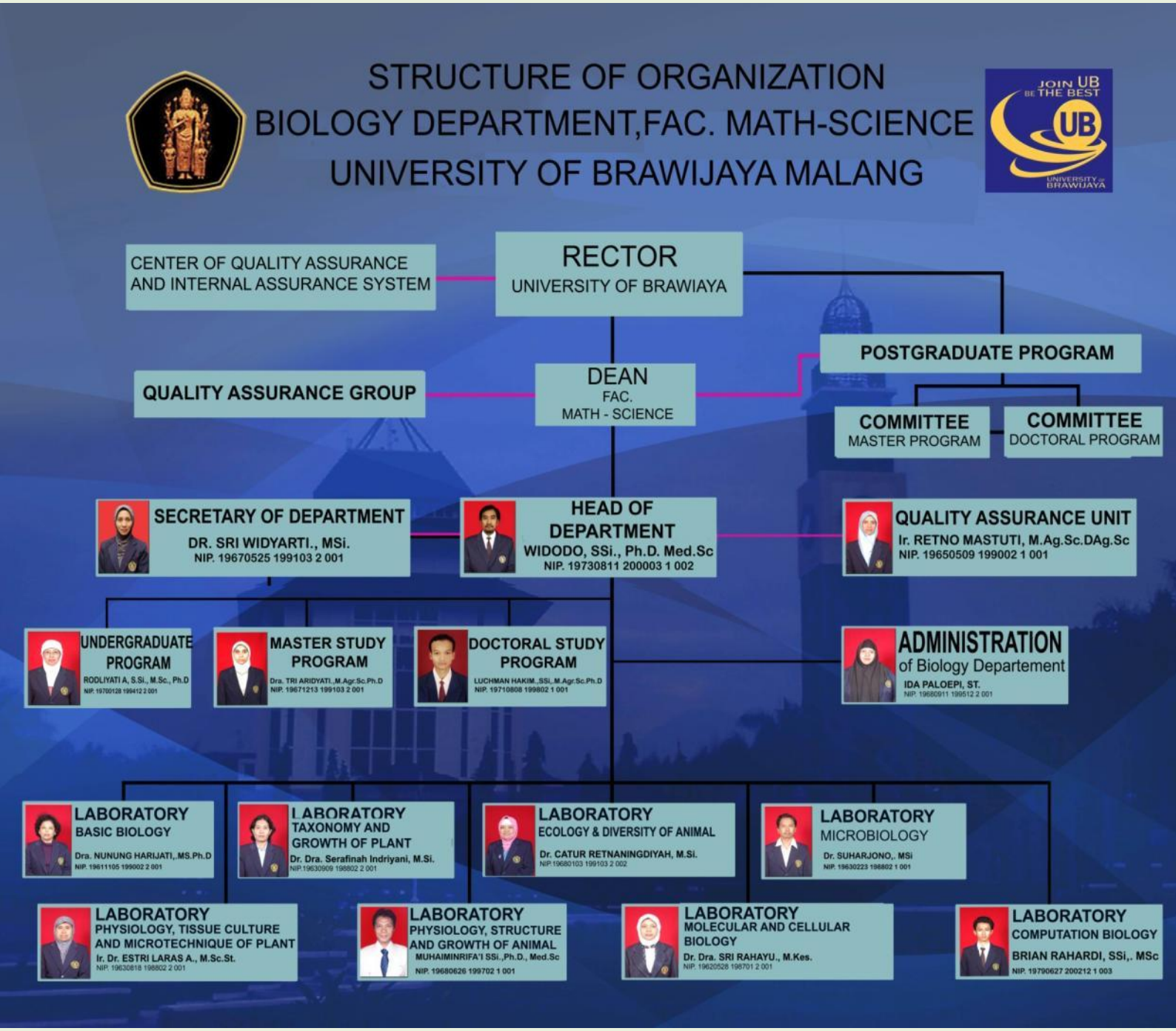
General Information for Prospective Regular Student &
Research Exchange Student

2013-2014

Enrollment Guidebook for International Student

Biology Departement
University of Brawijaya


STRUCTURE OF ORGANIZATION
BIOLOGY DEPARTMENT,FAC. MATH-SCIENCE
UNIVERSITY OF BRAWIJAYA MALANG
JOIN UB BE THE BEST
CENTER OF QUALITY ASSURANCE AND INTERNAL ASSURANCE SYSTEM
RECTOR
UNIVERSITY OF BRAWIAYA
POSTGRADUATE PROGRAM
QUALITY ASSURANCE GROUP
DEAN
FAC.
MATH - SCIENCE
COMMITTEE
MASTER PROGRAM
COMMITTEE
DOCTORAL PROGRAM
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Head of Department

Widodo, S.Si., M.Si., Ph.D. Med.Sc
Head of Biology Department

As the Head of Biology Department, University of Brawijaya, I am very pleased to inform our activities as the world-renowned university. The biology Department offers Biology courses emphasizing fundamental concepts of biology at the molecular, cellular, organismal, population and community levels. Our course laboratories provide first-hand experience to the students in understanding biological concepts thus furthering their understanding of life.

To provide student sufficient background to meet the challenges of academic and professional streams, Biology curriculum is always reformed, updated inline with cutting edge of science and biotechnology. The curriculum has been given to develop skills in experimentation, observation and learning experience to make the students understand the concept of Biology getting more interesting and thorough, application of concepts in real life situations.

Biology department, University of Brawijaya has been participating in the enhancement of human resource and technology development along side with other educational and research instituitions within the country and the overseas. A broad range of vocational training is also catered to facilitate the need of outcome in the society and in the industries.

We do hope that the information would give enough introductory information as a gesture of welcome invitation.

Content

OVERVIEW OF BIOLOGY DEPARTMENT

1.1 Brief History, Vision and Mission

University of Brawijaya became a public state university in 1963. Today, the university is one of the leading universities in Indonesia with more than 30,000 students in various degrees ranging from the Bachelor Degree Program, Master Degree Program, Doctoral Degree Program, and Medical Specialist Program in 10 faculties. As one of many departments under Faculty of Mathematics and Natural Sciences, Biology was established on August 1987 to conduct the activities of teaching and learning on Undergraduate students. It was followed by establishing Graduate program in 1998. In 2002 to 2005, the department was granted TPSDP project from National Education Department and Asian Development Bank. The grant has been utilized to increase the quality and the capacity of the organization. It resulted in significant improvement of *Relevance, Academic Atmosphere, Internal Management, Sustainability, Efficiency and Productivity* (RAISE) development. Then, from 2007 to 2010 the RAISE development of the department has been continued through collaboration with other faculties of the university under I-MHERE grant. Based on this fact, Doctoral Program was found in 2010 by the Decree of the National Education Minister No. 162/D/O/2010. Biology Department, as an educational instituition, is committed to develop itself as an open, honest and society care instituition and to cooperate with national (and overseas) instituition in developing teaching, conducting research, community development, and public laboratory analysis service.

