



**Bachelor of Science in FORESTRY (BSF)
Program
(Revised as of 2018)**

College of Forestry and Natural Resources
University of the Philippines Los Baños

BACHELOR OF SCIENCE IN FORESTRY CURRICULUM

I. RATIONALE

The Bachelor of Science in Forestry (BSF) is a four-year program offered by the College of Forestry and Natural Resources (CFNR), University of the Philippines Los Baños (UPLB). The degree was approved by Board of Regents (BOR) in 1921 and was formally offered in 1924. Recent major revisions in the curriculum were implemented in 2007 and 2018. The 2007 revision includes shifting to a general curriculum with specialized courses designed to provide students the opportunity to choose a set of courses that would enrich their competencies in the three (3) fields of study in forestry: environmental forestry; production and industrial forestry; and social forestry and agroforestry. Additional courses were added during the revisions made in 2011 and 2012.

The BSF curriculum was again revised in 2018 to be aligned with the K to 12 Basic Education Program, particularly with its content and performance standards and learning competencies. This initiative presented an opportunity to recalibrate the BSF curriculum to make it more responsive to evolving challenges and paradigms in the forestry sector and its implications to the environment and society.

The new BSF curriculum highlights the expanded competencies to be developed among students to help answer the call for sustainability, resilience and biodiversity conservation, in the midst of threats from climate change and other human-induced degradation. This was addressed by introducing new tools and technologies for assessment, providing appropriate field exposure and experience, instilling an entrepreneurial mindset, and strengthening forestry extension skills, among others.

The revision includes a mandatory internship (FOR 198) and undergraduate thesis (FOR 200), formerly taken as a choice between these two options, to enhance the holistic education of the students. New courses, both core and specialized, are instituted to keep up with the dynamic nature of the field of forestry while adhering to its fundamental concepts and principles. Changes in program option, course prerequisites, semester offerings and mode of delivery are also made for a more streamlined BS Forestry program, consequently reducing its total number of units from 157 to 146.

The revised BS Forestry program is expected to provide students with comprehensive technical, analytical, and practical knowledge and skills to become well-rounded forestry professionals, who will take a lead role in the responsible management of tropical forest, natural resources and the environment. Likewise, it further strengthens the curriculum design to prepare students for post-graduate studies and to consistently satisfy the requirements of the Commission on Higher Education (CHED), Professional Regulation Commission - Board of Foresters and recognized quality assurance organizations, such as the ASEAN University Network (AUN).

In consideration of all these initiatives and developments, the present BSF program meant to generate highly qualified professionals that shall keep the standards of forestry, natural resources, and environmental management. Specifically, this aims to produce graduates who, in four years, shall be able to:

1. adapt locally and compete globally with technical and social competencies and with high moral standards;
2. pioneer knowledge generation and innovative enterprise management and technologies in forestry;
3. empower people, institutions and communities for a better quality of life; and

4. strengthen institutional capability and enhance public appreciation of the role of forestry in environmental protection and national development.

Table 1. Relationship of Program Educational Outcomes to the Mandate of the UP as the National University

Program Educational Outcomes The BS FORESTRY program aims to produce graduates who shall be:	Mandates of UP as a National University¹							
	A	B	C	D	E	F	G	H
1. adapt locally and compete globally with technical, social and moral competencies;	√		√	√	√	√	√	√
2. pioneer knowledge generation and innovative enterprise management and technologies in forestry;	√	√	√	√			√	√
3. empower people, institutions and communities for a better quality of life; and		√	√	√	√	√		√
4. strengthen institutional capability and enhance public appreciation of the role of forestry in environmental protection and national development.				√	√	√		√

¹The University of the Philippines shall (Section 3, R.A. 9500):

- a. Lead in setting academic standards and initiating innovations in teaching, research, and faculty development in philosophy, the arts and humanities, the social sciences, engineering, natural sciences, mathematics, and technology; and maintain centers of excellence in these disciplines and professions.
- b. Serve as a graduate university by providing advanced studies and specialization for scholars, scientists, writers, artists, and professionals especially those who serve on the faculty of state and private colleges and universities.
- c. Serve as a research university in various fields of expertise and specialization by conducting basic and applied research, promoting research and development, and contributing to the dissemination and application of knowledge.
- d. Lead as a public service university by providing various forms of community, public and volunteer service, as well as scholarly and technical assistance to the government, the private sector, and civil society while maintaining its standards of excellence.
- e. Protect and promote the professional and economic rights and welfare of its academic and non-academic personnel.
- f. Provide opportunities for training and learning in leadership, responsible citizenship, and the development of democratic values, institutions, and practice through academic and non-academic programs, including sports and enhancement of nationalism and national identity.
- g. Serve as a regional and global university in cooperation with international and scientific unions, networks of universities, scholarly and professional associations in the Asia Pacific Region and around the world.
- h. Provide democratic governance based on collegiality, representation, accountability, transparency, and active participation of its constituents; and promote the holding of fora for students, faculty, research, extension and professional staff (REPS), administrative staff, and alumni to discuss non-academic issues affecting the University.

