IPB University
Bogor Indonesia

Departement of Biology
Faculty of Mathematics and Natural Sciences

ACADEMIC PROGRAM BOOK

Biology

Undergraduate Program

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LEARNING OUTCOME

1. Able to make appropriate decisions based on data and information analysis, and able to provide guidance in choosing various alternative solutions independently and in groups in the fields of biodiversity, environment, and biotechnology.
2. Master the theoretical concepts in the field of biology in general and theoretical concepts in the fields of biodiversity, environment and biotechnology and have the ability to formulate procedural problem solving based on theoretical concepts mastered.
3. Able to apply biological expertise and utilize science and technology in problem solving in the fields of biodiversity, environment, and biotechnology and be able to adapt to the situation at hand.
4. Able to apply scientific values and values contained in state agreements in life.
5. To be an agile, collaborative, and adaptive individual to change.
6. Become a lifelong learner
7. Have the ability to take responsibility for one's own work in the field of Biology and can be given responsibility for the achievement of the work of his/her organization
8. Have the ability to self-evaluate, manage one's own learning, effectively communicate information and ideas in various forms of media as appropriate.

PROFILE

SNAPSHOTS

34
of lecturers have doctoral degree

15
of lecturers is professors

3
of lecturers have master's degree

ACCREDITATION

Accredited by BAN-PT

Accredited by Asian University Network Quality Assurance (AUN-QA)

Excellent (Unggul) Accrediation by LAMSAMA

Accredited by ASIIN International Accreditation with full time accredited status from September 2023 to September 2029

QS World University ranking by subject in 2021, Biology is in first position for Biology study programs in Indonesia, 15th position for Biology in Southeast Asia, and 150-154 for Biology study programs in Asia.

PROFILE

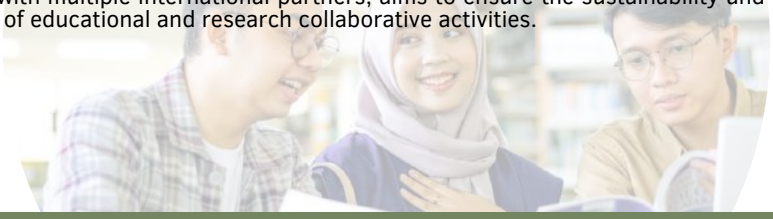
A Brief History

The Bachelor degree in Biology study program (BA Biology) is held by the Department of Biology, Faculty of Mathematics and Science, IPB University (Bogor Agricultural Institute). The degree was officially established in 1982 through IPB Chancellor's Decree No. 121 of that year. Subsequently, the educational framework of BA Biology at IPB underwent updates and reorganization, as outlined in IPB Chancellor's Decree No. 001/K13/PP/2005. According to this decree, the Department of Biology is entrusted with the responsibility of advancing the fundamentals of science and technology in the field of biology. This foundation is crucial for the effective management and sustainable development of biological diversity and the environment.

The primary objective of the BA Biology is to produce graduates with competence in the developing basic science and technology within the field of biology, thereby contributing to the management and development of biodiversity and environmental sustainability. The vision of BA Biology is to establish itself as a center of excellence in BA Biology education, both nationally and internationally. The mission is to organize superior, internationally recognized higher education that nurtures graduates in the field of biology possessing competitiveness, character, and high quality.

The Biology Department manages BA Biology with precision and integration. The operational activities of BA Biology are conducted by all components within the Biology Department, adhering to their assigned functions. These components include lecturers, educational staff, and administrative staff. All of the lectures (100%) of BA Biology have professional teaching certificates with scientific competencies appropriate to the field of Biology. Based on the Latest Educational Background, 34 lecturers (91.9%) hold doctoral degrees, and most of them (67.7%) are from various overseas universities.Lecturers in the Biology Department are grouped based on their expertise into divisions, which include (1) Microbiology, (2) Mycology, (3) Ecology and Plant Resources, (4) Physiology and Genetics of Plants, (5) Biosystematics and Animal Ecology, and (6) Animal Functions and Behavior. All divisions actively contribute to supporting the academic activities of BA Biology.