Indonesia has extremely rich biological resources that do not exist in the other part of the world. However, the bio-diversity in Indonesia has not been well identified and investigated as well as not efficiently explored yet and many of them become endanger and extinction. Therefore, our challenge for the future is to preserve bio-diversity and the environment to sustainability development. Based on this condition, **the vision** is to make the Biology Department to be a role model in conducting education of Biology majors in accordance with best international standards, a place to do research to develop the concept of modern biology and to have a high awareness for conserving biodiversity, and to be able to support the development of applied sciences to meet the needs of society and human welfare.

The mission of the Study Program is to serve the needs of the regional citizens of East Java, nation and human through programs committed to excellence and designed:

1. To educate students to be bachelors, masters and doctors who have thorough understanding about the concept of modern biology (the most current concepts at the moment) and bioconservation. Biology graduates must have good profile/academic achievement, ethics to respect the right of life and capability to cooperate with the neighborhood.
2. To play an important role as a pioneer institution of biological education and research, to be able to explore and to discover new knowledge, and actively participate in developing ideas and concepts to support the development of applied sciences (including agriculture, animal husbandry, fisheries, medicine, veterinary medicine and dentistry). To serve the biology educational and expertise to professional and lay communities. To serve the educational program and biological expertise to the professional and lay people. Biology graduates are expected to be able to use their knowledge to improve people's welfare and environmental protection during their life.
3. To act as a pioneer (has a high sensitivity and fast act) in helping to solve biological problems of human.

Based on the vision and the mission, goals of Biology Department are:

1. To produce competent bachelors, masters and doctors, to have high academic achievement, and to have communication skills to compete in the job market both in domestic and overseas.
2. To create a conducive academic atmosphere to increase creativity and productivity.
3. To improve the organization, management systems and internal efficiency according to Quality Standards of UB and Department Quality Standards of UB which have been outlined in the Quality Manual, Manual of Procedure and Work Instructions.
4. To ensure the sustainability of educational services, laboratory, published research in national and international standards, and community service.
5. To increase efficiency and productivity of facilities of learning process in case of improving the quality and conducting research and community service.
6. To increase the competence and the satisfaction of service to meet local needs for new innovations in the field of biology in term improving the life and human welfare.

1.2 Revenue and Expenditure Funding

Biology department is supported by Government and private foundation to conduct research and teaching learning process.

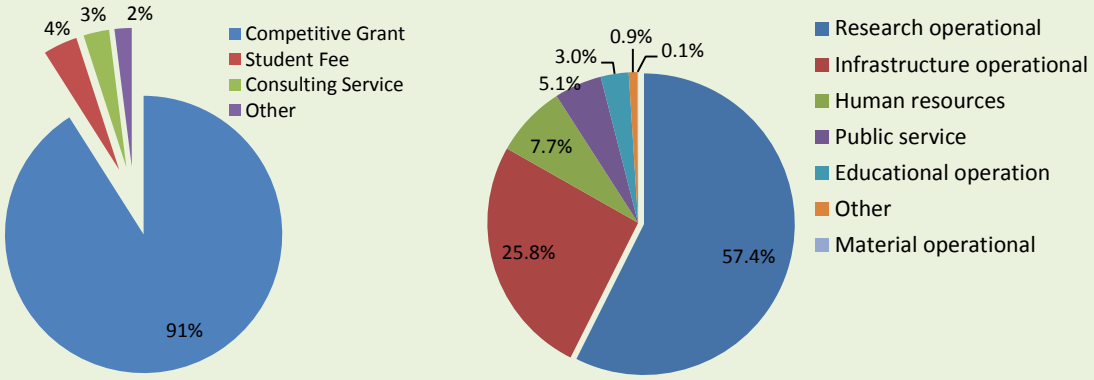
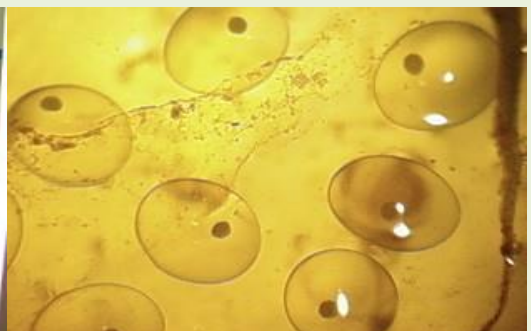


Figure 1. Funding of Biology Department period 2008-2010 (a) Revenue Funding and (b) Expendixture Funding



1.3 Researches and Centers

Biology has 2 main fields, 7 laboratories and several field stations with well-equipped modern laboratories. Biology Department provide unique teaching-learning process by Problem-based learning system, an immense amount of care and support that share to abundance amount of tropical biodiversity which is arguably unsurpassed elsewhere. It means that Biology graduates are well prepared for life after university.

a. **Research Centers**

The research centers in biology department consist of 2 main fields; Bioconservation and Bioengineering. Main fields have teams of expertise with the research themes described below.

1. Research Center of Applied Microbiology.
   This center focuses on creation of concepts, strategies and technology in management of food and environment as the foundations of prosperity and competitiveness of the nation.

2. Research Center of Agroecosystem, Landscape management and Biosystematics.
   This center addresses to creation of concepts, models, and strategies for usage and management of resource that is efficient and sustainable. It is important for Indonesia in the face of the global environmental crisis and the threat of disasters, and in order to provide new resources that have not been much explored for the development of the nation.

3. Research Center of Plant Engineering..
   Objective of this center is to optimize the forms of plant biodiversity posed by current approaches of cell-molecular biology, cell and tissue culture plants, plant biotechnology and genetic engineering that is necessary in order to increase the potential of local resources in Indonesia and to encourage national competitiveness at global level.

7. Research Center of Reproduction Technology and Stem Cell
This center is keen to optimize other forms of wildlife diversity, particularly in aspects of improvements and engineering reproduction in ensuring national food resource availability, as well as contributing significantly at the global level.

8. Research Center of Nanobiology.
   This center focuses on advanced theories to explain the phenomenon of life at the cellular and the molecular level in an effort to improve public health and to control population explosion in order to create a competitive nation.

9. Research Center of Monoclonal antibody Technology.
   This Research Center focuses on the study of health technology development in case of having healthy and sustainable communities. Another focus is to help resolving cases of autoimmune and degenerative diseases. Activities carried out by two approaches in vitro *and* in vivo*. This research is expected to produce products that are very useful for health and affordable for Indonesians.*


10. Research centers of Nutrigenomics
The focus of this center is to acquire knowledge, technology and basic materials for the nutrition and the drug prevention of DNA repair diseases mainly caused by genetic factors. Research activities carried out in stages based on the results to be achieved and the approach used to follow the development of science and technology in the world.