II. PROGRAM LEARNING OUTCOMES

A graduate of the BS Forestry program should have the competence to:

Common to all CHED higher education programs

- a) Articulate and discuss the latest developments in the specific field of practice (PQF level 6 descriptor);
- b) Effectively communicate orally and in writing using both English and Filipino;
- c) Work effectively and independently in multi-disciplinary and multi-cultural teams (PQF level 6 descriptor);
- d) Act in recognition of professional, social, and ethical responsibility;
- e) Preserve and promote “*Filipino historical and cultural heritage*” (based on RA 7722);

Common to all agriculture education disciplines under CHED

- f) Create, generate and share knowledge as it applies to specific problems in the discipline;
- g) Formulate sustainable and productive agricultural development plans and programs;

Specific to the BS Forestry program

- h) Conduct comprehensive assessment of forest ecosystem services and social processes using geomatics, information and communication technologies, and strategies;
- i) Assess and plan for forest-related climate change impacts, risks and vulnerabilities;
- j) Develop forestry-related research, development and extension programs and projects;
- k) Assist in the formulation and implementation of policies, laws, rules and regulations governing forests, natural resources and the environment;
- l) Evaluate the properties and processing technologies of forest products;
- m) Develop business plans for forest-based enterprises;
- n) Facilitate collaborative initiatives and engagements in forestry, natural resources and the environment; and

Specific to the University of the Philippines

- (o) Lead with honor and excellence in public service and in fields of practice.

Table 2. Relationship of Program Learning Outcomes to the Program Educational Outcomes

PROGRAM LEARNING OUTCOMES At the end of the program, the students are expected to:		PROGRAM EDUCATIONAL OUTCOMES			
		1	2	3	4
(a)	Articulate and discuss the latest developments in the specific field of practice. (PQF level 6 descriptor)	√	√	√	√
(b)	Effectively communicate orally and in writing using both English and Filipino	√	√	√	√
(c)	Work effectively and independently in multi-disciplinary and multi-cultural teams. (PQF level 6 descriptor)	√	√	√	√
(d)	Act in recognition of professional, social, and ethical responsibility	√	√	√	√
(e)	Preserve and promote " <i>Filipino historical and cultural heritage</i> " (based on RA 7722)	√	√	√	√
(f)	Create, generate and share knowledge as it applies to specific problems in the discipline	√	√	√	√
(g)	Formulate sustainable and productive agricultural development plans and programs	√	√	√	√
(h)	Conduct comprehensive assessment of forest ecosystem services and social processes using geomatics, information and communication technologies, and strategies	√	√	√	√
(i)	Assess and plan for forest-related climate change impacts, risks and vulnerabilities	√	√	√	√
(j)	Develop forestry-related research, development and extension programs and projects	√	√	√	√
(k)	Assist in the formulation and implementation of policies, laws, rules and regulations governing forests, natural resources and the environment	√	√	√	√
(l)	Evaluate the properties and processing technologies of forest products	√	√	√	√
(m)	Develop business plans for forest-based enterprises	√	√	√	√
(n)	Facilitate collaborative initiatives and engagements forestry, natural resources and the environment	√	√	√	√
(o)	Lead with honor and excellence in public service and in fields of practice	√	√	√	√

III. Curricular Design

Table 3. Types of courses and the corresponding number of units

Courses	Number of Units
1. GE Courses and legislated course	27
2. Foundation Courses	33
3. Core Courses	64
4. Specialization Courses	12
5. Undergraduate Seminar	1
6. Undergraduate Thesis	6
7. Internship	3
TOTAL	146

Table 4. Curriculum map showing the alignment of BSF core courses with the program outcome

[illegible]

