	UNIVERSITAS PADJADJARAN **FACULTY OF MATHEMATICS AND NATURAL SCIENCES** **MASTER OF SCIENCE IN BIOLOGY**	**COURSE CODE:** D20D-1108
Module designation	Biodiversity, Ecosystem Services, and Climate Change.	
Semester(s) in which themodule is taught	1	
Person(s) responsible for the module	1. Prof. Parikesit, M.Sc., Ph.D 2. Dr. Susanti Withaningsih, M.Si 3. Dr. Keukeu K. Rosada, M.Si 4. Dr. Budi Irawan, M.Si 5. Dr. Suryana, M.Si	
Medium of instruction	English and Indonesian	
Relation to curriculum	Compulsory Master of Science in Biology	
Teaching methods	Lecture, discussion, Cooperative Learning and Problem Based Learning	
Workload	Total workload: 8160 minutes (136 hours) **CLASS** Lecture, Discussion, Cooperative Learning and Problem Based Learning : 3 x 50'x 16 weeks = 2400 minutes (40 hours) Exercise : 3 x 60'x 16 weeks = 2880 minutes (48 hours) Private study : 3 x 60'x 16 weeks = 2880 minutes (48 hours)	
Credit points	3.00 SKS (5.43 ECTS)	

Required and recommended prerequisites for joining the module	-

Module objectives/intendedlearning outcomes	1. After completing this course, the student able to explain the basic principles of biodiversity, ecosystem services, and climate change. 2. After completing this course, the student able to explain the development of biodiversity science through various other disciplines using a transdisciplinary approach. 3. After completing this course, Students are able to connect biodiversity with ecosystem services for human well-being. 4. Students are able to examine biodiversity as a luxury or a necessity. 5. Students are able to assess the economics of biodiversity. 6. Students are able to develop action plans for biodiversity management in response to climate change.

Contents	The course Biodiversity, Ecosystem Services, and Climate Change is a mandatory course for students in the first semester. After studying the basic concepts and relationships between biodiversity, ecosystem services, and climate change, as well as various issues related to biodiversity management and conservation, students will have the ability to explain the meaning of biodiversity and the importance of biodiversity for the sustainability of human life on Earth. Additionally, students will understand the processes, structures, and services of biodiversity from a social perspective and the link between biodiversity and climate change. Another competency is that students will be able to explain the connection between ecosystem services and climate change in the development process and develop action plans for biodiversity management in response to climate change. At the end of the course, their achievement will be assessed at least through assignments and essays.

Examination forms	Essay and written examination
Study and examination requirements	Minimum attendance at lectures is 80%. Final score is evaluated based on assignment and group case study reports (20%), Assignment (20%), mid semester exam (30%), and end semester exam (30%).
Reading lists	1. Bappenas. 2015. Strategi dan Rencana Aksi Keanekaragaman Hayati Indonesia 2015-2020. Bappenas. Jakarta. 2. Edward.O.Wilson. 1992. The Diversity of Life. W.W. Norton & Company. 3. Fahrig, L. 2003. Effect of Habitat Fragmentation on Biodiversity. Ann. Rev. Ecol.Evol.Syst. 34:487-515. 4. Kantor Menteri Negara Lingkungan Hidup.1997.Agenda 21 Indonesia : A National Strategy for Sustainable Development. KMNLH dan UNDP. Jakarta. 5. Ines Omann, Andrea Stocker, Jill Jager. 2009. Climate Changes as a Threat to Biodiversity : An Application of the DPSIR Approach. Ecological Economics. Elsevier. 6. Jocelyn F, Jacques L, Paul C, Max D , Pascal M. 2010. Managing Agricultural Change for Biodiversity Conservation in a Mediteraanean upland. Biological Conservation. Elsevier. 7. Joshua J Lawler. 2009. Climate Change Adaptation Strategies for Resources Management and Conservation Planning. The Year in Ecology and Conservation Biology. New York Academy of Sciences. 8. Marcelo Tabarelli. 2010. Tropical Biodiversity in Human-Modified Landscape : What is our Trump Card. Biotropica. 9. Vermeulen, S dan Koziell, I. 2002. Integrating Global and Local Values. A review of Biodiversity Assessment. International Institute for Environment and Development, London. UK. 10. Wright, S.J. 2005. Tropical Forests in a Changing Environment. Trends Ecol. Evol. 20 : 553-560