b. **Laboratory and Trend Research**

1. Ecology and Animal Diversity Laboratory
   - Community development for conservation of tropical biodiversity in Ranu Pani.
   - Habitat manipulation for enhancement of the natural enemy in agriculture Area or plantation area.
   - Observation and identification of mosquito diversity.
   - Observation and identification of endemic fresh water fish.
   - Community structure of soil arthropos in semiorganic and intensive agricultural system in apple farm.
   - Risk assessment of invassive species and collection management of botanical garden.
   - Ecotoxicological risk assessment of detergent in the fresh water ecosystem
   - Modelling carbon stock management in urban ecosystem
2. Plant Taxonomy Laboratory
   - Nephenthes and wild species expedition in Merubetiri
   - Ethnobotanic and indigenous medicine of Tengger-Semeru tribe
3. Cell and Animal Physiology Laboratory
   - Tropical herbal medicine
   - Extended research for biodiversity and improving fertility and meat of balinesse cattle
   - Immune diseases, immunotherapy and immunitechnology
4. Microbiology Laboratory
   - Probiotics
   - Biofertilizer, Bioremediation
   - Biological control
5. Molecular Biology Laboratory
   - Study of diagnostic marker and molecular biomechanic of degenerative disease
   - Gender and contraception study
6. Plant Physiology Laboratory
   - In vitro selection for drought tolerance of soybean and sugarcane
7. Basic Biology Laboratory
   - Introduction of basic biology for student in Biology Department and other departments or faculty, such as Chemistry, Physic and Mathematic Department, Veterinary and Agriculture Faculty.
8. Bioinformatics and Biocomputation
   - In silico analysis of genetic and mutation diseases and structure analysis of medicine compound.
   - GIS application

c. Field Stations

1. **Ranu Pani**

The Village of Ranupani, situated 2,100 meters above the sea level. Ranupane is famous for its beautiful lake, surrounded by wildlife dense tropical forest and sand plateau. It has a population of about 60 people; most of them are traditional vegetables farmers. It is appropriate place to study tropical biodiversity especially endemic species in tropical highland habitat.

2.
endang Biru

Sendang Biru is a beach with an unspoiled white sand at south of Malang city. This beach is face to the Indian Ocean and a natural tropical rainforest with untouched wildlife which is best natural laboratory to study ecosystem and wildlife of tropical beach.

3. **Purwodadi Botanical Garden**

Purwodadi Botanical Garden covers an area of 85 ha which is at an altitude of about 300 m above sea level. It was established in 1939 by Dr D.F. van Slooten, as one of four branches of the Indonesian Botanic Gardens. It is used as a place for conservation and research on semi arid lowland plant species with a collection of 3,323 species, from 940 genera in 149 families.

4. Alas Purwo National Park

Wild life reserve at the Blambangan Peninsula is also known as Alas Purwo. The width of Alas Purwo is 42 hectares square which is completed by many kinds of wild animal, especially the species of Javanese bull (*Bos javanicus*), deer, and peacocks. Some other endangered animals are also protected here, they are: Cuonalpinus, Muntiacusmuntjak, Cervustimorensis, Presbytiscristata, Pavomuticus, *Gallus* sp., *Olive ridelyturtle*, Dermochelyscoriacea, Eretmochelysimbricata and Cheloniamydas. Beside its fauna, Alas Purwo also protected some endangered flora, such as; Terminaliacatappa, Calophylluminophyllum, Sterculiafoetida, Baringtoniaasiatica and Manikarakauki. There are many caves in the forest which are blanketed by many kinds of plantation.

5. Cangar

Cangar is located in Batu. It is a mountain area which has a hot spring pool and streams in temperature 30^{o}C – 40^{o}C. It is a right place for research on ecology and plant taxonomy exploration.

6. Meru Betiri National Park

The Meru Betiri National Park lies at the south coast of east Java and is 50,000 ha. It was named after the highest mountain in the area: the Mount Betiri (1,223 m).The park consists of one of the last extensive areas of lowland rainforest on Java, as well as mangrove, lowland swamp forest and beach formations. Endemics in the park are Rafflesia zollingeriana and Balanphora fungosa. On the southern beaches, near Sukamade, five species of sea turtle lay their eggs. It is a home to several protected animals, including 29 species of mammal and 180 species of bird.



1.4 Educational System

1. Undergraduate courses

Undergraduate courses at Biology department is a four-year course and a single-honours degree course. The course combines traditional, underpinning topics such as animal and plant systematics and relationships, with modern developments and techniques in all spheres of biology, from the molecular and cellular to the whole organismal and ecological. The course is divided into lectures, practical classes and fieldwork, because of the extremely diverse courses taught and the optional system, students can design themselves either a very general background encompassing a wide range of topics, or instead, specialise in detailed aspects of animals, plants, cells, microbiology or ecology.

ODD SEMESTER

No	Subjects	Unit ofSemester Credit (SCU)		
		Course	Practice	Sum
1	General Biology	3	1	4
2	Physics	2	1	3
3	Chemistry	2	1	3
4	Mathematics	3	-	3
5	English	2	-	2
6	Basic Computer	2	1	3
7	Indonesian Language	2	1	3
8	Biostatistics	2	1	3
9	Biochemistry and Instrumentation	2	1	3
10	Microtechnique	1	1	2
11	Cell Biology	2	1	3
12	Molecular Biology	2	-	2
13	Plant Systematics I	2	-	2
14	Plant Growth & Development II	2	1	3
15	Phytohormone	2	1	3
16	Animal Systematics I	2	-	2
17	Animal Embryology	2	1	3
18	Animal Cell and Tissue Culture	2	1	3
19	Immunology	1	1	2
20	Ecology	3	1	4
21	Ethnobotany	2	-	2
22	Conservation Biology	2	-	2
23	Management of Aquatic Ecosystem	2	1	3
24	Biological Control	2	1	3
25	Food & Industrial Microbiology	2	1	3
26	Environmental Microbiology	2	1	3
27	Entrepreneurship	3	-	3
28	On the Job Training	-	2	2
29	Public Service Study	1	2	3
30	Special topic for Research Project	-	3	3
31	Research Proposal Seminar	-	1	1
32	Research Progress Seminar	-	1	1
33	Research Project	-	6	6
34	Special Subject from Law Faculty and Agriculture Technology Faculty			



EVEN SEMESTER

No	Subjects	Unit of Semester Credit (SCU)		
		Course	Practice	Sum
1	Civics	2	-	2
2	Religion Education	2	-	2
3	Non-English Language	2	-	2
4	Social Psychology	2	-	2
5	Introduction to Statistics	2	1	3
6	Introduction of Biophysics	2	1	3
7	Genetics	3	1	4
8	Evolution	2	-	2
9	Computational Biology and Bioinformatics	1	2	3
10	Technique and Analysis of Molecular Biology	2	1	3
11	Plant Growth and Development	2	1	3
12	Plant Structure and Development I	2	1	3
13	Plant Systematics II	2	1	3
14	Plant Physiology	3	1	4
15	Plant Tissue Culture	2	1	3
16	Herbal Medicine	2	1	3
17	Speciment Preservation Technique	2	1	3
18	Animal Anatomy and Histology	2	1	3
19	Animal Systematics II	2	1	3
20	Animal Physiology	3	1	4
21	Animal Reproduction	2	1	3
22	Biodiversity	2	1	3
23	Ecotoxicology	2	1	3
24	General Microbiology	2	2	4
25	Methodology of Biological Research and Scientific Writing	3	-	3
26	Entrepreneurship	2	1	3
27	On the Job Training	-	2	2
28	Public Service Study	1	2	3
29	Special Topic for Research Project	-	3	3
30	Research Proposal Seminar	-	1	1
31	Research Progress Seminar	-	1	1
32	Research Project	-	6	6
33	Optional Subject from Law Faculty and Agriculture Technology Faculty			

2. Graduate Courses

The Biology Department offers master's degree programs and doctoral degree programs. The master's degree programs aim at producing professionals with academic andtechnical expertise and at offering re-education opportunities for the general public.

