



IPB University  
— Bogor Indonesia —

Department of  
Silviculture

# ACADEMIC PROGRAM BOOK SILVICULTURE

## Undergraduate Program



@ied\_ipb



global.ipb.ac.id



Bogor, Indonesia

# LEARNING OUTCOME

1

Devout to God Almighty, possessing noble character, a national perspective, and integrity; motivated to continuously develop oneself, disciplined, and responsible.

2

Possessing a leadership spirit, able to collaborate effectively within teams at both national and international levels; capable of thinking logically and systematically, communicating effectively both verbally and in writing, staying abreast of advancements in science and technology, and adapting to environmental changes.

3

Mastering concepts, theories, methods, and/or philosophies in tropical forest management in general and specifically in the field of silviculture, based on the analysis of data and information using basic and applied scientific approaches in relevant forestry fields.

4

Demonstrate independent, high-quality, and measurable performance in the fields of forest productivity, forest ecology, and forest conservation through conventional approaches and cutting-edge technologies.

5

Analyze, integrate science and technology, and design models and techniques in the fields of forest productivity, forest ecology, and forest conservation to enhance the quality and productivity of natural forests and plantation forests for the achievement of sustainable forest and environmental management.

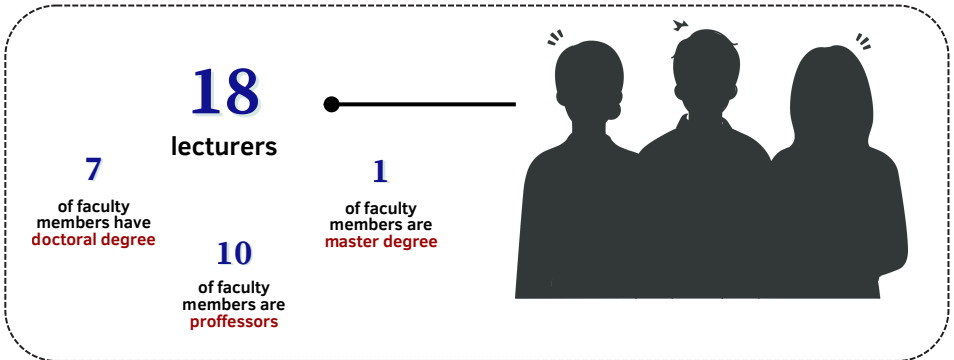
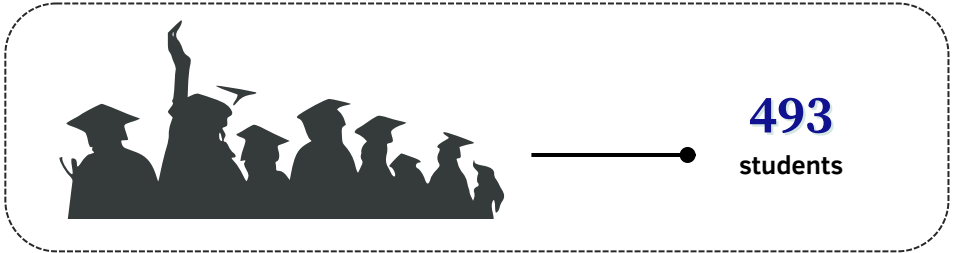
6

Able to compile scientific descriptions of research results based on scientific principles, procedures, and ethics in the form of a thesis or final project report.



# PROFILE

## SNAPSHOTS



## ACCREDITATION



Accredited by ASIIN and BAN-PT

# PROFILE

## A Brief History

The graduate profile of the Silviculture Study Program is developed based on the vision, mission, and objectives of IPB University, the Faculty of Forestry and Environment, the Silviculture Study Program, as well as the competencies outlined in Level 6 of the Indonesian National Qualifications Framework (KKNI)

Graduates of the Silviculture Study Program are expected to possess strong scientific knowledge, practical skills, and professional competencies in the field of silviculture and forest ecosystem management. They are prepared to pursue careers as:

### Researchers

Contributing to the advancement of knowledge and innovation in forestry and environmental sciences.

### Academics

Engaging in education, training, and knowledge dissemination in forestry-related disciplines

### Entrepreneurs

Developing sustainable business ventures and innovations in forestry, agroforestry, and natural resource management.

### Professionals in Government, Private Companies, and Non-Governmental Organizations (NGOs)

Applying silvicultural principles and sustainable forest management practices to address environmental, social, and economic challenges.

Through these roles, graduates are expected to contribute to the sustainable management of forest resources and support national and global efforts toward environmental conservation and sustainable development.

# PROFILE

## Vision of Silviculture

To become an internationally recognized and world-leading Department of Silviculture.

## Mission of Silviculture

1. To provide research-based academic and professional higher education that produces highly ethical graduates with strong competencies in forestry and environmental science and technology, as well as the ability to advance these fields through innovation and research.
2. To establish the Department of Silviculture as a globally recognized leader and trendsetter in tropical silviculture research and innovation.
3. To develop the Department of Silviculture as a higher education institution with a management system that emphasizes quality, professionalism, and continuous improvement.



# PROFILE

## Competencies of Silviculture Graduates

1. Demonstrate devotion to God Almighty, uphold noble values, and maintain high standards of ethics and integrity in both personal and professional life.
2. Apply and integrate fundamental and applied knowledge in silviculture with an understanding of forestry and environmental dynamics to analyze problems, formulate solutions, and make informed decisions that support sustainable forest and environmental management.
3. Integrate scientific knowledge, local wisdom, and advanced silvicultural technologies to maintain ecological functions, enhance forest productivity, and support forest conservation, while promoting ecosystem-based sustainability and equitable community well-being.
4. Exhibit the qualities of an agile and resilient lifelong learner, with a strong commitment to continuous self-development, adaptation to environmental changes, and responsiveness to advances in science and technology.
5. Demonstrate creativity, innovation, effectiveness, and systematic thinking in both oral and written communication, while working collaboratively with diverse stakeholders and exhibiting a strong entrepreneurial mindset.



