

CURRICULUM DOCUMENT
UNDERGRADUATE PROGRAM IN FORESTRY



FACULTY OF FORESTRY
MULAWARMAN UNIVERSITY

2023

A. Study Program Information

1	University	Mulawarman University
2	Faculty	Forestry
3	Study Program	Forestry Undergraduate Program
4	Study Program Code	5411041
5	Level	Undergraduate Program
8	Address	Jl. Penajam Gunung Kelua Campus, Samarinda, East Kalimantan
9	Phone Number	+62541 -737081
10	E-mail address	prodi.s1@fahutan.unmul.ac.id
11	Website	https://fahutan.unmul.ac.id/
12	Permit Proof	4463/D/T/K-N/2010
13	National Accreditation Proof	3591/SK/BAN-PT/Akred/S/VI/2022
14	International Accreditation Proof	-

B. The Head Information

1	Name	Dr. Yuliansyah, S.Hut., M.P.
2	Position	Associate Professor
3	Assignment Decree	5/HK/2023
4	Start Date of Assignment	February 20, 2021
5	End Date of Assignment	December 31, 2023
6	Mobile No.	+628125525302

C. Curriculum Evaluation and Tracer Study

Curriculum Evaluation

The Study Program Curriculum Development Team was formed based on the Dean Decree Number 671/SK/2017 dated October 27, 2017 concerning the Study Program Curriculum Development Team for 2017/2018 at the Faculty of Forestry, Mulawarman University (FoF UNMUL).

The process of implementing curriculum development conducted by The Program Study of Undergraduate Program in Forestry (PS-KPS) involves external and internal stakeholders, and through alumni tracer study activities and needs assessment from users.

1. The PS-KPS conducted the development of the 2009 Curriculum in the year 2015 by repositioning some courses and in 2018.
2. Curriculum development refers to UNMUL Core Scientific Pattern (PIP), UNMUL's vision and mission, UPPS and the scientific vision of study programs referring to the UNMUL Curriculum Development Guidelines prepared by LP3M.
3. The PS-KPS conducted a tracer study of alumni and needs assessment by conducting meetings with stakeholders.
4. The PS-KPS conducted a curriculum development workshop and produced Curriculum 2019.

Implementation of Tracer Study

Mulawarman University has a technical implementing unit (*Unit Pelaksana Teknis, UPT*), in collaboration with the Mulawarman University Alumni Association (IKA UNMUL) that manages alumni data. The tracer study methodology at PS-KPS also

aligns with the tracking conducted by the Technical Implementation Unit for Career and Entrepreneurship Development (UPT Perkasa) <https://perkasa.unmul.ac.id/perkasa>. The tracer study conducted by UPT Perkasa covers the following 5 aspects: 1) coordinated tracer study implementation at the university level, 2) regular and documented tracer study activities conducted every year, 3) questionnaire content covering all core questions from the tracer study referring to DIKTI, 4) the tracer study survey targets all Universitas Mulawarman graduates (alumni) from the TS-4 to TS-2 graduates, and 5) the results of the tracer study are disseminated and used for curriculum and learning development by each faculty and study program within UNMUL.

The results show that graduates absorbed in the workforce within a waiting period of less than 6 months are 73%, those with a waiting period between 6 to 12 months are 20% and those with a waiting period exceeding 18 months are 6%. This information indicates that the PS-KPS Graduate Learning Outcomes (CPL) have competencies that can be absorbed and are competitive in the workforce. It also demonstrates that the curriculum and learning system at PS-KPS are very good.

The suitability of the job field obtained by PS-KPS graduates obtained over the three years from 2016 to 2018 is also assessed. The data shows that the results of job placements that match the background of forestry science and have a high relationship reach 35%, those with moderate relevance are 57% and only 7% for those with low relevance. This indicates good achievements and performance of the graduates, considering the challenging in the forestry sector at that time. The policy of the Ministry of Environment and Forestry with its forest rehabilitation and conservation programs has created significant job opportunities for forestry graduates.

Based on the tracer study results, feedback suggests that graduates of the Forestry Bachelor's Program can become: (1) Forestry Technical Staff, (2) Forestry Analysts, (3) Forestry Extension Officers, and (4) Forestry Entrepreneurs.

D. Foundations of Curriculum Design and Development

The curriculum is designed to develop learners' thinking abilities, prepare work skills through the education process. Educators are responsible for creating an environment conducive to the implementation of education. Educators must have a competitive advantage both in terms of intellectual and moral, so that they can be used as role models for students.