Master course programme:

No	Subjects	Unit of Semester Credit (SCU)		
		Course	Practice	Sum
1	Molecular Cell Biology	3	-	3
2	Perspective in Developmental Biology	2	1	3
3	Biodiversity	1	2	3
4	Philosophy of science and methodology of biological research	3	-	3
5	Animal Cell Culture and Embryo Manipulation	2	1	3
6	Reproduction Genetics	3	-	3
7	Technique and Analysis of Molecular Biology	0	2	2
8	Genetics Engineering	3	-	3
9	Physiology of Animal Reproduction	3	-	3
10	Physiology of Plant Reproduction	3	-	3
11	Plant Cell Culture	2	1	3
12	Physiology and Biochemistry Microbia	2	1	3
13	Immunochemistry	2	-	2
14	Modern Biotechnology (e-learning)	2	-	2
15	Biology Control	2	1	3

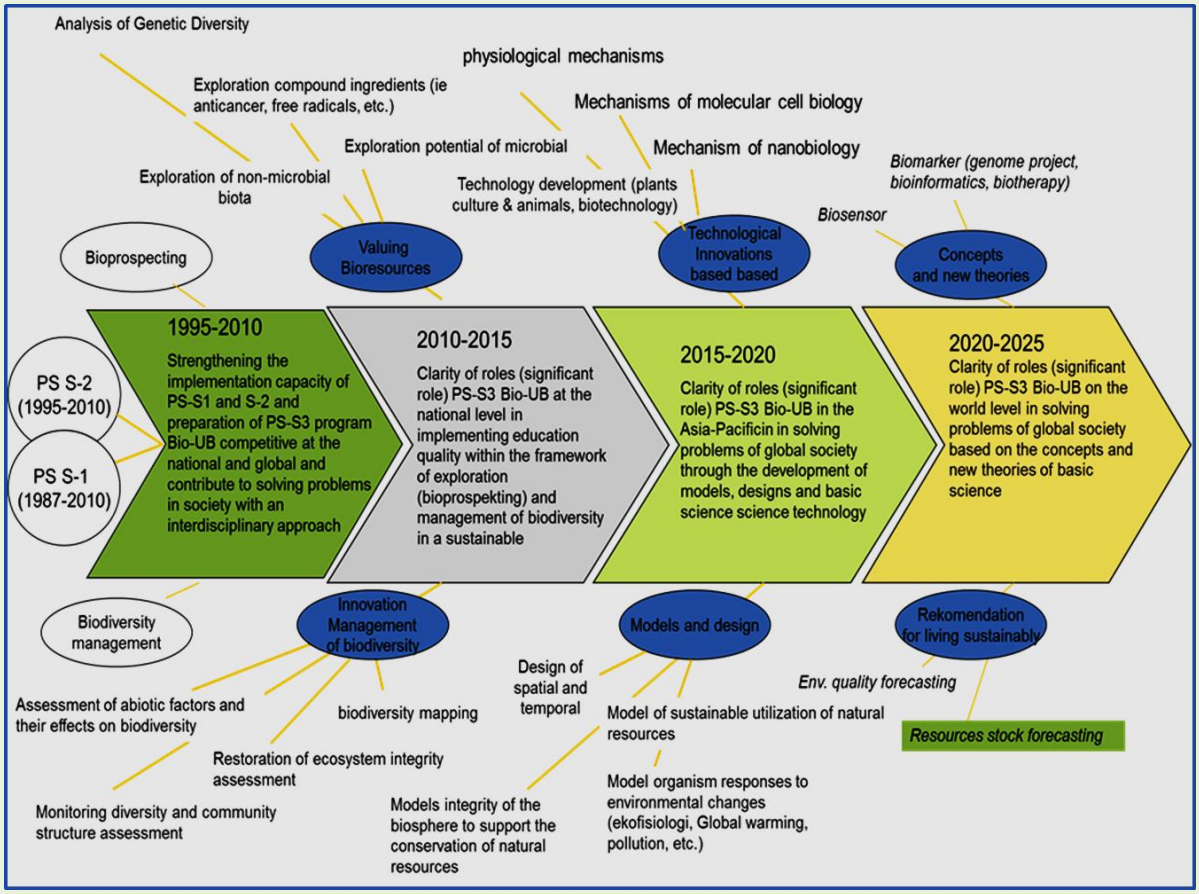
No	Subjects	Unit of Semester Credit (SCU)		
		Course	Practice	Sum
16	Ecotoxicology	2	1	3
17	Conservation Biotechnology	1	1	2
18	Biostatistic	0	2	2
19	Environmental Management	2	-	2
20	Taxonomy (Molecular biosytematic)	3	-	3
21	Ecotourism	2	1	3
22	Entomology	2	-	2
23	Ethnobotany	2	-	2
24	Special Topic for Research Project	3	-	3
25	Research Proposal Seminar	3	-	3
26	Research Progress Seminar	3	-	3
27	Thesis	9	-	9

The doctoral degree aims at producing researchers and highly specialized research professionals in various specialized fields, and at providing education based on a wide range of specialized knowledge.

Doctoral course programme:

No	Subjects	Unit of Semester Credit (SCU)		
		Course	Practice	Sum
1	Philosophy of Science and Research Methodology	3	-	3
2	Environmental Management	3	-	3
3	Bioengineering	3	-	3
4	Genetic Engineering Techniques	2	1	3
5	Bioremediation & Biodegradation	2	1	3
6	Animal Cell Culture & Embryo Manipulation	2	1	3
7	Plant Tissue Culture	2	1	3
8	Advanced Biological Engineering	2	-	2
9	Cell & Molecular Biology	2	2	3
10	Bioinformatics	0	2	2
11	Biological Control & Habitat Manipulation	2	1	3
12	Ecotoxicology	2	1	3
13	Biometry	0	2	2
14	Ecosystem Analysis Techniques	2	1	3
15	Management of Conservation Area	3	-	3
16	Ecotourism Management	2	1	3
17	Ethnobotany	2	-	2
18	Aquatic Environment Conservation	3	-	3
19	Analysis of Population and Community	2	-	2
20	Analysis of Biodiversity	3	-	-
21	Preliminary Studies	2	1	3
22	Dissertation	30	-	30

1.5 Road Map



ROAD MAP OF RESEARCHES AT BIOLOGY DEPT UB

Road map of lecturer's research at Bio Dept mainly leads to the integrated research development, to optimize lecturer's resources potential and infrastructures. Therefore, it can be assets and basic strength to improve Bio Dept having research-based excellence.

