THE MODULE HANDBOOK
DOCTOR BIOLOGICAL SCIENCES STUDY PROGRAM
FACULTY OF BIOLOGY

SELECTED TOPIC FOR DISSERTATIONS

Terrestrial Ecology

Course code	BIDB243030
Course level	Doctoral Program
Semester/ term	Odd/even
Course coordinator	Prof. Dr. rer. nat. Andhika Puspito Nugroho
Lecture(s)	Prof. Dr. rer. nat. Andhika Puspito Nugroho Siti Nurleily Marliana, Ph.D. Mukhlish Jamal Musa Holle, D.Phil.
Language	Indonesian/English
Classification within the Curriculum	Compulsory Specialization Courses
Teaching format/ class hours per week during the semester	This course is planned to have 14 teaching weeks and 2 weeks of examination.
Workload	1,125 hours/day 5 days/week 5,625 hours/week 16 Weeks/Semester total workload : 90 hours/3,6 ECTS
Credits	3.6 ECTS
Requirements	-
Program Learning Outcome	CPL 1.1. pon completing this program, the graduates demonstrate an attitude of being able to contribute to improving the quality of life in society, nation and state, and the progress of civilization based on Pancasila CPL 2.2. After attending this program, graduates demonstrate an understanding of substantial and leading theory in the field of biology/biological resources in order to support education for sustainable development CPL 3.1. After completing this program, the graduates will be able to discover or develop new scientific theories/concepts/ideas in biology CPL 4.2. After participating in this program, graduates will be able to propose new solutions or recommend proposed solutions to solve biological resource problems in a

	sustainable manner through an interdisciplinary or multidisciplinary approach to fund deduction or induction
Course Learning Outcome	BIDB243030.1 By the end of this course, students will be able to explain the fundamental concepts underlying ecology. BIDB243030.2 By the end of this course, students will be able to explain the characteristics and dynamics of ecological communities, both spatially and temporally, along with the factors that shape them. BIDB243030.3 By the end of this course, students will be able to identify and explain the biotic environmental factors that influence the dynamics of ecological communities, including species interactions and the evolutionary history that shapes the types and persistence of these interactions. BIDB243030.4 By the end of this course, students will be able to explain the types and mechanisms of abiotic environmental factors that influence the formation and sustainability of ecological communities BIDB243030. 5 By the end of this course, students will be able to demonstrate an understanding of the application of fundamental ecological principles in species conservation strategies; identify and synthesize current issues related to global ecological community challenges driven by human activities; and critically consider potential solutions and anticipatory measures to address these problems. BIDB243030. 6 By the end of this course, students will be able to demonstrate mastery of the topics studied by effectively communicating ideas and reflections on various environmental issues, both orally and in written form
Course Description	Terrestrial Ecology introduces students to the understanding of processes and patterns within ecological communities by integrating key concepts from ecology, biogeography, biodiversity, conservation, and other relevant scientific disciplines. The course offers both theoretical and experimental approaches, supported by a range of real-world case studies. Overall, this course aims to provide students with a comprehensive and up-to-date understanding of community ecology, including the historical development of the scientific knowledge that shapes current perspectives in the field. Topics covered include the concept of ecological communities, community stability (succession), species interactions (mutualism, competition, predation, and energy flow in trophic chains), island biogeography, metacommunities, and the effects of environmental change due to

	human activities—such as invasive species and disturbances—on ecological communities.
Assessments	The assessment for Selected Topic for Dissertations (Terrestrial Ecology) is based on three main components, with the respective criteria and weights: A. Participatory Activity (25%) • Participation (25%) B. Project (25%) • Project Result/Case Study/Project Based Learning result (25%) C. Kognitif • Quiz (10%) • Mid-term Exam (20%) • Final-term Exam (20%)
Study Media and Literature	**Main** 1. Audesirk T, Audesirk G, Byers BE. 2017. Biology: Life on earth with physiology. 11th edition. Essex (UK): Pearson Education. 2. Gotelli NJ. 2008. A primer of ecology. 4th ed. Sinauer Associates. 3. Molles MC Jr. 2016. Ecology: concepts and applications, 7th edition, NY: McGraw-Hill Education. 4. Morin PJ. 2011. Community ecology. 2nd ed. Chichester: Wiley-Blackwell. 5. Ricklefs RE. 2008. The Economy of Nature. 6th ed. NY: W. H. Freeman and Company. 6. Smith TM & Smith RL. 2015. Elements of Ecology. 9th ed. Essex (UK): Pearson Education Ltd. **Additional** 1. Begon M, Townsend CR, Harper JL. 2006. Ecology: from individuals to ecosystems. 4th ed. Chichester: Wiley-Blackwell. 2. Any journals related to topic