

#### The National Engineering University

#### **Lobo Campus**

Masaguitsit Lobo, Batangas, Philippines 4229 Tel Nos.: (043) 980-385 loc. 7101

E-mail Address: <a href="mailto:lobo.campus@g.batstate-u.edu.ph">lobo.campus@g.batstate-u.edu.ph</a> | Website Address: <a href="http://www.batstate-u.edu.ph">http://www.batstate-u.edu.ph</a> | Website Address: <a href="mailto:lobo.campus@g.batstate-u.edu.ph">http://www.batstate-u.edu.ph</a> | Website Address: <a href="mailto:l

#### **College of Agriculture and Forestry**

#### **CURRICULUM**

#### **Bachelor of Science in Forestry (BSF)**

Academic Year 2023-2024 Reference CMOs: CMO No. 6, S. 2019, CMO No.20, S. 2013, CMO No. 04, S. 2018, CMO No. 39, S. 2021, CMO No. 40, S.2021

### **Curriculum Description**

The Bachelor of Science in Forestry (BSF) curriculum is designed to prepare well-rounded forester with knowledge, skills and values in the art, business and science of forestry. The curriculum is divided into four major parts. The first part is composed of General Education courses which is geared toward providing basic knowledge in the arts and sciences. The second part is the core courses which will develop competence in the scientific field of forestry science and management needed by all foresters. The third and fourth parts are thesis, practicum, technical report writing and problem analysis and research methods and electives.

Program Educational Objectives

The BSF program aims to develop:

#### • Entrepreneurial and Technical Skills

The BSF program aims to educate students to demonstrate knowledge on the complexities of forest resources management towards responsible stewardship of forest resources by practicing profession in line to the field of forestry, engage in works, projects, and/or programs on forest conservation and engage in forest-based related entrepreneurship.

#### Professionalism

The BSF program aims to practice the profession with competence and integrity by observing professional ethics and standards, demonstrate honesty and integrity and promotion and recognition in practice profession.

#### • Lifelong Learning

The BSF program aims to pursuit lifelong learning on sustainable management of forest resources and ecosystem services by pursuing advance study on Forestry and/or Environment Science/Management, attend forums, symposiums, trainings, seminars, and/or workshop and membership and active participation on Forestry related professional organization.

#### **Institutional Graduate Attributes**

The students should achieve at least 75% for each IGA upon graduation.

- 1. **Knowledge Competence** Demonstrate a mastery of the fundamental knowledge and skills required for functioning effectively as a professional in the discipline, and an ability to integrate and apply them effectively to practice in the workplace.
- 2. **Creativity and Innovation** Experiment with new approaches, challenge existing knowledge boundaries and design novel solutions to solve problems.
- 3. **Critical and Systems -** Identify, define, and deal with complex problems pertinent to the future professional practice or daily life through logical, analytical and critical thinking.
- 4. **Communication -** Communicate effectively (both orally and in writing) with a wide range of audiences, across a range of professional and personal contexts, in English and Pilipino



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### College of Agriculture and Forestry

- 5. **Lifelong learning** Identify own learning needs for professional or personal development; demonstrate an eagerness to take up opportunities for learning new things as well as the ability to learn effectively on their own.
- 6. **Leadership, teamwork, and Interpersonal Skills -** Function effectively both as a leader and as a member of a team; motivate and lead a team to work towards goal; work collaboratively with other team members; as well as connect and interact socially and effectively with diverse culture.
- 7. **Global Outlook** Demonstrate an awareness and understanding of global issues and willingness to work, interact effectively and show sensitivity to cultural diversity.
- 8. **Social and National Responsibility -** Demonstrate an awareness of their social and national responsibility; engage in activities that contribute to the betterment of the society; and behave ethically and responsibly in social, professional and work environments.

