



University of Gadjah Mada
Faculty of Forestry
Study Program of Doctor in Forestry Science
Module Handbook

Name (Code)	: Advanced Wildlife Management (KTDK22811)					
ECTS Type Status	: 7.5 Class lecture Elective					
Semester OfL:OnL Ratio LMS	: 2 60:40 elok.ugm.ac.id					
Pre-Requisite	: -					
Description of content	: This course discusses the interrelationship between habitat and wildlife populations in depth. This discussion is an important material in the preparation of hypotheses and or research questions to be studied through empirical research. The lecture begins by discussing the theory of resource selection, which is deepened with examples of space and food selection by wildlife. The next material is about the impact of resource selection on population dynamics and distribution, including metapopulations. The understanding of wildlife habitat-population interrelationship is further discussed in the context of conservation of wildlife populations, especially small populations. At the end of the lecture, molecular techniques used to study these interrelationships will be discussed. The final lecture provides students with an introduction to one of the latest technologies that can be applied to ecological research, including wildlife.					
Course Outcomes and PLO mandated	Finishing this course, student will be able to connect the theory of wildlife habitat ecology with the concept of resource utilization (food and space) in tropical ecosystems (CO1/PLO3), to identify the relationship between the theory of dynamics and the distribution of populations in conservation of wildlife populations in tropical ecosystems (CO2/PLO4), and to determine appropriate molecular techniques to study relationships between habitats and wildlife populations (CO3/PLO7).					
Lecturer(s)	1. Dr. Sena Adi Subrata, S.Hut., M.Sc 2. Dr. Muhammad Ali Imron, S.Hut., M.Sc 3. Dr. Sandy Nurvianto, S.Hut., M.Sc					
Workload	: Total workload per semester is for 14 weeks, with weekly activities: 2*(50' lectures, 60' structured activities, 60' independent study), and 2 mid-exam and final exam weeks.					
Learning Method	: Class Lecture and Discussion					
Student Learning Experience	: Actively discuss the class material and research cases, structured assignment, group work, quiz, material reflection, review of literature and problem in forestry sectors					
Mapping CO-syllabus	CLO	Syllabus	Learning form			Meetings
	1	1. Basic ecological theory for wildlife habitat management (1) 2. Basic ecological theory for wildlife habitat management (2) 3. Basic ecological theory for wildlife habitat management 4. Use of space and movement of wildlife 5. Behavior as a basis for selection of wild animal feed	Class lecture, discussion, and assignment			4
	2	6. Wildlife population dynamics: size determinants 7. Wildlife population dynamics: modeling to assess population dynamics over time 8. Metapopulation: characteristics of population size, habitat size, and distance 9. Metapopulation: consequences on the dynamics of species diversity and population size 10. Small population conservation	Class lecture, discussion, and assignment			5
	3	11. Applied molecular principles of wildlife ecology 12. Selection of molecular markers for wildlife studies 13. Molecular ecology research workflow for wildlife 14. Techniques for identification of sex and species of wild animals 15. Wild animal individual identification techniques 16. Techniques for identification of sex, species, and individuals of wild animals	Class lecture, discussion, and assignment			5
Assessment method	Base of Evaluation		Component of Evaluation		CO1	CO2
	Participative activity		Assignment		√	√
	Cognitive & Psychomotoric		Mid exam		√	√
	Case Study result		Final exam/ presentation			√
				CO3	Total (%)	
				√	30	
					35	
					35	

References

1. Freeland, J.R., Kirk, H., and Petersen, S. 2011. *Molecular Ecology*. 2nd Edition. Wiley-Blackwell.
2. Linacre, A.M. and Tobe, S.S. 2013. *Wildlife DNA Analysis: Application in Forensic Science*. Wiley-Blackwell
3. Lowe, A., Haris, S., and Ashton, P. 2004. *Ecological Genetics: Design, Analysis, and Application*. 1st Edition. Wiley-Blackwell
4. Allendorf, F.W., Funk, W.C., Aitken, S.N., Byrne, M., and Luikart, G. 2022. *Conservation and the genomics of populations*. 3rd Ed. Oxford University Press.
5. Krausman, P.R. 2002. *Introduction to Wildlife Management: The Basic*. Prentice Hall. New Jersey.
6. Morrison, M., Marcot, B.M., and Mannan, R.W., 2006. *Wildlife Habitat Relationship: Concept and Application*. Island Press.
7. Sinclair, A.R.E., Fryxell, J.M., and Caughley, G. 2006. *Wildlife Ecology, Conservation, and Management*. 2nd ed. Island Press.
8. Manly, B.F.J., McDonald, L.L., Thomas, D.L., McDonald, T.L., Erickson, W.P. 2004. *Resources Selection by Animals: Statistical design and analysis for field studies*. 2nd Ed. Kluwer Academic Publishers.
9. Hanski, I. 1999. *Metapopulation ecology*. Oxford University Press.