Philosophical foundation,

Perennialism is an educational philosophy centered on educators who focus on universal ideas and truths that have long been believed and remain relevant. Lecturers prioritize the transfer of knowledge to students. This philosophy aims to develop thinking skills, internalize universal and constant truth, and ensure that students understand past ideas. Perennialism stimulates students to think critically and thoughtfully and foster rational thinking. In line with the philosophy of perennialism, essentialism believes that education should be based on values that are clear and stable, and values that have a structure of truth, where proven values will bring good to individuals or society.

The philosophy of progressivism believes that every human always desires change, always evolves, and improves, so there is a demand for continuous progress, acting constructively, innovatively, and actively. This philosophy emphasizes the improvement of students' abilities through the experience of their own capabilities or independence and

always shows changes in each student. The philosophy of progressivism is very influential in the potential development of learners in gaining additional knowledge from their potential, can develop potential independently, and can be a progress or progress for learners, to achieve educational goals. To get the intended change, humans must have a flexible view of life (not rigid, not rejecting change, and not being bound by anything),

It is important to be tolerant, to always want to know and investigate, and to have an open mind. Progressivism believes that learning is a process that relies on the human mind in solving various problems in life. Since learners' lives are always moving or derived from experiences in the surrounding environment, education according to this school is a process of socialization, namely a process of growth and development of potential through experience to achieve progress and educational goals.

In the philosophy of education, reconstructionism is a movement that seeks to overhaul the old organizational structure and way of life of a culture, giving it a modern character and becoming an agreement among humans. If formal education is an integral part of the social solution in the current crisis of the adult world, then education must actively teach social change. Education should raise the awareness of learners about social issues and encourage them to actively provide solutions. Social awareness can be cultivated if learners are made brave enough to question the status quo and examine controversial issues in the upheavals and dynamics of life. Critical study and discussion will help learners see the injustice and dysfunction of certain aspects of today's adult life system and assist them in developing alternatives to conventional wisdom. The role of education is to uncover the scope of human cultural issues and build as broad an agreement as possible on fundamental goals that will organize humanity in the cultural order of the world. According to reconstructionism, an ideal global society should be under the control of the majority of people who truly govern and determine their own destiny.

Sociological foundation

The curriculum plays a role as an instrument for the transmission of culture from one generation to the next. Students as learners are expected to have three basic elements of cultural understanding: (1) cultural minimization, demonstrated by the ability to self-regulate and adapt to standards; (2) cultural adaptation, demonstrated by the ability to adjust to global interactions; and (3) cultural integration through adapting to culture to achieve harmonious functioning in life. Sociology, in its discussion, broadly covers the development of society and culture in various communities in Indonesia. Due to the diverse cultures in this country, the curriculum formulation must also adapt to the cultures that will be the object of education and recipients of its outcomes.

The sociological foundation of the curriculum consists of assumptions derived from sociology, serving as the starting point in curriculum development. Why should the curriculum be based on sociological foundations? Learners come from society, receive education both informally and formally within the community, and are directed to be able to participate in community life. The life of society and culture, with all its characteristics, must be the basis and starting point for implementing education. Therefore, the goals, content, and processes of education must be adjusted to the conditions, characteristics, wealth, and development of the community.

Historical foundation

The Faculty of Forestry is one of the four faculties that formed the foundation of Universitas Mulawarman (UNMUL) back in 1962. The establishment of UNMUL was based on the Decree of the Head of the Regional Government Level I of East Kalimantan No. 15/PPK/KDH/1962 and strengthened by the Decision of the Minister of Higher Education and Science Number 130/1962 on September 28, 1962. Subsequently, the existence of UNMUL

was confirmed by Presidential Decree Number 65 of 1963 on April 23, 1963 (Figure 1). Therefore, the anniversary (*dies natalis*) of the Faculty of Forestry is essentially the same as the anniversary of Universitas Mulawarman, which is set on September 27.

In the early days of the Faculty of Forestry, the available education level for students was the Bachelor of Science (B.Sc) degree, which took approximately 3.5 - 4 years with the obligation to write a thesis. In 1974, a Bachelor's program was introduced with the requirement to write a thesis, and those who graduated were awarded the title of Engineer (Ir.). The term "thesis" was used for the Bachelor's program, while the term "thesis" was intended for the Bachelor of Science program. In addition to regular students, this Bachelor's program was also intended for assistant lecturers at the Faculty of Forestry, especially in the first two years of new student admissions.

In 1979, the Bachelor of Forestry program, a four-year program, was officially opened, ending the Bachelor of Science program. This program included two departments: Forest Management (MH) and Forest Product Technology (THH), with the obligation to write a thesis instead of being called a thesis. The term "thesis" was eventually used as the designation for research reports for students in the master's degree program, equivalent to level two.