### **Program Outcomes**

- 1. Articulate and discuss the latest developments in the specific field of practice. (**Technologically and Socially Abreast**)
- 2. Effectively communicate orally and in writing using both English and Filipino. (**Effective Communications**)
- 3. Work effectively and independently in multi-disciplinary and multi-cultural teams. (**Teamwork and Collaboration**)
- 4. Act in recognition of professional, social, and ethical responsibilities. (Integrity and Professionalism)
- 5. Preserve and promote "Filipino historical and cultural heritage. (Historical and Cultural Preservation)
- 6. Generate and share knowledge relevant to specific fields in the study of agriculture. (**Knowledge Generation and Sharing**)
- 7. Formulate and implement agricultural development plans and programs. (Critical/Logical Thinking)
- **8.** Conduct comprehensive assessment and accounting of forest ecosystem services and resources and social processes using appropriate ICT and related tools and methods (**Scientific Creativity**)
- 9. Assess climate change impacts, risks and vulnerabilities, and to prepare climate change adaption, mitigation, and disaster risk reduction plan. (**Climate Change Mitigation**)
- 10. Formulate, package, implement, and evaluate forest management-related research, development and extension programs, projects and policies. (**Forestry Innovation**)
- 11. Interpret, assess and formulate forest related policies and law. (Forest Policies)
- 12. Use IT and other traditional and modern tools, approached and methods in problem solving, planning, management and other management activities. (**Problem Solving Skill**)
- 13. Ability to participate in the generation of new knowledge or in research and development projects. (**Knowledge on Research and Development Projects**)

### **Curriculum Components**

Courses	Units	Total
A. General Education Courses		45 units
Understanding the Self	3	
Readings in Philippine History	3	
The Contemporary World	3	
Mathematics in the Modern World	3	



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Purposive Communication	3	
Art Appreciation	3	
Science, Technology, and Society	3	
Ethics	3	
Kontekstwalisadong Komunikasyon sa Filipino	3	
Filipino sa Ibat ibang Disiplina	3	
ASEAN Literature	3	
Philippine Popular Culture	3	
Computer Application	3	
Gender and Society  Life and Works of Rizal	3	
B. Core Courses	3	111 units
	3	111 umes
Forest Ecology	3	
Introduction to Forestry		
Tropical Forestry and Climate Change	3	
Botany	3	
Tree Architecture and Morphology	3	
Geology and Forest Soils	3	
Tree Physiology	3	
Taxonomy and dendrology of forest plants	5	
Forest Surveying and Engineering	4	
Forest Resource Economics	3	
Forest Genetics and Tree Improvement	3	
Wood Structure and Identification	3	
Geo-spatial Methods in Forestry	3	
Forest Ecosystems Resource Accounting and Valuation	4	
Ecotourism and Outdoor Recreation Management	3	
Silviculture I - Forest Nurseries and Plantation Development	3	
Forest Health and Protection	4	
Properties and Utilization of Wood Products	3	
Silviculture II – Silvicultural Systems	3	
Forest Enterprise Development and Management	3	
Forest Governance and Policy	3	
Forest Wildlife and Biodiversity Conservation	3	
Urban Forestry and Landscaping	3	
Properties and Utilization of Non-Wood Products	3	
Watershed Management	3	
Forest Laws and Regulations	3	
Protected Area Management	3	
Environmental Impact Assessment	3	
Production Management in Forest-Based Industries	3	
Social Forestry and Community Based Natural Resources	3	
Management Based Natural Resources	3	
Pre-Board review	1	
Restoration of Degraded Ecosystems	3	
Integrated Forest Resources Management	3	
Agroforestry and Sustainable Upland Development	3	
Forestry Extension, Communication and Knowledge	3	
Management	3	
Leading Innovations, Transforming Lives, Building		n n



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## **College of Agriculture and Forestry**

<b>g</b>		
Technical Report Writing	3	
D. Thesis		7 units
Problem Analysis and Research Methods	3	
Thesis	4	
E. Apprenticeship/OJT/Practicum (Industry Exposure)		6 units
Practicum	6	
F. Physical Activities Towards Health and Fitness		8 units
PATHFit 1- Movement Competency Training	2	
PATHFit 2 -Exercised-Based Fitness Activities	2	
PATHFit 3 -Traditional and Recreational Games	2	
PATHFit 4 -Team Sports (Basketball and Volleyball)	2	
G. National Service Training Program		6 units
National Service Training Program (CW) I	3	
National Service Training Program (CW) II	3	