In principal, the resources available in the research can be categorized in two interests, Bioengineering and Bio-conservation. Each of them has a group of expertise with research themes explained below.

In practice, each group of expertise is led by a professor and a doctoral lecturer to develop researches targeted by goals of expertise groups. Each group has already developed the strategy of Resources sharing with staff/group of expertise either internal at Bio Dept or out of institution so efficient and optimal research can be reached. The research themes improved by each group will be offered to the students of Bio Dept as dissertation themes. Bio Dept students are expected to be able to conduct their researches, to obtain good guidance and to have qualified research by joining the groups.

Bioconservation Group I

Research themes

- Study on Bio-remidiation technology development
- Food Microbiology
- Bio-fertilizer

Research agenda

- Development of potential bioremediation agent to degrade pollutants and xenobiotics.
- Enhancment of important enzymes, gen cloning producer and application in the field of food and industry.
- Development of potential microbe as bio-fertilizer agent and the application.
- Study of probiotics and its application to animal 'coba'.

Bioconservation Group II

Research themes

- Tropic ecosystem conservation
- Insect ecology and development habitat model management (agro-ecosystem conservation)
- Landscape management
- Bio-systematic

Research agenda:

- Assessment of bio-indicator, bio-monitor and bio-mediator for green technology
- Conservation modeling for better ecological services in aquatic or terrestrial ecosystem
- Accelerating better ecosystem services inspired by optimizing management ecosystem model in rural and urban ecosystem
- Strengthening biodiversity conservation through sustainable tourism
- Exploring ethno-biological knowledge of Indonesia indigenous community to enhance conservation program

Bioconservation Group III

Research themes:

- Analysis on genes diversity of plant resources
- Plant physiology

Research agenda:

- Development of local plan groove to solve food crisis
- Development of plant pigment

Bioconservation Group IV

Research themes

- Development of animal reproduction technology
- Analysis on genetic diversity related to fertility
- Manipulation on embryos and stem cells
- Manipulation on fish reproduction

Research agenda

- Study on the role of GDF genetic and BMP on follicles development.
- The increasing of animal productivity through cloning, IB, IVF and engineering technology parthenogenesis as an efforts to provide genetic qualified parents by approach of cellular and molecules and application of stem cell

Bioengineering Group I

Research themes

- Study on cellular biology and cancer molecules
- Immune-contraception and medical diagnostic technology
- Innovation of science nano on cigarette smoke (divine smoke)

Research agenda

- ESR study of tobacco smoke
- Crystalographic study of complex amino acids
- Rhombohydron study of Hg in water

Bioengineering Group II

Research themes

- Study on monoclonal Antibody
- Study on autoimmune of molecular level

Bioengineering Group III

Research theme

- Study on nutrigenomics
- Bio-informatics

Research agenda

- Exploration of foods which are useful as nutrition of prevention degenerative deseases
- Development of drugs based on the specific structure by utilizing natural materials and Bioinformatics
- Exploration of genetic markers for human genetic diseases
- Development of biological system helped by super computers for analysis of genetic diseases

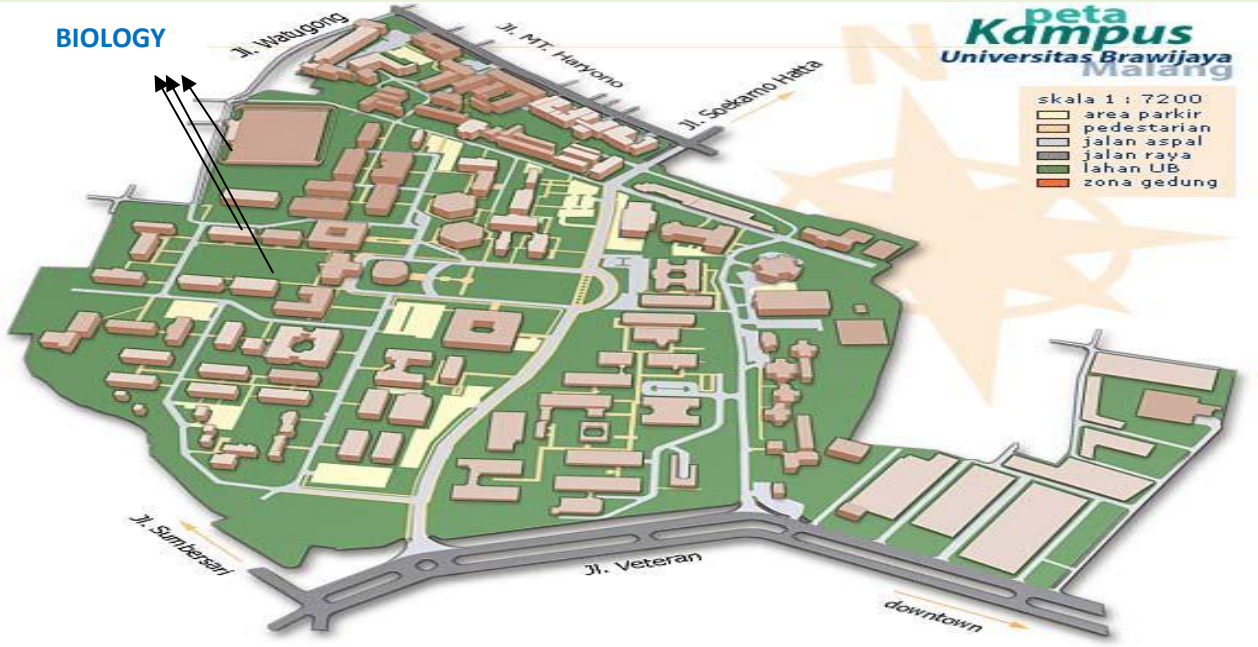
1.6 Academic Calendar

The academic year is divided into 2 semesters as follows:
First Semester: August – February
Second Trimester: February– August

1.7 Location

Biology department is located in the center of Malang City which blessed with beautiful natural and cultural surroundings. Malang City is located 440 - 667 above the sea level and surrounded by a number of mountains which are Arjuno Mountain in the north side, Tengger Mountain in the east side, Kawi Mountain in the west side, and Kelud Mountain in the south side. Malang is 80 kilometers southwest of Surabaya, the capital of East Java province. It is 30 minutes by taxi from Abdurrahman Saleh Airport, Malang, and 3 hours by travel-wagonfrom Juanda Airport, Surabaya.

1.8 Brawijaya University Map



1.9 Transportation to the University of Brawijaya

From Soekarno-Hatta International airport in Jakarta, take a flight to Abdurrahman Saleh airport, Malang and the university can be reached about 40 minutes by taxi. Alternatively, take a flight from the International airport to Juanda airport, Surabaya. Then take 3-hour trip by travel-wagon to the university. It can also be reached by Gajayana train from Gambir station, Jakarta to Malang. The trip takes 15 hours and the university can be reached by taxi for 20 minutes from the station of Kota Baru.