New regulations from the Minister of Education and Culture No. 036/U/1993 regarding Degrees and Designations of University Graduates caused the title of Engineer to no longer be given to graduates of the bachelor's level. It was replaced with a title that included the word "Sarjana" (Bachelor) plus the field of expertise. Therefore, starting from the effective date of this ministerial regulation on February 9, 1993, students who graduated from both MH and THH departments obtained the title of Sarjana Kehutanan (S.Hut.). The structural existence of departments in the Faculty of Forestry ended in 2008. Based on the Decree of the Directorate General of Higher Education No. 2447/D/T/2009 dated December 30, 2009, regarding the merger of agricultural field study programs, effective from January 1, 2008, the MH and THH departments were merged into one study program, the Forestry Study Program, which continues until today.

Currently, the Forestry Study Program for the Bachelor's degree uses the 2019 curriculum, implemented since the odd semester of 2019 for the 2019 cohort. Previous cohorts still follow the old 2008 curriculum.

Juridical foundation

1. Law of the Republic of Indonesia Number 14 of 2005 concerning Teachers and Lecturers (State Gazette of the Republic of Indonesia Year 2005 Number 157, Supplement to State Gazette of the Republic of Indonesia Number 4586).
2. Law of the Republic of Indonesia Number 12 of 2012 concerning Higher Education (State Gazette of the Republic of Indonesia Year 2012 Number 158, Supplement to State Gazette of the Republic of Indonesia Number 5336).
3. Presidential Regulation of the Republic of Indonesia Number 8 of 2012 concerning the Indonesian National Qualifications Framework (KKNI); Minister of Education and Culture Regulation of the Republic of Indonesia Number 73 of 2013 concerning the Implementation of KKNI in the Higher Education Sector.
4. Minister of Research, Technology, and Higher Education Regulation of the Republic of Indonesia Number 62 of 2016 concerning the Quality Assurance System of Higher Education; Minister of Research, Technology, and Higher Education Regulation of the Republic of Indonesia Number 59 of 2018 concerning Degrees, Competence Certificates, Professional Certificates, Titles, and Procedures for Writing Titles in Higher Education.
5. Minister of Research, Technology, and Higher Education Decree No. 123 of 2019 concerning Internships and Recognition of Internship Semester Credit Units for Bachelor's and Applied Bachelor's Programs

6. Minister of Education and Culture Regulation No. 7 of 2020 concerning the Establishment of Changes, Dissolution of State Universities, and the Establishment, Changes, Revocation of Licenses for Private Higher Education Institutions.
7. Ministry of Education and Culture Regulation No. 22 of 2020, on the Strategic Plan of the Ministry of Education and Culture.
8. Minister of Education and Culture Regulation No. 53 of 2023 concerning Quality Assurance of Higher Education.

E. Vision, Mission, Objectives

Vision: To become a leading study program that produces professional graduates actively involved in the management of tropical humid forest environments and national development.

Mission:

1. Conducting high-quality higher education by continuously improving and developing research and community service.
2. Establishing good governance in higher education.
3. Producing graduates with high competence and integrity in the field of forestry and environmental management.
4. Actively collaborating with all stakeholders in the management of tropical humid forest environments.
5. Enhancing the quality of academic community resources.
6. Providing professional services in forestry and environmental development.

Objective:

1. Producing high-quality graduates who are faithful, professional, independent, and actively contribute to the management of tropical humid forest environments and national development.
2. Producing graduates with high competence and integrity, possessing an entrepreneurial spirit in applying and developing science and technology in the fields of forestry and environmental management.
3. Creating a conducive academic atmosphere within the Forestry Study Program environment.
4. Disseminating sustainable science and technology in forestry for the welfare of society.

F. Graduate Profile

a. Graduate Profile

The profile of graduates of the PS-KPS is to become Forestry Technical Personnel, Forestry Analysts, Forestry Extension Officers and Entrepreneurs in the field of Forestry.

b. PEO Description

PEO	Description
PEO -1 Forestry Technical Personnel	Capable of serving as forestry technical personnel in companies or government agencies specializing in forestry and the environment. Possesses professional skills in forest management.