#### **SUMMARY**

Courses	Number of units
A. General Education Courses	45
B. Core Courses	111
D. Thesis	7
E. Apprenticeship/OJT/Practicum (Industry Exposure)	6
F. Physical Activities Towards Health and Fitness	8
G. National Service Training Program	6
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### **College of Agriculture and Forestry**

### PROGRAM OF STUDY

Year	Course Code	Course Description	Credits	Lec	Lab	RLE	Pre- Requisite(s)	Co- Requisite(s)
Year 1	FIRST SEME	STER						
	FBS 101	Forest Ecology	3	2	<u>3</u>			
	FRM 101	Introduction to Forestry	3	3	0			
	FRM 102	Tropical Forestry and Climate Change	3	3	0			
	GEd 101	Understanding the Self	3	3	0			
	GEd 104	The Contemporary World	3	3	0			
	GEd 105	Readings in Philippine History	3	3	0			
	NSTP 111	National Service Training Program 1	3	3	0			
	NSTP111CW	NSTP - Civic Welfare Training Service 1	3	3	0			
	NSTP111LT	NSTP - Literacy Training Service 1	3	3	0			
	NSTP111RO	NSTP - Reserve Officers Training Corps 1	3	3	0			
	PATHFit 1	Movement Competence Training	2	2	0			
	TOTAL		23	22	3			
Year 1	SECOND SEM			T	ı			
	FBS 102	Botany	3	2	<u>3</u>			
	FBS 103	Tree Architecture and Morphology	3	2	<u>3</u>			
	FRM 103	Geology and Forest Soils	3	2	<u>3</u>			
	GEd 102	Mathematics in the Modern World	3	3	0			
	GEd 106	Purposive Communication	3	3	0			
	Litr 102	ASEAN Literature	3	3	0			
	NSTP 121	National Service Training Program 2	3	3	0		NSTP 111	
	NSTP 121CW	NSTP - Civic Welfare Training Service 2	3	3	0		NSTP 111CW	
	NSTP121LT	NSTP - Literacy Training Service 2	3	3	0		NSTP 111LT	
	NSTP121RO	NSTP - Reserve Officers Training Corps 2	3	3	0		NSTP 111RO	
	PATHFit 2	Exercised-Based Fitness Activities	2	2	0		PATHFit 1	
	TOTAL		23	20	9			



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Year	Course Code	Course Description	Credits	Lec	Lab	RLE	Pre- Requisite(s)	Co- Requisite(s)
Year 2	FIRST SEMES	STER						-
	FBS 204	Tree Physiology	3	2	<u>3</u>		FBS 102	
	FBS 205	Taxonomy and Dendrology of Forest Plants	5	3	<u>6</u>		FBS 102	
	FRM 204	Forest Surveying and Engineering	4	2	<u>6</u>		GEd 102	
	FRM 205	Forest Resource Economics	3	3	0			
	GEd 108	Art Appreciation	3	3	0			
	IT 100	Computer Applications	3	2	<u>3</u>			
	PATHFit 3	Traditional and Recreational Games	2	2	0		PATHFit 1&2	
	TOTAL		23	17	18			
Year 2	SECOND SEMESTER							
	FBS 206	Forest Genetics and Tree Improvement	3	2	<u>3</u>		FBS 204	
	FPU 201	Wood Structure and Identification	3	2	<u>3</u>		FBS 102	
	FRM 206	Geospatial Methods in Forestry	3	2	<u>3</u>		FRM 204	
	FRM 207	Forest Ecosystems Resource Accountingand Valuation	4	2	<u>6</u>		FRM 205	
	Fili 101	Kontekstwalisadong Komunikasyon sa Filipino	3	3	0			
	GEd 109	Science, Technology and Society	3	3	0			
	GEd 115	Gender and Society	3	3	0			
	PATHFit 4	Team Sports (Basketball and Volleyball)	2	2	0		PATHFit 1 and 2	
	TOTAL		24	19	15			

