td><td>55%</td></tr>
<tr><td>2</td><td>Midterm Test</td><td>Written test</td><td>15%</td></tr>
<tr><td>3</td><td>Final Test</td><td>Written test</td><td>20%</td></tr>
<tr><td>4</td><td>Attendance</td><td>Presence list</td><td>10%</td></tr>
</table></td></tr>
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| Media : | Laptop/Computer, Smartphone, Camera, Tripod/Other Support. |
| Literatures : | 1. RPS matatakuliah Fisika Lingkungan<br>2. Nur'islamia, A. S., Indrasarib, W., & Budic, E. Characterization of Soil pH and Conductivity Sensors in the Design of Soil Quality Measurement System.<br>3. Sari, Z. A. K., Permana, H., & Indrasari, W. (2017). Characterization of Photodiode, DS18B20, and Conductivity Sensors in the Design of a System for Detecting Turbidity and the Amount of Dissolved Solids in Water. Spektra: Journal of Physics and Its Applications, 2(2), 149-156.<br>4. Jansen, Freddy et al. (2011). Levels of CO Air Pollution Due to Traffic with Micro-scale Air Pollution Prediction Model. Scientific Journal of Media Engineering. Vol 1, 2(119-126).<br>5. Kencanawati, C. I. 2017. Teaching Materials for Acoustics, Noise, and Sound Absorbing Materials. Denpasar: Udayana University.<br>6. Yulianto, Bambang & Darjati. 2017. Environmental Physics. Jakarta: PPSDM Ministry of Health of the Republic of Indonesia.<br>7. Andayani, M., Indrasari, W., & Iswanto, B. H. (2016, October). Calibration of HC-SR04 Ultrasonic Sensor as a Distance Detection Sensor in the Prototype of Early Warning System for Flood Disaster. In PROCEEDINGS OF THE NATIONAL SEMINAR ON PHYSICS (E-JOURNAL) (Vol. 5, pp. SNF2016-CIP).<br>8. Sakinah, F., Indrasari, W., & Umiatin, U. (2022). MEASUREMENT OF POLLUTED WATER QUALITY WITH MICROPLASTIC WASTE BASED ON PHYSICAL PARAMETERS. PROCEEDINGS OF THE NATIONAL SEMINAR ON PHYSICS (E-JOURNAL), 10(1), FA-89.<br>9. Wirawan, R., Djamal, M., Hartono, A., Sanjaya, E., Indrasari, W., & RAMLI, R. (2012). Application of Ultrasonic Sensor for Low-Frequency Vibration Measurement.<br>10. Purnomo, T. (2023). 4.2 Water Characteristics. Environmental Pollution, 45.<br>11. Watts, D. G. (2022). Environmental studies. Taylor & Francis.<br>12. Li, Y., & Singh, C. (2021). Effect of gender, self-efficacy, and interest on perception of the learning environment and outcomes in calculus-based introductory physics courses. Physical Review Physics Education Research, 17(1), 010143. |

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| | 13. Yao, H., Li, X., & Yang, X. (2022). Physics-aware learning-based vehicle trajectory prediction of congested traffic in a connected vehicle environment. IEEE Transactions on Vehicular Technology, 72(1), 102-112.<br>14. Yusuf, R., Yunus, M., Maimun, M., & Fajri, I. (2022). Environmental Education: A Correlational Study among Environmental Literacy, Disaster Knowledge, Environmental Sensitivity, and Clean-Living Behavior of Post Tsunami Disaster in Aceh Communities, Indonesia. Polish Journal of Environmental Studies, 31(1).<br>15. Torzoni, M., Rosafalco, L., Manzoni, A., Mariani, S., & Corigliano, A. (2022). SHM under varying environmental conditions: An approach based on model order reduction and deep learning. Computers & Structures, 266, 106790. |