PEO -2 Forestry Analyst	Able to function as a forestry analyst in timber companies, forestry observers, and consultants with the ability to observe, analyze, process, and translate information in the form of data into comprehensive reports.
PEO -3 Forestry Extension Worker	Capable of serving as a forestry extension officers, working in NGOs, or teaching in the forestry field that proficient in facilitation methods and community mentoring, mastery of sustainable natural resource utilization, and understanding of village administration systems
PEO -4 Forestry Entrepreneurship	Competent in entrepreneurship, capable of planning, implementing, and creating employment opportunities on a small or large scale, and effectively managing them. Analyzes the economic and financial feasibility of commodities.

c. PEO Indicators

PEO	Indicator (must be measurable)
PEO -1 Forestry Technical Personnel	<ul style="list-style-type: none"> - Play a role in enhancing the role and function offorests. - Engage in sustainable forest management. - Become a field manager in the forestry sector. - Pursue higher education. - Become a civil servant in the field of forestry and environmental management.
PEO -2 Forestry Analyst	<ul style="list-style-type: none"> - Have a role in analyzing forestry and environmental issues. - Engage in research in the field of forestry. - Become a forestry observer and consultant with the ability to observe, analyze, process, and translate information into comprehensive reports.
PEO -3 Forestry Extension Worker	<ul style="list-style-type: none"> - Engage in capacity-building activities for communities around forests. - Play a role in assisting the community in preserving the forest.
PEO -4 Forestry Entrepreneurship	<ul style="list-style-type: none"> - Become an entrepreneur in utilizing forest resources. - Can develop various innovations in forestry multi-business development. - Invited as a speaker in the development of forestry multi-businesses.

G. Graduate Learning Outcomes (CPL) Number of items 8 – 15

CPL Code	Description
S1	Assume responsibility to work professionally both independently and as part of a team in the field of tropical forestry and the environment, including social entrepreneurship.
P1	Master theoretical concepts and basic principles of knowledge and technology in the field of tropical forestry and the environment, as well as related sciences.

P2	Identify essential elements and integrates them in the field of tropical forestry and the environment based on scientific principles.
S1	Assume responsibility to work professionally both independently and as part of a team in the field of tropical forestry and the environment, including social entrepreneurship.
P1	Master theoretical concepts and basic principles of knowledge and technology in the field of tropical forestry and the environment, as well as related sciences.
P2	Identify essential elements and integrates them in the field of tropical forestry and the environment based on scientific principles.
KU1	Apply logical, critical, systematic, and innovative thinking in applying values relevant to the expertise in tropical forestry and the environment.
KU2	Lead, collaborate in a team, and take responsibility for personal and group performance, as well as communicates effectively both verbally and non-verbally.
KU3	Conduct studies for the development of knowledge and technology in the field of tropical forestry and the environment using databases and other sources of information.
KK1	Plan, implement, organize, and evaluate activities in the field of tropical forestry and the environment.
KK2	Selects and applies instruments, processes, and methods appropriate for solving problems in the field of tropical humid forestry and the environment.

Graduate Learning Outcomes		Program Education Outcomes (PEO)			
		PEO 1	PEO 2	PEO 3	PEO 4
1.	S1	*	*	*	*
2.	P1	*	*	*	
3.	P2		*		
4.	KU1	*	*		
5.	KU2			*	*
6.	KU3		*		
7.	KK1		*		
8.	KK2	*			*
9.	KK3	*		*	

A. Study Material Number of items 4 - 10

BK Code	Description
Natural science	Courses based on natural sciences such as biology, physics, chemistry, and mathematics serve as a foundation in preparing students to master forestry and environmental science.
Basic of Forestry	Fundamental forestry courses that must be mastered by forestry students.

Forest Management	Forest Management is one of the branches of science that studies the efficient, effective, and sustainable management of forests, considering the competency of human resources and the potential of natural resources, social aspects, and the environment, to produce all products, including wood, non-wood forest products, and environmental services.
Conservation	A field of study that explores the conservation of forest resources based on the protection of life support systems, biodiversity conservation, and the sustainable utilization of forest resources and environmental services.
Silviculture	The field of Forest Cultivation is a group of sciences related to the study and development of various aspects of forest plant cultivation. The cultivation of forest plants aims to ensure that trees can live and grow well, both individually and in groups forming forest stands. There are many factors that influence the life and growth of trees, including internal and external factors.
Forest Products Technology	The field of Forest Product Technology is aimed at studying and developing the science and technology to manage and process both wood and non-wood forest products efficiently for the well-being of humanity at large.
Supporting Courses	Supporting courses to shape the character of a graduate.

J. Course Establishment (MK) and Determination of Credit Weights

K.