ADMISSIONS

2.1 Undergraduate Admission

a. Requirements

Applicants who are not citizens of Republic of Indonesia must take entrance examination on August every years. The university will accept only those who passed with satisfactory results of all the examinations, who belong to one of the categories below:

- Student who have TOEFL score≥ 500 or TOEIC score≥450
- Students who have completed their secondary school education and
- Ones are ≥18 years of age

b. Entrance Examination

- The candidates to be approved are decided on a written examination, an interview,TOEFL or TOEIC scores and the submitted documents.
- Applicants must sit for and pass the entrance examination at the Biology Department, Brawijaya University. About the examination dates, please visit our website: www.biology.ub.ac.id
- Entrance examinations are in English form, therefore sufficient English proficiency is required.
- Interviews are designed to enable you to show your enthusiasm for biology and your potential to study it at university.
- To apply directly from abroad, students must have a prospective supervisor or contact person in Republic of Indonesia who can be contacted by the university.
- In some condition, Examination might be conducted in the republic of Indonesia embassy in respective country or via teleconference.

c. Examination Schedule

Application form available	End of May
Application Period	Mid of June
Entrance examination	Beginning of July

d. Entrance examination Subjects

Subjects for written exam are: Math, Biology, Physics and Chemistry

e. Entrance and Tuition Fees

examination fee	$ 100
admission fee	$ 2500
tuition fee (per year)	$ 2500

※ In case there is an ammendment of the fees, new fees might be applied by the time the ammendment is effective.

f. How to obtain application forms
The distribution of admission applications starts in October. For details, please visit our web site (http://www.biologi.ub.ac.id)

g. For further information
Division of Admission, Department of Biology
University of Brawijaya
Jl. Veteran, Malang, Indonesia 65145
Telp. 62-341-575841

2.2 Graduate Admission (Master's and Doctoral Programs)

a. Entrance Examination
- The candidates to be approved are decided on a written examination, an interview, TOEFL or TOEIC scores and the submitted documents.
- applicants must sit for and pass the entrance examination at the Biology Department, Brawijaya University. The examination dates, please visit our website: www.biology.brawaijaya.ac.id
- Entrance examinations are in English form, therefore sufficient English proficiency is required.
- Interviews are designed to enable you to show your enthusiasm for Biology and your potential to study it at university.
- To apply directly from abroad, students must have a prospective supervisor or contact person in Republic of Indonesia who can be contacted by the university.
- In some condition, Examination might be conducted in the republic of Indonesia embassy in respective country or via teleconference.

b. Entrance Examination Schedule

Application form available	End of May
Application Period	Mid of June
Entrance examination	Beginning of July (and Not for Master's Programs)

c. Qualification for Application

The general qualifications required for admission into the graduate programs of our university are as follows.

Master's Programs

- Individuals who have been granted a bachelor's degree or are scheduled to obtain it by the end of the academic year in course.
- Individuals who have completed or are scheduled to complete by the end of the academic year in course a 16-year program of school education in a country other than Republic of Indonesia.
- Individuals who graduated from designated specialized fields of vocational schools after the date decided by the Minister of Education.
- Individuals recognized by the Biology Department of Brawijaya university as having an ability equivalent or superior to a university graduate in what concerns the admission to a graduate program.

Doctoral Programs

- Individuals who have obtained a Master's degree or are scheduled to obtain it by the end of the academic year in course.
- Individuals who have been granted a degree corresponding to a Master's Degree or a Professional Degree ina foreign country, or who are scheduled to obtain it by the end of the academic year in course.
- Individuals recognized by the Indonesian Minister of Natioanal Education as having an ability equivalent or superior to Master's Degree or Professional Degree recipient in what concerns the admission to a graduate program.
- Individuals recognized by the Biology Department of Brawijaya University in their individual qualification screening process as having an ability equivalent or superior to a Master's Degree or Professional Degree recipient.

d. Entrance and Tuition Fees

examination fee	$ 100
admission fee	$ 2500 (Masters), $ 3000 (Doctorate)
tuition fee (per year)	$ 3000 (Masters), $ 4000 (Doctorate)

※ In the event that these tuition fees changed during the period of study, students must pay the amended amount from the time of the revision.

e. Application Forms

To obtain an application form by mail, applicants are required to enclose in an envelope a self addressed envelope (A4 size, 240 × 330 mm) with a stamp affixed there on. The distribution of admission applications starts in October. For details, please visit our web site (http://www.biologi.ub.ac.id)

f. Request for Application Bulletins and for Further Information

Division of Admission
Biology department
Brawijaya university
Jl. Veteran, Malang, East Java, Indonesia 65145
Tlp. 62-341-575842

2.3 Admission for Research or Exchange Student

This program is for foreign students who seek to conduct their research under the guidance of academic advisors at Biology Department, Brawijaya University. Research students cannot earn credits or receive degrees. They need prior approval from the instructor of the courses they wish to audit.

a. Application

Selection is based on the submitted documents, so it is not necessary to come to Indonesia to apply. Prespective Students are required to contact the faculty member concerning their study plans before applying for research student status at this university.


b. Contacting the Academic Advisor
Students are advised to send their prospective academic advisors in advance a letter including their curriculum vitae and other pertinent documents.
Normally, students are required to send the following:
- Record of Academic History (from high school to university/graduate school)
- Employment record
- Study plan
- Certification of financial resources during the student's stay in Indonesia
- A copy of a recommendation letter from an academic advisor from the student's home university.

Students are strongly advised to make their first contact with their desired academic advisor a few months before the application deadline.

c. Application Schedule
The application schedule of admission for research and exchange student in our university is anytime.

d. Qualifications
- Individuals who graduated from a university or expected to graduate before the admission period.
- Persons who graduated from a university abroad, or expected to graduate before the admission period.
- Individuals who have been judged by the Graduate Programs authorities of our university to have at least the same academic ability as graduates' university.

e. Tuition Fees

admission fee	IDR 1 millions
tuition fee (per year)	IDR 10 millions

f. Application Forms
Internet Application foms of PDF file are free to download from: www.biology.brawijaya.ac.id

g. Request for Application Forms and Further Information
Biology department
Brawijaya university
Jl. Veteran, Malang, East Java, Indonesia 65145
Tlp. 62-341-575842

CAMPUS LIFE

3.1 Residence

a. Campus residence
   The university operates for single students Residence buildings which accommodate both international students and Indonesian students.
b. Residence off-campus
   Many rent houses or rent rooms are available off-campus, approximately IDR 300.000/month for room or IDR 1 million/house for 3-4 rooms.

3.2 Medical Treatment Fees

Indonesia doesn't have National health assurance system, therefore the students who intend to study in Indonesia are recommended to apply Health Insurance program. Many private assurance companies are available in Indonesia it costs around IRD 300.000 – 500.000. Medical treatment fee in Indonesia is cheap compared to other developing countries.

3.3 Indonesian Language Training Program

Brawijaya University will offer training of Indonesian language for international student. This training will be conducted in Center Bahasa for 10 weeks in university.