# CURRICULUM

## Program Structure

### Program Scheme

**3.5**

**Years at IPB**

Core curriculum  
+ field practice

**0.5**

**Years exposure**

Partner university  
/ international  
component

**1**

**Single Degree**

IPB University  
pathway



# CURRICULUM

## Curriculum of Chemistry Undergraduate

### Semester 1

| Courses                          | Credit |
|----------------------------------|--------|
| Religion                         | 3(2-1) |
| Pancasila Education              | 2(2-0) |
| Civics Education                 | 2(2-0) |
| Indonesian                       | 2(1-1) |
| General Biology                  | 3(2-1) |
| Economics                        | 2(2-0) |
| Innovative Agriculture           | 2(2-0) |
| Mathematics and Logical Thinking | 3(2-1) |

### Semester 2

| Course   | Credit |
|--|--------|
| English  | 2(1-1) |
| Physics  | 3(2-1) |
| General Chemistry 1                            | 3(2-1) |
| Sociology                                      | 2(2-0) |
| Computational Thinking                         | 2(1-0) |
| Statistics and Data Analysis                   | 3(3-0) |
| Forestry and Environmental Ethics              | 2(2-0) |
| Conservation of Biological and the Environment | 2(2-0) |

# CURRICULUM

## Course Mapping

### Semester 3

| Courses  | Credit |
|--|--------|
| Basic Properties of Forest Products                      | 2(2-0) |
| Forest Resource Inventory                                | 3(2-1) |
| Forest Climate Dynamics                                  | 3(2-1) |
| Soil Science and Forest Nutrition                        | 3(2-1) |
| Spatial Analysis and AI for Forestry and the Environment | 2(1-1) |
| Forest Protection  | 3(2-1) |
| Silviculture   | 2(1-1) |
| Dendrology   | 3(2-1) |

### Semester 4

| Courses                                 | Credit |
|---|--------|
| Silviculture                            | 3(2-1) |
| Forest Ecology                          | 3(2-1) |
| Ecohydrology and Landscape Conservation | 2(1-1) |
| Forest                                  | 3(2-1) |
| Forest Pathology                        | 3(2-1) |
| Forest Entomology                       | 3(2-1) |
| Data Science in Forest Ecosystems       | 3      |
| Forestry Field Practice                 |        |

### Semester 5

| Courses  | Credit |
|--|--------|
| Research Methodology and Scientific Writing Scientific | 2(1-1) |
| Forest Genetics and Tree Breeding                      | 3(2-1) |
| Forest Tree Seed Technology                            | 3(2-1) |
| Forest and Land Fires                                  | 3(2-1) |
| Pest and Disease Control                               | 3(1-2) |
| Integrated Forestry                                    | 3(2-1) |
| Silviculture of Natural Forests                        | 2(2-0) |
| Forest Syn-ecology                                     |        |

# CURRICULUM

## Course Mapping

### Semester 6

| Courses                           | Credit |
|-----------------------------------|--------|
| Forest Management Planning        | 3(2-1) |
| Vegetative Propagation Technology | 2(1-1) |
| Forest Plants                     | 2(2-0) |
| Tropical Tree Ecology             | 3(2-1) |
| Agroforestry                      | 2(1-1) |
| Forest Health and Arboriculture   | 2(1-1) |
| Forensic Forestry and Environment | 3(2-1) |
| Post-Mining Land Reclamation      | 4      |
| International Community Service   |        |

### Semester 7

| Courses                           | Credit |
|-----------------------------------|--------|
| International Exposure (elective) | 10     |
| International internship          |        |
| Short semester                    |        |
| International conference/workshop |        |

### Semester 8

| Courses       | Credit |
|---------------|--------|
| Seminar       | 1      |
| Final Project | 6      |

# FACILITIES



**Silviculture Building**



**Fire Center**



**Forest Genetics Laboratory**



**Plant Nursery**



**Greenhouse**



**Campus Forest Park**

# INTERNATIONAL COLLABORATION

## List of International Collaboration

|              | Country/Region | Affiliated Partners  |
|--------------|----------------|--|
| Universities | Malaysia       | Universiti Putra Malaysia  |
|              | Japan          | Kyoto University<br>Tokyo University of Agriculture and Technology<br>Ehime University |
|              | France         | Montpellier University<br>University PSL   |
|              | Germany        | University Georg August Goettingen   |
|              | Netherland     | Wageningen University  |
|              | South Korea    | Seoul National University  |
|              | Thailand       | Kasetsart University   |
|              | Canada         | University of Waterloo   |
|              | Laos           | National University of Laos  |
| Industries   | USA            | World Resourse Institute (WRI),<br>Washington DC<br>World Forest ID                    |
|              | Japan          | Japan International Forestry Promotion<br>and Cooperation Center                       |
|              | South Korea    | KOICA  |
|              | UK             | Edinburgh Botanic Garden   |



# CONTACT

## | The Faculty Campus

The Department of Silviculture, IPB University, is located in Dramaga District, Bogor Regency. It is approximately a 50-minute drive from Bogor City and is accessible by various modes of public transportation (online taxis, buses, and minibuses). The rich natural surroundings provide students with an ideal environment to study.

### Faculty of Forestry and Environment

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