Year	Course Code	Course Description	Credits	Lec	Lab	RLE	Pre- Requisite(s)	Co- Requisite(s)
Year 2	SUMMER							
	FORE 401	Ecotourism and Outdoor RecreationManagement	3	2	<u>3</u>		2nd Year Standing	
	FRM 208	Silviculture 1 - Forest Nurseries and Plantation Development	3	2	<u>3</u>		FBS 206	
	TOTAL		6	4	6			



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Year	Course Code	Course Description	Credits	Lec	Lab	RLE	Pre- Requisite(s)	Co- Requisite(s)		
Year 3	FIRST SEMES	STER								
	FBS 307	Forest Health and Protection	4	2	<u>6</u>		FBS 206			
	FPU 302	Properties and Utilization of Wood Products	3	2	3		FPU 201			
	FRM 309	Silviculture 2 - Silvicultural Systems	3	2	<u>3</u>		FRM 208			
	FRM 310	Forest Enterprise Development and Management	3	3	0					
	SFFG 401	Forest Governance and Policy	3	3	0					
	Fili 102	Filipino sa Iba't-ibang Disiplina	3	3	0					
	GEd 107	Ethics	3	3	0					
	GEd 111	Technical Writing	3	3	0					
	TOTAL		25	21	12					
Year 3	SECOND SEMESTER									
	FBS 308	Forest Wildlife and Biodiversity Conservation	3	2	<u>3</u>		FBS 101			
	FOR RES 401	Problem Analysis and Research Methods	3	3	0		GEd 111			
	FORE 402	Urban Forestry and Landscaping	3	2	<u>3</u>		FRM 309			
	FPU 303	Properties and Utilization of Non-wood Products	3	2	<u>3</u>		FPU 302			
	FRM 311	Watershed Management	3	2	<u>3</u>		FRM 206			
	SFFG 402	Forest Laws and Regulations	3	3	0		SFFG 401			
	GEd 116	Philippine Popular Culture	3	3	0					
	TOTAL		21	17	12					

Year	Course Code	Course Description	Credits	Lec	Lab	RLE	Pre- Requisite(s)	Co- Requisite(s)
Year 3	SUMMER							
	OJT 107	On-the-Job Training 1 (300 hours)	6	0	300		3rd Year Standing	
	TOTAL		6	0	300			



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Year	Course Code	Course Description	Credits	Lec	Lab	RLE	Pre- Requisite(s)	Co- Requisite(s)
Year 4	FIRST SEMES	STER						
	FBS 409	Protected Area Management	3	2	<u>3</u>		FBS 205, SFFG 402	
	FOR RES 402	Thesis	4	4	0		FOR RES 401	
	FORE 403	Environmental Impact Assessment	3	2	<u>3</u>		SFFG 402	
	FPU 404	Production Management in Forest-basedIndustries	3	3	0		FPU 303	
	SFFG 403	Social Forestry and Community-based Natural Resources Management	3	2	<u>3</u>		SFFG 402	
	GEd 103	Life and Works of Rizal	3	3	0			
	TOTAL		19	16	9			
Year 4	SECOND SEM	IESTER						
	FOR REV 401	Pre-board Review	1	1	0		Graduating Standing	
	FORE 404	Restoration of Degraded Ecosystems	3	2	<u>3</u>		FBS 101	
	FRM 412	Integrated Forest ResourcesManagement	3	3	0		SFFG 402	
	SFFG 404	Agroforestry and Sustainable Upland Development	3	2	<u>3</u>		FRM 309	
	SFFG 405	Forestry Extension, Communication and Knowledge Management	3	2	<u>3</u>		SFFG 403	
	TOTAL		13	10	9			