Matrix of expected learning outcomes and courses at the Doctor Program of Forestry

Code of Course	Course Name	Intended Learning Outcomes (ILO)						
		ELO1	ELO2	ELO3	ELO4	ELO5	ELO6	ELO7
COMPULSORY COURSE								
190401902W001	Philosophy of Science	3	3	3	3	3	3	3
190401902W002	Research Methodology and International Publication	3	2	2	3	3	2	
STUDY COMPLETION ASSIGNMENTS								
190401901W003	Qualification Examination	2	2	2	2	2		
190401901W004	Colloquium I	2	2	2	2	2		
190401901W005	Colloquium II	3	3	3	3	3	3	3
190401903W006	Examination of Doctoral Dissertation	3	3	3	3	3	3	3
190401902W007	International Proceedings Publication	3	3	3	3	3	3	3
190401903W008	International Journal Publication	3	3	3	3	3	3	3
190401912W046	Dissertation (Promotion)	3	3	3	3	3	3	3
ELECTIVE COURSES								
Study Interest in Forest Management								
190401903P009	Technique and Impact of Harvesting	3	2	1	2	2	2	
190401903P010	Management of Forest Productivity	3		2	2	2		
190401903P011	Ekologi Lansekap dan Pemodelan	3	2	2	1			
190401903P012	Sosiologi Kehutanan Tropis Lembap	3	2	1	1	1		
190401903P013	Utilization and Management Strategy of Protected Forest	3	1	1	2	2		
190401903P014	Economical and Social Analysis of Forest Management	3		2	2	2	1	
190401903P015	Forest Policy	3		1	2	2	3	3
190401903P016	Valuation of Tropical Forest Ecosystem	3		2	2	1		2
Study interest in Forest Product Technology								
190401903P017	Characteristics of Wood as Construction Material	3	2	2			1	
190401903P018	Wood Preservation Technology	3	1	2	2			
190401902P019	Wooden Building Construction	3	1	2	1			

Code of Course	Course Name	Intended Learning Outcomes (ILO)						
		ELO1	ELO2	ELO3	ELO4	ELO5	ELO6	ELO7
190401902P020	Biology of Trees	3	2	1	2			
190401903P021	Wood Ultrastructures	3	1	1	1			
190401903P022	Biodeterioration and Building Protection	3	1		1	1		
190401902P023	Technology of Aromatic Plants Processing	3	2	3	1	1		
190401902P024	Technology and Products of Medicinal Plant	3	2	3			1	
190401902P025	Processing and Utilization Technology of Fiber	3	2	3			1	
190401902P026	Biorefinery	3	2	3			1	
190401902P027	Improvement of Wood Quality	3	2	2	1			
Study interest in Tropical Silviculture								
190401903P028	Nutrient Dynamics of Forest Stand	3	2		1	1	1	
190401903P029	Photosynthesis and Relations Water	3	1	1	2	2		
190401903P030	Silviculture Decision in Site Level	3	1	1	2	2	2	
190401902P031	Enhancement of Beekeeping and Honey Bee Products	3	2	3	1	1		
190401903P032	Biotechnology Application of Forest Breeding	3	1	1	2			
190401903P033	Silviculture Technique of Degraded Land	3	2	3	2	2		
190401902P034	Physiological Forest Pathology	3	2	2	1	1		
190401902P035	Biodiversity and Potential Utilization of Butterflies	3	1	2	1	1		
Study interest in Natural Resources Conservation and Ecosystem								
190401902P043	Management of Natural Resources and Environment	3	2	3	2	3	1	1
190401902P037	Conservation Strategy of Biological Resources	3	2	3	2	3	1	1
190401902P038	Management Strategy of Protected Area	3	2	2	2	3	1	
190401903P039	Rehabilitation of Degraded Land	3	2	2	1	3	2	
190401903P040	Wildlife Habitat Management	3	2	3	3	2		
190401903P041	Ecology of Tropical Large Mammals and Primates	3	2	2	2	2	3	
190401903P042	Mountaneous/Upstream Watershed Management	3	2	2	2	2	2	1

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		ELO1	ELO2	ELO3	ELO4	ELO5	ELO6	ELO7
190401902P043	Management of Natural Resources and Environment	3	2	3	3	3	2	2
190401902P044	Management of Conservation Areas	3	2	3	3	3		1
190401902P045	Restoration of Conservation Area	3	2	2	2	2	1	1

Note: 1= low, 2=medium and 3=high

Description of Expected Learning Outcomes (ELO):

ELO1: Internalize scientific values, norms and ethics.

ELO2: Able to synthesize knowledge obtained from research results with novelty and implementation.

ELO3: Able to discover and develop scientific conceptions that have novelty value, and able to develop scientific arguments as scientific solutions.

ELO4: Able to criticize theoretical philosophy and research methodology in forestry science and humid tropical environments. through interdisciplinary, multidisciplinary and transdisciplinary approaches.

ELO5: Able to demonstrate academic leadership in managing resources to prepare research plans independently, and have scientific ethics.

ELO6: Able to manage data and information to support the decision making process.

ELO7: Able to work and communicate in an international context.