No	Study Material	Course Name	Number of credits
1	General Knowledge /Natural Science	Chemistry	3
		Physics	3
		Biology	3
		Math	3
2	Basic of Forestry	Agroclimatology	3
		Dendrology	3
		Forest Resource Economics	2
		Forest Disease Science	2
		Wood Measuring Science	3
		Anatomy of Woody Plants	3
		Introduction to Forestry Science and Technology	2
		Forestry Introduction Practice	1
		Forest Ecology	3
		Forest Protection Science	3
		General Soil Science	3
		Forest and Land Inventory	3
		Forestry Policy and Legislation	2
		Wood Properties	2

		Chemical Processing of Forest Products	2
		Wood Processing Industry	3
		Silvics	3
		Forest Harvesting	3
		Social Forestry	2
		Wood Biology and Deterioration	3
		Soil and Water Conservation	3
		Soil Science and Forest Nutrition	2
		Silviculture	3
		Nature Protection and Preservation	2
		Non-timber Forest Products and Its Utilization	3
3	Forest Management	Economic Analysis and Costs of Forestry Business	2
		Forest Management Planning	2
		Ergonomics	3
		Forest Biometrics	2
		Land Measuring and Mapping Science	3
		Growth and Yield Analysis	2
		Geographic Information System	3
		Conflict Management	2
		Environmental Economics	2
		Forest Management	2
		Introduction to Operations Research and Decision Analysis	2
		Microeconomics	2
		Coastal Forestry Business	2
		Forestry Machinery	2
		Applied Statistics	3
4	Conservation	Watershed Management	3
		Forest Microclimatology	3
		Wildlife Ecology	3
		Nature Tourism	3
		Biodiversity	3
		Forest Hydrology	2
		Soil Conservation Technology and Water	2
		Forest Vegetation Analysis	3
		Environmental Interpretation and Conservation Education	3
		Climate and Environment	2
		Aquatic Ecology	3
		Conservation Policy	1

		Mangrove Ecosystem Ecology and Beach	2
		Conservation of Useful Wild Plants	2
		Ecology of Dipterocarpaceae	2
5	Silviculture	Forest Tree Breeding	3
		Soil Survey and Land Evaluation	3
		Natural Forest Silviculture	3
		Forest Insect Science	3
		Forest Microbiology	3
		Plantation Forest Silviculture	3
		Soil Fertility Management Forest	2
		Land Reclamation	3
		Tree Ecophysiology	3
6	Forest Products Technology	Wood Preservation	2
		Biocomposites	2
		Fiber and Biopolymer Chemical Technology	2
		Wood Physics and Mechanics	2
		Wood Identification and Use	2
		THH Practice 1	1
		THH Practice 2	1
		Wood Drying	2
		Forestry Industry Management	2
		Extractive Product Application Engineering	2
		THH Practice 3	
		THH Practice 4	
7	Character building	Forestry Entrepreneurship	2
		Religion	3
		Indonesian Language	2
		Pancasila	2
		Civic Education	2
		Basic Social and Cultural Sciences	2

No.	Course Name	CPL								
		CPL 1	CPL 2	CPL 3	CPL 4	CPL 5	CPL 6	CPL 7	CPL 8	CPL 9
1	Religion Education	2				3				2
2	Pancasila Education	2				3				2
3	Management Basics	2	1			2		3	1	1
4	Indonesian Language Education	1	2			3				2
5	Basic Social and Cultural	1		2	2	3				

	Sciences									
6	English	1	2			3				2
7	Biology		3	2	2		2		1	
8	Chemistry		3	2			2		1	
9	Math		2		3		2	1		
10	Introduction to Forestry Science and Technology	1	3	2	2		3			
11	Physics		3				2		2	
12	Statistics	2	3	3	3				3	
13	Agroclimatology	2	3		3					
14	Dendrology		3	2	2	2	2		2	
15	Forest Resource Economics	2	3	1						1
16	Forest Disease Science	2	3		1		2			
17	Wood Measuring Science	2	3		2		2			
18	Anatomy of Woody Plants	2	3	2			3			
19	Civic Education	2				3				2
20	Forestry Introduction Practicum	2		3		3				
21	Forest Ecology		2	2	2	2	2	2	2	
22	Forest Protection Science		3	2					3	
23	General Soil Science	2	3			2			3	
24	Forest and Land Inventory		3	3		3		2	2	3
25	Forestry Policy and Legislation	2	2		3		2			
26	Wood Properties	2	3	3						
27	Chemical Processing of Forest Products	2		2	3		3			
28	Wood Processing Industry	2	3		2		2			
29	Silvics	2	3		2			2		
30	Forest Harvesting	2	2						3	
31	Social Forestry	2			2					3
32	Wood Biology and Deterioration	2	3					2	2	
33	Soil and Water Conservation	2	3				2		3	
34	Forestry Entrepreneurship	3	2				2		1	
35	Soil Science and Forest Nutrition	2	3		2			3		3
36	Silviculture	2	3		2		2	2	2	2
37	Nature Protection and Preservation		3	3	1					
38	Non-Timber Forest Products and Their Utilization	2	3			1			2	
39	Economic and Cost Analysis of Forestry Businesses	2	3	2			2			2
40	Forest Management Planning	3	2		3	3		3		2
41	Ergonomics	2	2		2				2	
42	Forest Biometrics		1				3		3	2
43	Land Measuring and Mapping Science	2	3				2			2
44	Scientific Method and Experimental Design	2		3	3				3	
45	Growth and Yield Analysis	2	3	2			2			2
46	Geographic Information System	2	3				3		3	2
47	Conflict Management	2			3				3	

