Course Module

Ecosystem-specific Ecology

Faculty of Forestry

Mulawarman University

Module name	Ecosystem-specific Ecology
Modul level, if applicable	Graduates Programme
Code, if applicable	190401802P012
Subtitle, if applicable	
Courses, if applicable	Regular
Semester(s) in which the module is taught	II (two)
Person responsible for the module	Dr. Rachmat B. Suba, S.Hut., M. Sc.
Lecturer	Dr. Rachmat Budiwijaya Suba, S.Hut., M.Sc.
Language	Indonesia
Relation to curriculum	Compulsory
Type of teaching, contact hours	Lecture, 1 lecture contact hours
Workload	Number of meetings per semester: 16 meetings (14 meetings for learning activity, 1 meeting for mid semester, 1 meeting for final examination) 2 x 50 minutes lectures, 2 x 60 minutes structured assignment, 2 x 60 minutes individual activity, with a total time of 4760 minutes or equivalent to a total of 79.3 hours in 14 weeks per semester
Credit points	2 SKS (3.2 ECTS) Details: 1 Credit = 170 min/week 1 Credit = 170 min x 14 week = 2,380 min/semester 1 ECTS = 25 h / semester 1 Credit = 2,380 / 60 / 25 = 1.59 = 1.6 ECTS 2 Credit = 1.6 x 2 = 3.2 ECTS
Requirements according to the examination regulations	Have attended not less than 80% class meetings
Recommended prerequisites	
Module objectives/intended learning outcomes	**Intended Learning Outcomes** **Engineering Analysis** **ILO-2** : Mastering specialized knowledge, skills and techniques in the field of forestry and tropical environment and being able to develop innovative theories, models and methods in their field. **Investigation**

	ILO-3 : Able to analyze current problems and issues, and assess the ecological, social, and economic impacts of implementing programs in the forestry and tropical environmental sectors. **<u>Engineering Design and Practice</u>** **ILO-4 :** Develop research schemes based on inter or multidisciplinary approaches to tropical forestry and the environment, and communicate the results to the public. **<u>Course Learning Outcomes</u>** **<u>Engineering Analysis</u>** **CLO-2 :**Students are able to analyze current problems and issues, and assess the ecological, social, and economic impacts of implementing programs in the forestry sector and tropical forest environment in the realm of philosophy of science **<u>Investigation</u>** **CLO-3 : S**tudents are able to compile research schemes based on inter- or multi-disciplinary approaches to forestry and tropical forest environment, and communicate the results to the public based on the concept of philosophy of science **<u>Engineering Design and Practice</u>** **CLO-4 :** Students are able to work together in teams, and are responsible for achieving group work results and the performance of the forestry sector and tropical forest environment system in the application of philosophy of science.
Content	This course discusses the characteristics, dynamics, and functions of specific ecosystems in tropical forests, such as mangrove ecosystems, peat swamps, lowland forests, and mountain forests. Students will learn the relationship between biotic and abiotic components, ecosystem analysis techniques, and innovative approaches in the management and conservation of specific ecosystems. In addition, this course also emphasizes the analysis of current issues, evaluation of ecological, social, and economic impacts, and the design of research based on a multidisciplinary approach that is relevant to addressing ecosystem conservation challenges. Students are expected to be able to develop data-based solutions to support the sustainability of tropical forest ecosystems. After attending this course, students have the ability to: 1. describe the characteristics of specific ecosystems (mangroves, peat swamps, lowland forests, etc.) in tropical forest areas. **(CLO-1)**

<table>
<tr><td></td><td>2. identify the relationships between biotic and abiotic components in specific tropical forest ecosystems. (CLO-1)
3. develop innovative models or approaches for sustainable management of specific ecosystems. (CLO-1)
4. identify and analyze current issues related to damage and threats to specific ecosystems. (CLO-2)
5. evaluate the ecological, social, and economic impacts of human activities on specific tropical forest ecosystems. (CLO-2)
6. develop data-based recommendations for mitigation and adaptation to the impacts of specific ecosystem damage. (CLO-2)
7. design research proposals based on a multidisciplinary approach to address problems in specific tropical forest ecosystems. (CLO-3)
8. select and apply relevant research methods for ecological studies of specific ecosystems. (CLO-3)
9. prepare research reports that comply with scientific standards and present them in academic forums or scientific publications. (CLO-3)</td></tr>
<tr><td>Study and examination requirements and forms of examination</td><td>Evaluation and assessment of the learning process are following scheme 5 in the Academic Regulations of Mulawarman University:
<table>
<tr><th>No.</th><th>Objects of Assessment</th><th>Forms of Assessment</th><th>Quantity (%)</th></tr>
<tr><td>1</td><td>Affective</td><td>Participation</td><td>10</td></tr>
<tr><td>2</td><td>Assignment/Case study</td><td>Group presentation</td><td>25</td></tr>
<tr><td>3</td><td>Project</td><td>Presentation</td><td>25</td></tr>
<tr><td>4</td><td>Mid-semester test</td><td>Written test</td><td>15</td></tr>
<tr><td>5</td><td>Final semester test</td><td>Written test</td><td>25</td></tr>
<tr><td colspan="3">TOTAL</td><td>100</td></tr>
</table></td></tr>
<tr><td>Media employed</td><td>Class, MS. Powerpoint, Ms.Word, Laptop, LCD</td></tr>
<tr><td>Reading list</td><td>1. Gramedia. (n.d.). Mengenal Jenis Hutan di Indonesia Beserta Ciri-Cirinya.
2. LindungiHutan. (n.d.). 9 Jenis Hutan dan Ciri-ciri Hutan di Indonesia.
3. Universitas Papua. (2019). Tipe dan Penyebaran Ekosistem Hutan di Pulau Mansinam. Jurnal Papua Asia, 11(1), 45-56.
4. Undip. (2019). Hubungan Faktor Biotik dan Abiotik Terhadap Keanekaragaman. Jurnal Kelautan Tropis, 22(2), 123-135.
5. Orami. (2022). Ekosistem Hutan: Pengertian, Komponen, Tipe, dan Fungsinya.
6. Universitas Negeri Surabaya. (n.d.). Ekologi Hutan.</td></tr>
</table>

	7. Badan Informasi Geospasial. (2012). Karakteristik Geometri Hutan Hujan Tropis Dataran Rendah di Kalimantan Tengah, Indonesia dan Sabah, Malaysia.