3.4 Scholarships

a. Republic of Indonesia Government Scholarships
   Republic of Indonesia Government (Ministry of National Education) offers a number of scholarships to overseas students who wish to study in Indonesia. Applications for the scholarships are made either through Republic of Indonesia embassies or consulates-general overseas (embassy recommendations).
b. Brawijaya University Scholarship
   Brawijaya University provide full and partial scholarship to foreign students who study in this university but the number of awardees is quite limited. Those who wish to apply should consult with our university before hand, because there are a number of conditions they have to meet.
c. Scholarships by Private Foundations, etc.
   Some Scholarships by private foundations from around the world are available to student of university in Indonesia. They are divided into two types as per the method of application, first type requires application through the university, and the second type allows direct application to the scholarship foundations (Please refer to list of Scholarship in this booklet).

3.5 Financial Information and Estimated Living Expenses

It is no more expensive to study at Brawijaya University. Accommodation and Food in Malang city is cheap but suits for living. The city is compact enough for you to be able to get among your college, lectures and libraries on foot or by bike so your travel costs will be very low. In addition to entrance fees, tuition, and monthly dormitory fees, average living expenses including food, clothing and study materials are approximately IDR 1 million per month.

3.6 Climate and Clothing

Malang city is part of tropical weather having 2 major season, there are rainy and dry season. The weather in Malang area during summer is dry and rather cold due to strong wind. In rainy season, the weather is moist, a lot of rain and warm. When packing their clothing, future students should prepare themselves for all types of weather.

MISCELLANEOUS

4.1 Academic Staff

NO	Name	Email	Field
1	Prof. SutimanBambangSumitro , SU., D. Sc.	sutiman@ub.ac.id	Cell Biology
2	Drs. Setijono Samino, MS.	setijono@ub.ac.id	Ecotoxicology
3	Drs. JatiBatoro, M.Si.	j_batoro@ub.ac.id	Plant Taxonomy
4	Dr. Bagyo Yanuwiadi	yanuwiadi@ub.ac.id	Biological control
5	Dra. Gustini Ekowati	gekowati@ub.ac.id	Taxonomy of Cryptogamae
6	Dr. Sri Rahayu, M. Kes.	srahayu@ub.ac.id	Bioreproduction
7	Dr.Ir. Estri Laras Aruningtyas ,M.Sc.St.	larasbio@gmail.com	Plant Genetic
8	Dr. Suharjono, M.Si.	calistus@ub.ac.id	Environmental Microbiology
9	Dr. Wahyu Widoretno, M.Si.	widoretno@ub.ac.id	Plant Physiology and Tissue Culture
10	Dra. Fatchiyah.,M.Kes. Ph. D.	fatchiya@gmail.com	Genetika Molekuler
11	Ir. Retno Mastuti, M.Ag.Sc.DAg.Sc.	mastuti7@ub.ac.id	Tissue Culture
12	Dr. Nunung Harijati, MS	nharijati@gmail.com	Plant Physiology
13	Dr. Sri Widyarti.,M.Si	swid@ub.ac.id	Cell Biology
14	Dra. Tri Ardiyati.,M.Agr.Ph.D.	triardy@ub.ac.id	Applied Microbiology
15	Dr. Agung Pramana Warih M.,M. Si.	junstone21@yahoo.com	Animal Growth and Structure
16	Dra. Aminatun Munawarti.,M.Si.	aminatun_m@yahoo.co.id	Biotechnology
17	Dr. Endang arisoesilaningsih	e-arisoe@ub.ac.id	Plant Ecophysiology
18	Dr. Ir. Moch. Sasmito Djati.,MS	msdjati@ub.ac.id	Bioreproduction
19	Drs. Sofy Permana,MSc.D. Sc.	sorybraw@yahoo.com	Cell and Molecular Biology
20	Rodliyati Azrianingsih, S. Si., M. Sc., Ph.D.	rodiyati@ub.ac.id	Plant Taxonomy
21	Zulfaidah Penata Gama, S. Si., M. Si.	gama@ub.ac.id	Biological Control
22	Muhaimin Rifa'i, SSi., Ph.D., Med.Sc.	rifa123@ub.ac.id	Immunology
23	Luchman Hakim, S.Si,. M.Agr.Sc.	lufehakim@yahoo.com	Conservation Biology
24	Amin Setyo Leksono, SSi,MSi, PhD	asl27@ub.ac.id	Entomology
25	Brian Rahardi,SSi, M.Sc.	brian-rhardii@yahoo.co.id	Plant Taxonomy
26	TegasImanPrasojo, S.Si.	teprasojo@gmail.com	Systematic and Biodiversity
27	Widodo, S.Si., M.Si,Ph.D., Med. Sc.	widodo@ub.ac.id	Bioinformatic and Genetic Molecular
28	Nia Kurniawan, S.Si.,MP. Ph.D	wawanunibraw@yahoo.com	Biodiversity
29	Dr. Serafinah Indriyani, Msi	s.indriyani@ub.ac.id	Plant Structure and Development
30	Dr. Aris Soewondo, Msi	arisswnd@gmail.com	Animal Structure and Development
31	Dr. Catur Retnaningdyah, Msi	catur@ub.ac.id	Aquatic Ecology
32	Yoga Dwi Jatmiko, Ssi.M.App.Sc	seyoganya@yahoo.com	Food Microbiology
33	Irfan Mustafa, SSi., Msi	irmuss@yahoo.com	Industrial Microbiology
34	Muhammad Imam, Ssi	imam@ub.ac.id	Animal Taxonomy
35	Dian Siswanto, Ssi	diansiswanto@ub.ac.id	Plant Physiology
36	Prof. Drh. Aulani'am, DES	aulanibiochem@yahoo.com	Biochemistry
37	Agustin Krisna wardani, STP., MSi, PhD		Food Biotechnology
38	DR. Ni Wayan Surya Wardhani, Ir., MS	wswardhani@yahoo.com	Applied Statistics
39	Prof. Dr. Ir. Trinil Susilawati, MS	trinil_susilawati@yahoo.com	Sexing Technology
40	Dr. Ir. Gatot Ciptadi, DESS	ciptadi6@gmail.com	In Vitro Fertilization
41	Dr. Ir. Sri Wahyuningsih, MS	yuning@ub.ac.id	OocyteCryopreservation
42	Prof. Ir. Sukoso, PhD	mrsukoso@yahoo.com	Biotechnology of Molecular Microbial
43	Prof. Dr. Zaenal Kusuma	zkstanah@yahoo.com	Irigation
44	Prof. Dr. Marsoedi	idoesran@yahoo.co.id	Marine Biology
45	Prof. Dr. Ir. Soemarno, MS		AgroecosystemManagement
46	Prof. Dr. Ir. Soebarinoto	prof_dr_ir_soebarinoto@yahoo.co.id	Nutrition and Livestock Food
47	Prof. Dr. Ir. Tatik Wardiyati, MS		Plant Culture
48	Prof. Ir. Liliek Soelistyowati, PhD		Biotechnology
49	Prof. Dr. Ir. Siti Rasminah Chailani		Biological Control & Habitat Manipulation
50	Prof. dr. Moch. Aris Widodo, MS., SpFk, PhD		Stem Cell EPC
51	Prof. Dr. Marjono, M.Phill	marjono@ub.ac.id	Modelling
52	Prof. Dr. Surachman, SE, MSc		Ecotourism Management

