6. Biodiversity and Ecosystem

Module designation	Biodiversity and Ecosystem
Code, if applicable	C IL 2 3 826
Semester(s) in which the module is taught	2nd
Person responsible for the module	Prof. Dr. Tri Retnaningsih Soeprobowati, M.App.Sc.
Language	*Indonesian and English*
Relation to curriculum	*Elective*
Type of teaching, contact hours	• Regular meeting with Lecturer 16 times (40 hours with total contact hour per teaching is 2.5 hours weekly for 16 weeks). This activity consists of Lecture: 80 minutes; Q&A: 20 minutes; Discussion: 30 minutes; Presentation: 20 minutes. • Independent work on reading materials and literature review (48 hours, 3 hours weekly for 16 weeks). • Preparing paper and final personal assignment (40 hours, 2.5 hours weekly for 16 weeks). • Personal work on reflecting the course's gained knowledge to the student's research topic (22 hours, 1.35 hour weekly for 16 weeks). Total contact hours in 1 semester = 150 hours
Student Workload for One ECTS	• Face-to-face Lecturers in class (6.67 hours) • Independent work (reading books, materials, papers, literature review, etc. : 8 hours) • Preparing paper and structured assignments (doing homework or assignments given by lecturers : 6.67 hours) • Personal work on reflecting the course's gained knowledge to the student's research topic (3.67 hours) • Total workload for one ECTS = 25 hours
Laboratory Work	*There is no required laboratory work for this course*
Credit points	*2 SKS which is equivalent to 6 ECTS*
Requirements according to the examination regulations	*Minimum attendance of lectures 75%*
Required and recommended prerequisites for joining the module	*Existing competencies in ecology*

Module objectives/intended learning outcomes	• *Able to examine the potential of biological resources in terrestrial (land) and coastal marine areas.* • *Able to examine the relationship between humans, the natural environment, and the social environment as an ecosystem in utilizing natural resources in their environment.* • *Able to analyze the causes of changes in biodiversity.* • *Able to analyze biodiversity management strategies.*
Content	• Ecology and biodiversity of marine biological resources, • damage to ecosystems of marine biological resources, • ecology and diversity of terrestrial biological resources, POAC, • class discussion (approach to environmental management from bio geophysical, social, economic, cultural aspects).
Exams and assessment formats	*One oral Midterm assessment (15 minutes each), one final oral exam (20 minutes), take-home written assignments.*
Study and examination requirements	
Reading list	Loreau, M. and De Mazancourt, C., 2013. Biodiversity and Ecosystem Stability: A Synthesis of Underlying Mechanisms. *Ecology letters*, *16*, pp.106-115. Naeem, S., & Li, S. (1997). Biodiversity Enhances Ecosystem Reliability. Nature, 390(6659), 507-509. Schulze, E.D. and Mooney, H.A. eds., 2012. *Biodiversity and Ecosystem Function*. Springer Science & Business Media. Scherer-Lorenzen, M., Gessner, M. O., Beisner, B. E., Messier, C., Paquette, A., Petermann, J. S., ... & Nock, C. A. (2022). Pathways for Cross-Boundary Effects of Biodiversity on Ecosystem Functioning. Trends in Ecology & Evolution. Sudharto, P.H., 2013. Manusia dan Lingkungan. *Balai Pustaka: Undip*. Tilman, D., Isbell, F. and Cowles, J.M., 2014. Biodiversity and Ecosystem functioning. *Annual Review of Ecology, Evolution, and Systematics*, *45*, pp.471-493.