


MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES BACHELOR OF BIOLOGY PROGRAMME	COURSE CODE: D10D-50608
Module designation	Ecotoxicology	
Semester in which the module is taught	5	
Persons responsible for the module	1. Prof. Sunardi 2. Dr. rer. nat. Tri Dewi Kusumaningrum Pribadi 3. Dr. Keukeu Kaniawati Rosada	
Medium of instruction	Indonesian	
Relation to curriculum	Compulsory course	
Teaching methods	Student-Centered Learning, Project-based Learning, Collaborative Learning	
Workload	Total workload : 5440 minutes = 90.67 hours Lecture and discussion : 2 x 50 minutes x 16 weeks = 1600 minutes = 13.33 hours Exercises : 2 x 60 minutes x 16 weeks = 1920 minutes = 32 hours Self-study : 2 x 60 minutes x 16 weeks = 1920 minutes = 32 hours	
Credit points	2.00 (3.62 ECTS)	
Required and recommended prerequisites for joining the module	Basic biology	
Module objectives/intended learning outcomes	1. Students are able to classify types of pollutants based on their toxicological properties 2. Students are able to map the transport flow of pollutants in ecosystems 3. Students are able to develop early warning systems 4. Students are able to compare the effectiveness of bioremediation agents 5. Students are able to visualize ecotoxicology risk data 6. Students are able to mediate conflicts of interest related to pollution	
Contents	1. Basic concepts, scope, and history of ecotoxicology. 2. Exposure pathways, distribution, transformation, and bioaccumulation of toxic substances in the environment. 3. Types and sources of toxicants. 4. Types of pollutants and their impact on organisms and ecosystems. 5. Evaluation of toxicity data (acute and subacute) to assess the risk of toxicants..	
Examination forms	Quiz, Midterm exam, Assignment, and Final exam	
Study and examination requirements	The minimum attendance in lectures is 80%. Final grades are evaluated based on quiz (10%), midterm exam (15%), assignment (10%), final exam (15%), project and participation (50%)	
Reading lists	1. Elliott, J.E, C.A. Bishop, and C.A. Morrissey. 2011. <i>Wildlife Ecotoxicology</i> . Springer. England. 2. Gagne, F. 2014. <i>Biochemical Ecotoxicology</i> . Elsevier. England. 3. Walker, C. 2014. <i>Ecotoxicology: Effects of Pollutants on the Natural Environment</i> . CRC Press. England. 4. Walker, C.H., R.M. Sibly, S.P. Hopkin, and D.B. Peakall. 2012. CRC Press. England. 5. Gross, E., & Garric, J. (Eds.). (2019). <i>Ecotoxicology: New challenges and new approaches</i> . ISTE Press - Elsevier. 6. Sparling, D. W. (2016). <i>Ecotoxicology essentials: Environmental contaminants and their biological effects on animals and plants</i> . Academic Press, Cambridge, MA.	