4.2 Source of Research Funding

Funding Level	Source of funding
International	Japan, Australia
National	RUT, PHB, ITSF, Ristek, Fundamental Riset, Kebun Raya Purwodadi, Perum Jasa Tirta I, Pemda, Bapenas, litbangkes, Staff Research Grant IMHERE, TPSDP, PT. Molindo, HibahPasca, DP2M, Fundamental, BalitpangDeptan, PT. Adikarya, PenelitianHibahBersama, PenelitianInsentifdasar, HibahKompetensi, HibahPenelitianStrategiNasional, HibahKompetitifuntukPublikasiInternasional
Local	Brawijaya University, Faculty of Math. Natural Sciences

4.3 Staff Scientific Publication in The Period of 2005-2009

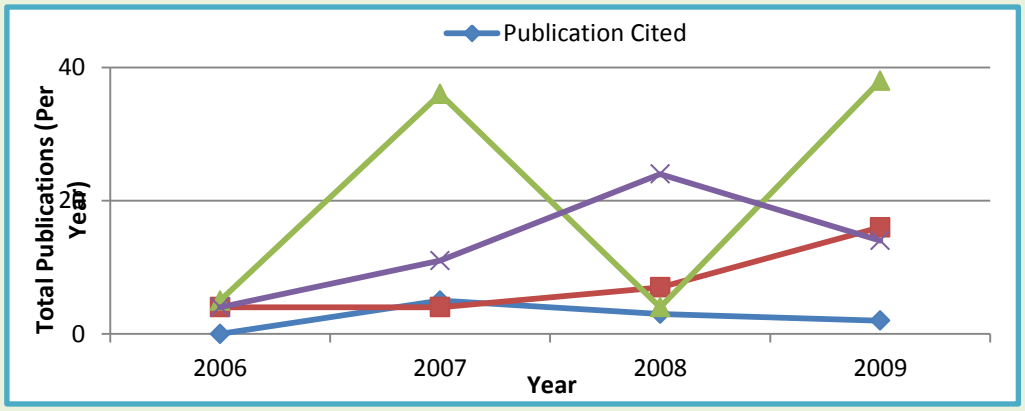
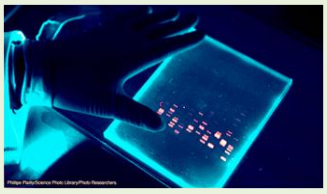


Figure 2. Scientific Publication of Biology Staff

4.4 Inovation Invented by Staffs

No.	Invention title
1	Protein Zona Pelluzida Molecule and Antibodies tonZP3: As A candidate Female Mammalian and WomanContraceptions
2	Diagnostic Reagents Kit of Antibody GAD65 for pre Diabetes Mellitus Patients
3	Nata de Coco, Nata de Banana, Nata de Soya, Nata de Apple, Nata de Pinna production technique
4	Cultivation of Edible Mushroom
5	Biodegradation of Surfactan using *Pseudomonas indigenous*
6	Production of Biofertilizer and Metal Bioremediasi
7	Production of Biocontrol agent (*Bacillus thuringiensis*)
8	Bioindicator of Water Pollution
9	In Vitro selection method
10	Production of polyclonal antibody as a control agent for Yellow Virus on Nilam
11	Development of Superior Gold Fish using parthenogenesis.
12	Development of DNA probe for identifying cattle embryo sex
13	bZP3 isolat for immunocontraseption
14	Isolation of embrionic stem cell for spare parts cell
15	Bioactive compound of soybean as antioxidant for proliferation cancer cell inhibition
16	Milk diversification and probiotic development
17	Habitat manipulation for paddy pest control
18	Bioindicator of river and dam water quality
19	Biocontrol mosquito larvae using *Bacillus thuringiensis* var Madura
20	The potency of frog as natural predator for paddy field pest
21	The utilization of Indonesian local flora for phytoremediation, water conservation, critical area, and organic fertilizer
22	Molecular identification of gene polymorphism
23	In silico analysis of genetic and mutation diseases
24	GIS application to bioconservasition and ecotourism
25	Identification of natural compound as anticancer agent by bioinformatics analysis



4.5 Alumni Career and Profile

Over 80% of Brawijaya biologists find employment within six months of graduating. Brawijaya graduates very often go on to become top scientists, or successful professionals in other fields, such as Academic, Scientist or Scientific Consultant, Business & Industry, Teaching, Medicine & Veterinary. Medicine Administration & Accountancy.

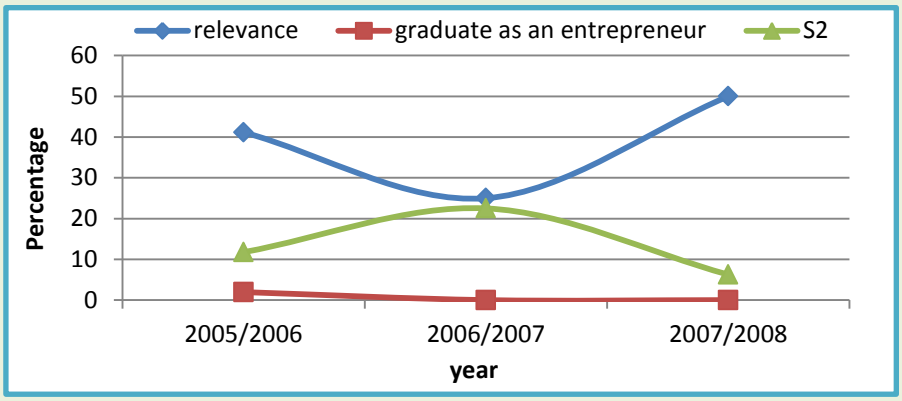


Figure 3. Graduates Profile Based on Percentage of Relevance, Graduates as an entrepreneur and go to postgraduate/S2

4.6 Library, internet accsess and Teleconferance facilities

University of Brawijaya maintains a central library facilities and teleconference facility. Almost every department at university of Brawijaya has their own library as well as biology department. The Libraries have a lot of literatures collection included books, journals, newspaper and internet accsess to the some online journal. It is ensure access through accurate bibliographic information and location notes for these materials in on-line catalogs.

4.7 Scholarship for International Student

No.	Name of Scholarship	Address
1.	Indonesia Government Scholarship	http://www.deplu.go.id/Pages/Highlightss.aspx?IDP=29&l=en
2.	WHO	http://www.who.int/patientsafety/news_events/en/
3.	UNESCO	http://portal.unesco.org/education/en/ev.php-URL_ID=21997&URL_DO=DO_TOPIC&URL_SECTION=201.html
4.	DIKTI	http://ditnaga-dikti.org/ditnaga/opendoc.php?page=6&exp=4&id=95&date=2008-02-18%2014:35:26
5.	IDB	http://www.sit-india.org/IDB2011.html
6.	ADB	http://www.auckland.ac.nz/uoa/cs-scholarships-for-international-students