The Biology Department has an impressive track record in fostering collaborations in research and education with various international institutions. The tangible outcomes of such partnerships are evident in joint publications involving students and lecturers from the Biology Department, and collaborators from diverse international institutions. Students across different strata and study programs within the Department of Biology frequently engage in international mobility, participating in research, seminars, and student exchanges. Notably, foreign students from various universities worldwide come to the Department of Biology. They partake in conferences, summer courses, research, and attend lectures. Furthermore, efforts to strengthen collaboration involve the initiation of a collaborative learning consortium in the integrative field of biology. This consortium, formed with multiple international partners, aims to ensure the sustainability and enduring success of educational and research collaborative activities.



CURRICULUM

Program Structure

Program Scheme	
Single Degree (3.5 + 0.5)	3.5 years at IPB University 0.5 at year partner University

CURRICULUM

Course Mapping

Common Core Courses & Fundamental Courses

Courses	Credit	Semester
Religion	3(2-1)	1
Indonesian Language	2(1-1)	1
Pancasila Education	1(1-0)	1
Sport and Arts	1(0-1)	1
Innovative Agriculture	2(2-0)	1
Basics Biology	3(2-1)	1
Chemistry Science and Technology	3(2-1)	1
Mathematics and Logical Thinking	3(2-1)	1
English	2(1-1)	2
Civic Educatiion	1(1-0)	2
Physics	3(2-1)	2
Computational Thinking	2(2-0)	2
Sociology	2(2-0)	2
Economics	2(2-0)	2
Statistics and Data Analysis	3(2-0)	2
Biological Material Analysis	3(2-1)	2

Foundational Literacies & Academic Core Courses

Courses	Credit	Semester
Evolution and Biosystematics	2(2-0)	3
Cell and Molecular Biology	3(2-1)	3
Microbiology	3(2-1)	3
Plant Biodiversity	3(2-1)	3
Ecology	2(2-0)	3
Fundamental Genetics	3(2-1)	3
Animal Biodiversity	3(2-1)	3
Biochemistry	3(2-1)	4
Lab Techniques and Biological Instrumentation	1(0-1)	4
Plant Physiology	3(2-1)	4
Animal Physiology	2(2-0)	4
Statistical Methodology	3(2-1)	5
Research Methods and Scientific Communication	2(2-0)	5
Bioinformatics	3(2-1)	6

CURRICULUM

Course Mapping

In-depth Study Program Courses

Courses	Credit	Semester
Plant Structure and Development	2(2-0)	4
Animal Structure and Development	2(2-0)	4
Microbial Physiology	2(2-0)	4
Micology and Applications	3(2-1)	4
Molecular Genetics	2(2-0)	4
Microbial Ecology and Evolution	2(2-0)	4
Interaction between Organisms	2(2-0)	5
Cell and Tissue Culture Techniques	2(1-1)	5
Modern Biological Techniques	2(1-1)	5
Immunology and Virology	2(2-0)	5
Ethology	2(1-1)	5
Ecophysiology	2(2-0)	5
Microtechniques	2(1-1)	5
Indonesian Ethnobiology	2(2-0)	5
Microbial Genetics	2(2-0)	5
Aquatic Microbiology	2(2-0)	5
Macrofungi and Biomaterial	2(1-1)	5
Genetics Microbe Experiment	2(1-1)	5
Biorisk and Microbiology	2(2-0)	5
Metabolites and Bioprospect	2(2-0)	5
Bioprocess Technology	2(2-0)	5
Genetic Conversation and Bioforensics	2(2-0)	5
Biotechnology and Biosynthetic	2(2-0)	6
Envrionemental Biology and Converstaion	2(2-0)	6
Microbes for Health	2(2-0)	6
Microb Biotechnology and Fermentation	2(2-0)	6
Omic Technology Basics	2(1-1)	6