48	Environmental Economics	2	3	2	1				1	
49	Forest Management	2	2	2	1					
50	Wood Preservation	2		2	3		2			
51	Biocomposites	2		2	3		2			
52	Fiber Chemical Technology and Biopolymers	2	3	2	2					
53	Wood Physics and Mechanics			3	2	1				
54	Wood Identification and Use	2	2	3						
55	Forest Products Technology Practice 1	2				2			3	
56	Forest Products Technology Practice 2	2			2	2			3	
57	Wood Drying	2	2			2		3		
58	Forestry Industry Management	2	3	2						
59	Extractive Product Application Engineering	2	2		3					
60	Bioenergy and Biomass Conversion	2	2		3					
61	Wood Gluing		2		3					1
62	Forest Products Technology Practice 3	2				2			3	
63	Forest Products Technology Practice 4	2				2			3	
64	Forest Tree Breeding	2	2				3			3
65	Soil Survey and Land Evaluation	2	3			3				3
66	Natural Forest Silviculture	2		2		3		2		
67	Forest Insect Science	2	3			2	2			
68	Forest Microbiology	2	3				3	2		
69	Plantation Forest Silviculture	2		2		3		2		
70	Forest Soil Fertility Management	2		3	3			3		
71	Watershed Management	2	3				3			
72	Forest Microclimatology	2	3		3					
73	Wildlife Ecology	2	3				3		2	
74	Nature Tourism	2		2			3	2		
75	Biodiversity	2	3	2			3		2	
76	Forest Hydrology	2	3				3			
77	Forest Vegetation Analysis	2	2	2	3	2		2	2	
78	KKN (Real Work Lecture)	3				3	3			
79	PKL (Field Work Practice)	3				3	3			
80	Proposal Seminar	3			3			3	3	
81	Results Seminar	3			3			3	3	
82	Test	3			3				3	
		143	150	72	91	66	80	42	75	42
	ELECTIVE COURSES:									
83	Introduction to Operations Research and Decision Analysis		3				2		3	
84	Microeconomics		2		1			3	1	
85	Coastal Forestry Business	2	2			3		2		
86	Applied Statistics		2				3		3	
87	Forestry Machinery		3		3					3
88	Land Reclamation			3	3				3	
89	Climate Change Management	2			3			2		

90	Fire Control		2					2	3	
91	Forest Ecophysiology		3	3				2		
92	Ecoforestry	2	2	2				2		
93	Seed Technology		2		1		2		3	
94	Timber Forest Products Silviculture									
95	Soil Conservation Technology and Water		2				3			3
96	Environmental Interpretation and Conservation Education		2	2	3					
97	Aquatic Ecology		2	2			3	2		
98	Climate and Environment			3	3			2		
99	Mangrove and Beach Ecosystem Ecology		3	3	2		2	3		
100	Conservation Policy		2	3	3		2	3		
101	Wild Plant Conservation Useful		2	2	2		3			
102	Ecology of Dipterocarpaceae		3	1	2	2	2	2	2	2
103	Dendrochronology and Wood Fossils		2	3			3			
104	Pollution Control			3		2	2			
105	Design and Woodworking				3		3	2		
106	Testing Woody Materials		2				3			3
107	Molding and Wood Panels		2				3		3	
108	Processing Technology of Medicinal and Aromatic Plants				2		3		2	
109	Forest Rural Sociology	2	2		2			3	2	2
110	Remote Sensing		3				3			2
111	Forest Engineering		2				3	2	2	
112	Forest Product Management		2	2	3					
113	Forestry Information Technology		2		2		2		2	
114	Silviculture of Non- Timber Forest Products			3	2			2	2	1
115	Agroforestry	2	2	2			3	1	2	
116	Nursery Management and Techniques		2	2	3	2	2	2	2	
117	Forest Plant Biotechnology				1		2			3
118	Honey Bee Cultivation				3		2	2		
119	Biochar Technique		3				3	2	2	
120	Forestry Certification System	2	3		2				2	
121	Introduction of introduction types		2	2	2		2	2	2	
122	Wildlife Behavior		3	1	2		3			
123	Medicinal Plant Conservation		2		3			2		
124	EIA	2		3	2					
125	Environmental Modeling	2	2	3						
126	Bird Ecology		2	3	3		3	2	2	
127	Conservation of Protected Flora and Fauna		3	3	2		2	1		2
128	Ethnobotany		2	3	3		3		2	2
129	Wood Construction		2	3	2		2			
130	Quality Control of Forest Products		2		3			2		
131	Pulp and Paper		2	2	3	2				14