FRM 120	I	D	D	D	R	R	I		I	I	I	R	I	I	R
FRM 131	I	D	D	D	R	D	I		I	D	I	R	D	D	R
FRM 183	R	D	R	R	R	R	R	R	R		R				R
FRM 184	R	D	D	R	R	R	D	D	D	I	R	R	D	R	R
NRC 140	R	D	D	D	I	D	I	D	R	I	I	I	I	R	R
NRC 170	R	D	D	D		D	I	D	I	I	I			R	R
SFFG 101	I	R	D	R	I	R	I	I	I	I	I	I	R	I	R
SFFG 123	I	D	I	I	I					I	D				R
SFFG 113	I	D	R	I	I	D	R	R		D		D	D		R
SFFG 125	I	D	D	D	I	R	I	R	R	R	D	R	R		R
SFFG 152	I	D	D	D	D	D	R			D	D	D	D		R
SFI 100	I	D	R	R		I		I	I					I	R
SFI 103	I	D	R	R		R		I	R		R			R	R
SFI 140	R	D	R	D		R		I	R	R	R			I	R
SFI 142	R	D	R	D	R	D	R	R	R	R	R	R	R	D	R

I: Introduced – the student gets introduced to concepts or principles

R: Reinforced (or Practiced) – the student practices the competencies with supervision

D: Demonstrated – the student practices competencies across different settings with minimal supervision

IV. Course Sequencing

FIRST YEAR		
FIRST SEMESTER		UNIT
FOR 1	Introduction to Forests and Forestry	3
SFI 100	Geology and Forest Soils	3
FBS 10	Biology of Tropical Forest Plants	4
ECON 11	General Economics	3
ARTS 1	Critical Perspectives in the Arts	3
PI 10	Life and Works of Rizal	3
HK 11	Wellness and Basic Injury Management	(2)
		19

SECOND SEMESTER		UNIT
SFFG 101	Principles and Concepts of Social Forestry	3
FRM 92	Forest Engineering	3
FBS 21	Taxonomy of Forest Plants	4
FRM 120	Forestry Economics	3
GE	GE Elective	3
GE	GE Elective	3
HK 12 or 13	Human Kinetics Activities or Advanced Human Kinetics Activities	(2)
		19

SECOND YEAR		
FIRST SEMESTER		UNIT
SFFG 123	Forest Policies and Institutions	3
FPPS 11	Wood Structure & Identification	3
FBS 31	Plant Physiology	3
NRC 140	Introduction to GIS	3
KAS 1/HIST 1	Kasaysayan ng Pilipinas/History of the Philippines	3
ETHICS 1	Ethics and Moral Reasoning in Everyday Life	3
NSTP 1	National Service Training Program	(3)
HK 12 or 13	Human Kinetics Activities or Advanced Human Kinetics Activities	(2)
		18

SECOND SEMESTER		UNIT
NRC 170	Watershed Management	3
FPPS 127	Properties & Utilization of Forest Products	4

FBS 36	Fundamentals of Forest Ecology	3
SFI 103	Fundamentals of Agroforestry	3
GE	GE Elective	3
STS 1	Science, Technology and Society	3
NSTP 2	National Service Training Program	(3)
HK 12 or 13	Human Kinetics Activities or Advanced Human Kinetics Activities	(2)
		19

THIRD YEAR		
FIRST SEMESTER		UNIT
FRM 61	Forest Biometry – Specialization Course/	3
SFI 140	Tropical Silviculture	3
FBS 45	Forest Insect Pests and Diseases	4
SFFG 113	Forestry Extension	3
FBS 101	Forest Biodiversity	3
SC 1	Specialization Course	3
		19

SECOND SEMESTER		UNIT
FPPS 128	Non-Timber Forest Products	3
SFI 142	Plantation Forestry	3
FBS 172	Forest Genetics	3
FOR 195	Research Methods in Forestry and Natural Resources	3
SC 2	Specialization Course	3
SC 3	Specialization Course	3
		18