Enrichment Courses

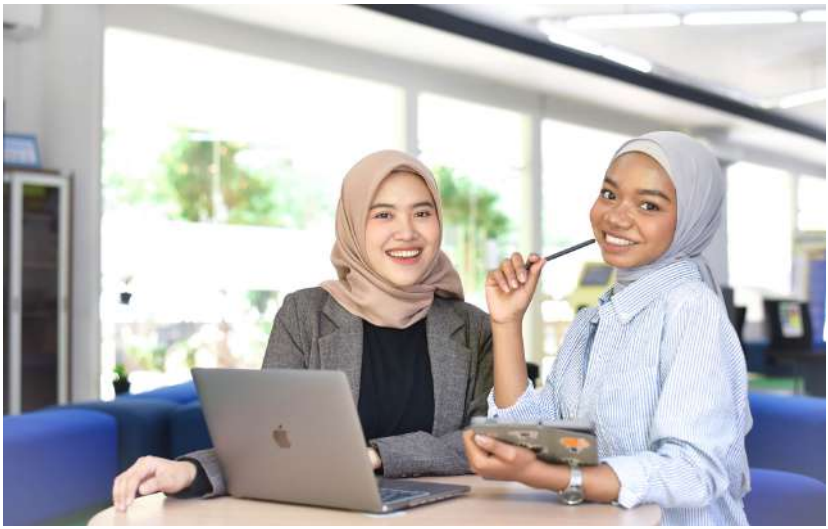
Courses	Credit	Semester
Enrichment Courses	6	6
Enrichment Courses/Student Exchange	15	7

CURRICULUM

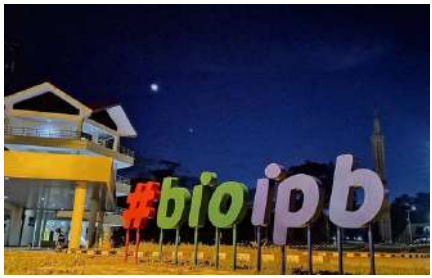
Course Mapping

Final Year Project, Capstones, KKNT, Internship

Courses	Credit	Semester
Biology Integratice Project	2(0-2)	6
Ecology Project	2(0-2)	6
Plant Project	1(0-1)	6
Animal Project	2(0-2)	6
Colloqium	1	6
Community Services	4	7
Internship in Biological Scope	3	7
Research Seminar	1	8
Undergraduate Thesis	6	8



FACILITIES



Biology Building

Micro Research Laboratory

PPKU Laboratory

Kuljar Laboratory

INTERNATIONAL COLLABORATION

List of International Collaboration

	Country/Region	Affiliated Partners
Universities	Malaysia	Universiti Putra Malaysia
		Universiti Teknologi Mara
	Thailand	Kasetsart University
	Japan	Kyoto University
		Tottori University
		Okayama University
	South Korea	Gyeongsang National University
	United Kingdom	University of Nottingham
	Germany	University of Göttingen
		Leipzig Zurich
	Switzerland	University of Zurich
	Croatia	Zagreb University

INTERNATIONAL EXPOSURE

Student International Exposure

Country/Region	Potential Partner	Cost Estimation (Rp)
Malaysia	Universiti Putra Malaysia Universiti Teknologi Mara University Malaya	Ticket Insurance Living Cost: 2 million/month Dormitory: 1.5 million/month
Thailand	Kasetsart University	Ticket Insurance Living Cost: 2 million/month Dormitory: 1.5 million/month
Japan	Kyoto University Tottori University Okayama University	Ticket Insurance Living Cost: 3 million/month Dormitory: 3 million/month

Implementation at 7th Semester

CONTACT

The Faculty Campus

The campus of the Department Biology is located in Bogor City. The closest train station is Bogor Station. With easy access to neighboring cities, the campus is just 60 minutes from Jakarta on Commuter Line, making it convenient for students to commute from out of town. The rich natural surroundings provide students with an ideal environment to study.

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