	Technology									
132	Pyrolysis Technology		2	3		2				

	ECOTOURISM (18)												
		3	3	3	6								
V	FOREST MANAGEMENT (20)	1904016 03W025	190401 602P03	190401 603P10	190401 602P07	190401 602P05	190401 602P07	MKP					
		3	8	7	6	4	4						
		3	2	3	2	2	2	6					
	FOREST PRODUCT TECHNOLOGY (20)	1904016 03W025	190401 602P09	190401 602P07	190401 602P11	190401 602P04	190401 602P09	19040 1601P	19040 1601P	MKP			
		3	2	5	3	0	5	100	101				
		3	2	2	2	2	2	1	1	5			
	SILVICULTURE (20)	1904016 03W025	190401 603P07	190401 603P10	190401 602P08	MKP							
		3	8	6	6								
		3	3	3	2	9							
	FOREST RESOURCE CONSERVATION AND ECOTOURIS M (20)	1904016 03W025	190401 603P06	190401 603P06	190401 602P05	190401 603P03	MKP						
		3	7	5	9	9							
		3	3	3	2	3	6						
IV	23	1904016 03W026	190401 602W02	190401 603W0	190401 603W0	190401 602W0	190401 602W0	19040 1603W	19040 1602W	190401 603W0 14			
		3	9	09	24	23	17	034	030				
		3	2	3	3	2	2	3	2	3			
III	24	1904016 03W012	190401 603W01	190401 603W0	190401 603W0	190401 602W0	190401 602W0	19040 1602W	19040 1603W	190401 603W0 33			
		3	6	18	21	22	32	028	020				
		3	3	3	3	2	2	2	3	3			
II	24	1904016 02W003	190401 602W00	190401 603W0	190401 603W0	190401 602W0	190401 602W0	19040 1603W	19040 1603W	MU000 0602W	190401 601W0		

NOT ALLOWED TO PARTICIPATE IN THE MBKM PROGRAM UNLESS ATTENDING LECTURES IN THE STUDY PROGRAMS AT UNMUL OR PARTICIPATING IN STUDENT EXCHANGES

			6	07	11	13	15	019	008	003	31												
		3	2	3	3	2	2	3	3	2	1												
I	23	MU0000 603W00	MU0000 602W00	190401 602W0	MU000 0602W	MU000 0602W	190401 602W0	19040 1602W	19040 1602W	190401 602W0	190401 602W0												
		1	2	10	004	006	01	002	004	05	27												
		3	2	2	2	2	2	3	3	2	2												

Description: *) Especially for Undergraduate Program

J. Implementation Plan for Maximum 3 Semesters Outside Study Programs

The implementation of the Independent Learning Campus (Kampus Merdeka) policy in the Forestry Bachelor's Program takes the form of 1) Learning outside the Program at the same university, 2) Learning within the same Program outside the university, 3) Learning within a different Program outside the university, and 4) Learning outside the university. This implementation is intended for students who have reached the 6th and 7th semester.

K. Management and Mechanism of Curriculum Implementation

Currently, the Forestry Bachelor's Program follows the 2019 curriculum, a result of workshops that accommodate various aspects, including labor market needs, the Indonesian National Qualifications Framework (KKNI), and the Fundamental Scientific Pattern (PIP) of Mulawarman University, focusing on Tropical Moist Forests and their Environment. A fundamental difference from the previous curriculum is the separation of study interests for students after completing the first 4 semesters. The four study interests are 1. Forest Management; 2. Silviculture; 3. Forest Product Technology; and 4. Forest Resource Conservation and Ecotourism.