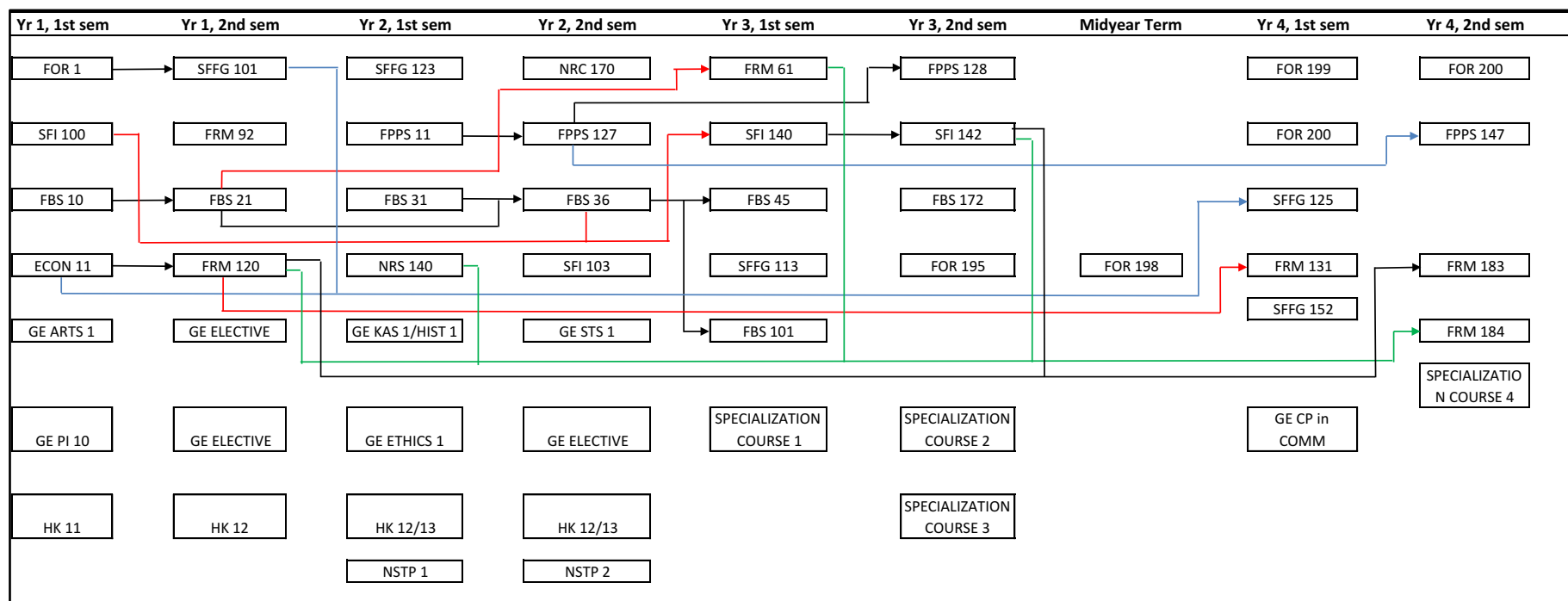
MIDYEAR TERM		UNIT
FOR 198	Internship	3
		3

FOURTH YEAR		
FIRST SEMESTER		UNIT
FOR 200	Undergraduate Thesis	3
SFFG 125	Political Economy and Administration of Forestry Development	3
FRM 131	Forest-based Enterprise Development and Management	3

COMM 10	Critical Perspectives in Communication	3
SFFG 152	Sociology of Natural Resources	3
FOR 199	Undergraduate Seminar	1
		16

SECOND SEMESTER		UNIT
FOR 200	Undergraduate Thesis	3
FPPS 147	Furniture and Handicraft Production	3
FRM 183	Timber Production Management	3
FRM 184	Integrated Forest Resource Management	3
SC 4	Specialization Course	3
		15
TOTAL UNITS		146

V. Flowchart of Courses in the Revised BS Forestry Curriculum



VI. List of Specialization Courses

FIELD OF STUDY/SPECIALIZED COURSES FOR BS FORESTRY	PREREQUISITE(S)	UNITS	SEM OFFERED
PRODUCTION & INDUSTRIAL FORESTRY			
FBS 41 (Forest Pathology)	None	3	2nd
FBS 42 (Forest Products Pathology)	None	3	1st
FBS 146 (Forest Microbiology)	None	3	2nd
FBS 151 (Microtechnique of Woody Plants)	FPPS 11	3	
FBS 161 (Plant Anatomy)	None	3	1st & 2nd
FBS 167 (Plant Taxonomy)	FBS 21	3	1st
FBS 190 (Special Problems)	COI	3	1st, 2nd & MY
FBS 191 (Special Topics)	COI	3	1st & 2nd
FPPS 141 (Lumber Manufacture and Grading)	FPPS 11	3	1st & 2nd
FPPS 161 (Preservation of Wood and Related Products)	COI	3	2nd
FPPS 172 (Glued Wood Products Technology)	COI	3	2nd
FPPS 182 (Production Planning and Control)	COI	3	2nd
FPPS 191 (Special Topics)	None	3	1st & 2nd
FRM 116 (Accounting)	None	3	1st
FRM 118 (Forest Finance)	FRM 117	3	1st
FRM 119 / FPPS 119 (Marketing of Forest Products)	ECO 11	3	1st & 2nd
SFI 124 (Silviculture of Non-Timber Producing Plant Species)	FBS 1 or BOT 1	3	1st & 2nd
ENVIRONMENTAL FORESTRY			
FBS 126 (Forest Entomology)	None	3	2nd
FBS 130 (Forest Tree Physiology)	FBS 31	3	2nd
FBS 136 (Forest Ecology)	FBS 36	3	1st & 2nd
FBS 140 (Forest Mycology)	None	3	1st