Another fundamental difference between the two curricula is the total credit hours that students must complete, which has decreased from 150 credit hours in the 2009 curriculum to 144 credit hours in the 2019 curriculum. In the 2019 curriculum, students also receive a package of courses for the first 2 semesters, meaning that the Grade Point Average (GPA) from the first semester is not used to determine the number of credit hours that can be taken in the second semester. Starting from the 3rd semester and subsequent semesters, the GPA is used to determine the number of credit hours that can be planned in the Study Plan Card. With this reduction in credit hours and the course package for the first 2 semesters, it is hoped that the student's study period can move towards the ideal number of 4 years or 8 semesters. The 2019 curriculum is effective for students entering in 2019 and beyond.

In 2020, the Independent Learning Campus (Kampus Merdeka) program was implemented. The Independent Learning - Campus Merdeka policy is a manifestation of autonomous and flexible higher education that creates an innovative, non-restrictive learning culture tailored to student needs.

L. Learning Process in the Independent Learning Campus

The learning process in the Independent Learning Campus is a manifestation of student-centered learning, which is essential. Learning in the Independent Learning Campus provides challenges and opportunities for the development of innovation, creativity, capacity, personality, and student needs, as well as developing independence in seeking and finding knowledge through the reality and dynamics of the field, such as the requirements of skills, real problems, social interaction, collaboration, self-management, performance demands, targets, and achievements. Through a well-designed and implemented independent learning program, both hard and soft skills of students will be strongly formed. The Independent Learning - Campus Merdeka program is expected to address the challenges of higher education in producing graduates suitable for the times, advances in science and technology, demands of the business and industrial world, as well as societal dynamics.

M. Semester Learning Plan (RPS)

The Semester Learning Plan (RPS) document prepared by course instructors in the Forestry Study Program (PS-KPS) follows the regulations outlined in the Minister of Research, Technology, and Higher Education Decree No. 44 of 2015 (SN DIKTI) Article 12 paragraph 3, which stipulates that

the RPS must contain at least 9 completeness items. The UNMUL RPS format adds achievement indicators with details including a) course identity, b) Program Learning Outcomes (CPL) assigned to the course (CPMK), c) expected final abilities (Sub-CPMK), d) indicators, e) study materials, f) learning methods, g) allocated time, h) learning experiences, i) assessment criteria and weights, and j) references. Course RPS documents are prepared by course instructors, taking into account the depth and breadth of the study material. The RPS content is validated by the head of the laboratory (Course Cluster) and approved by the Program Coordinator. Periodically, the RPS is reviewed to assess the achievement of CPMK and its alignment with the Program Learning Outcomes. Each course's RPS document is communicated to students through the website <https://fahatan.unmul.ac.id>.

N. Curriculum Evaluation for the Study Program

Education Standards (Content, Process, and Learning Assessment), Academic Atmosphere Standards, and Curriculum Development Standards serve as the basis for the education process in the PS-KPS. The PPEPP cycle, a stage in the quality management cycle, has been well-implemented.

- **Establishment:** UNMUL establishes Education Standards (Content, Process, and Learning Assessment) in the 2019 UNMUL SPMI and two standards (Academic Atmosphere Standard and Curriculum Development Standard) in the 2020 Exceedance SPMI. At the UPPS level, the Dean sets quality standards, quality manuals, and POBs for the education field, which are prepared and documented by GJM available at [https://fahatan.unmul.ac.id/gjm/standar mutu](https://fahatan.unmul.ac.id/gjm/standar_mutu). GJM coordinates with LP3M in establishing learning quality standards.
- **Implementation:** Standard implementation at the faculty level is coordinated by GJM. The implementation of learning standards in PS-KPS refers to POBs derived from each established Education Standard. The implementation POBs for learning can be viewed at <https://gjm.fahatanunmul.carrd.co/>.
- **Evaluation:** Evaluation of education standards is carried out through Internal Quality Audits by LP3M conducted annually, especially related to Content, Process, and Learning Assessment Standards. Internally, since 2020, UPPS has also conducted internal audits based on the study program business processes referring to ISO 9001:2015. Non-conformities found in the audit process are communicated to the study program coordinator. If non-conformities or observations occur at the level of the course cluster (laboratory), the laboratory head is responsible for making corrections and improvements.
- **Control:** Control of occurring non-conformities is carried out through Management Review Meetings or Faculty Plenary Meetings led by the Dean, attended by all unit leaders, lecturers, and administrative staff, so that non-conformities can be resolved and decided upon in the MRMs if related to UPPS-level policies. At the RMK level, control is carried out through related laboratory meetings.
- **Continuous Improvement:** The well-running implementation of Education Standards is sought to be improved according to the evaluation results. For units/laboratories where the implementation of standards is partially achieved, coaching is provided by GJM or UPPS. Standard/POB socialization is always carried out if indications suggest partial achievement