FBS 181 (Research Techniques in Forest Biology)	COI	3	2nd
FBS 190 (Special Problems)	COI	3	1st, 2nd & MY
FBS 191 (Special Topics)	COI	3	1st & 2nd
WLDL 105 (Principles of Wildlife Management)	WLDL 101 or COI	3	1st
WLDL 195 (Techniques of Wildlife Management)	WLDL 105	3	2nd
FPPS 140 (Environmental Pollution in Forest Industries)	COI	3	2nd
FRM 110 (Fundamentals of Env't'l Forest Mgt)	FOR 1 & FBS 36 or COI	3	2nd
FRM 145 (Tropical Forests and Climate Change)	FBS 36 or COI	3	2nd
FRM 190 (Special Problems)	COI	3	1st & 2nd
FRM 191 (Special Topics)	COI	3	1st & 2nd
NRC 130 (Nature-based Leisure and Outdoor Recreation)	COI	3	
NRC 131 (Fundamentals of Ecotourism)	COI	3	2nd
NRC 132 (Conservation and Management of Protected Areas)	COI	3	2nd
NRC 185 / FBS 185 (Nature Interpretation)	None		1st
SFI 101 (Forest Soils)	SFI 100	3	1st & 2nd
SFI 102 (Forest Soil and Water Conservation)	SFI 100 & FRM 184 or COI	3	2nd
SFI 122 (Arboriculture and Landscape Gardening)	COI	3	1st & 2nd
SFI 126 (Fundamentals of Urban Forestry)	SFI 122 or COI	3	1st
SFI 131 (Silvicultural Approaches to Forest Protection)	SFI 121 or COI	3	1st
SFI 150 (Silviculture of Mangrove Forests)	SFI 140 or COI	3	2nd
SFI 161 (Introduction to Forest Influences)	BOT 1 & SFI 100	3	1st
SFI 168 (Environmental Impact Assessment of Nat Resources Mgmt Projects)	SFI 121 & FRM 184 or COI	3	2nd
SFI 172 (Forest Fire Management)	FBS 36 or COI	3	2nd
SFI 182 (Forestation Techniques for Marginal and Degraded Areas)	SFI 100 or COI	3	1st & 2nd

NRC 160 (Introduction to Models in Ecosystem and Natural Resources Management)	NRC 140 or COI	3	2nd
SOCIAL FORESTRY AND AGROFORESTRY			
SFFG 111 (Approaches to Forest Conservation)	None	3	1st & 2nd
SFFG 112 (Program Planning)	COI	3	1st
SFFG 120 (Environmental and Natural Resource Worldviews)	PHLO 1 & SOSC 2 or COI	3	2nd
SFFG 133 (Socio-Economics of Agroforestry)	SOSC 1 & ECO 11	3	1st
SFFG 141 (Formal Organizations in Social Forestry)	COI	3	1st
SFFG 149 (Gender Analysis and Planning)	SOSC 1 or COI	3	2nd
SFFG 150 (Production and Conservation Technologies in Social Forestry)	SFFG 101 or COI	3	2nd
SFFG 155 (Social Equity Issues in Social Forestry)	SFFG 152 or COI	3	2nd
SFFG 163 (Anthropological Concepts for Social Forestry)	SOSC 1 or COI	3	1st
SFFG 182 (Rural Institutions for Forestry & Natural Resource Development)	SFFG 101 or COI	3	1st
SFFG 190 (Special Problems)	COI	3	1st, 2nd & MY
SFFG 191 (Special Topics)	COI	3	1st & 2nd
SFI 104 (Agroforestry Systems of the Philippines)	COI	3	1st
SFI 133 (Agroforestry Systems of the Philippines)	SFI 123 or COI	3	1st & 2nd
SFI 143 (Agroforestry Systems Design and Development)	SFI 123 or COI	3	1st & 2nd