STUDENT HANDBOOK

FACULTY OF MATHEMATICS AND SCIENCE
UNIVERSITAS NEGERI YOGYAKARTA

BACHELOR OF EDUCATION IN NATURAL SCIENCE

pendidikan-ipa.fmipa.uny.ac.id II Jl. Colombo No.1, Yogyakarta (55281), INDONESIA

STUDENT HANDBOOK

BACHELOR OF EDUCATION IN NATURAL SCIENCE

FACULTY OF MATHEMATICS AND NATURAL SCIENCE

UNIVERSITAS NEGERI YOGYAKARTA

Ministry of Research Technology and Higher Education
Universitas Negeri Yogyakarta
2018

UNIVERSITAS NEGERI YOGYAKARTA
BACHELOR OF EDUCATION IN NATURAL SCIENCE

Address: Campus UNY Karangmalang, Yogyakarta, 55281
Telp: 0274 586168 Psw: 1217
or 0274 550227 (Dean), 0274 565411 (hunting)
Fax: 0274 548203
E-mail: Deanhumas_fmipa@uny.ac.id

Website: fmipa.uny.ac.id

PREFACE

Let us always pray to the present of Allah SWT the Almaighty God for His grace and gifts, so Student Handbook Bachelor of Education in Natural Science, Faculty of Mathematics and Natural Sciences, Universitas Negeri Yogyakarta (UNY) in 2018 can be completed as expected.

This Student Handbook is an improvement from the previous student handbook by accommodating various changes, demands, and the latest developments related to regulations and policies of the Ministry of Research, Technology, and Higher Education; Universitas Negeri Yogyakarta, and demands for higher education at national, regional and international levels. This student handbook contains concise and comprehensive information for students in the Bachelor of Education in Natural Science about academic administration, patterns of education administration and assessment systems, study programs and curriculum, scholarships and supporting facilities, as well as academic violations and sanctions.

This guide is a reference for students in carrying out educational and teaching activities. For students, this Guide can be used as a guideline for studying in the Undergraduate Program while studying at the Bachelor of Education in Natural Science, UNY, so that it can assist in organizing and implementing appropriate strategies for completing studies on time.

Finally, the Study Program administrators expressed their appreciation and gratitude to all those who provided their suggestions and input. Hopefully with this Student Hanbook, the education and teaching process can meet the specified higher education quality standards, even more than just obtaining a degree.

Yogyakarta, February 2018
Head of Study Program,

Dr. Dadan Rosana, M.Si
NIP.196902021993031002

TABLE OF CONTENT

CHAPTER I
INTRODUCTION

A. Vision, Mission, and Objective of Bachelor of Education in Natural Science UNY

1. Vision

The Vision of Bachelor of Education in Natural Science is to realize a study program that has competitive and comparative advantages in the 21st century (the global era) in the field of Natural Sciences education to produce graduates of Natural Sciences, intellectuals and independent.

2. Mission

Mission of Bachelor of Education in Natural Science are:

a. Organizing education to produce educators in the field of natural science education that is conscientious, intellectual, independent, and superior in quality through the integration of character education and entrepreneurship so that they have the ability to compete in the global era.
b. Carrying out research in the context of the development of natural science education, by utilizing technology, information and communication
c. Disseminating the results of research in the field of science education through community service, in the form of education, training, and counseling..
d. Develop character education that is integrated in the material and teaching and learning process and is applied in the academic culture in the environment of the Natural Sciences Study Program so as to create people who are conscientious, intellectual and independent.
e. Developing a lifelong learning culture (lifelong education) in the form of learning to know, learning to do, learning to be, and learning to live together

3. Objectives

The Study Program at the Bachelor of Natural Sciences aims to produce educators with the academic title of Bachelor of Natural Science Education in the field of Science (S.Pd), who has:

a. Positive, intellectual and independent character through the integration of character education and entrepreneurship in the material and teaching and learning process as well as being applied in academic culture within the Natural Science Education study program environment.
b. The basic competencies of teaching staff in the natural sciences, namely pedagogical competence, personal competence, professional competence, and social competence.
c. Educational competence in the field of Natural Sciences, namely the competence to conduct research in order to develop natural science education, as well as the competence in spreading the field of Natural Sciences education through education and training.
d. Competence to face the future, namely competence to live and understand the tendency of science education, and use it to advance natural science education.
e. The basic competencies of Natural Sciences which is sufficient for further study.

B. Main Qualifications

Learning activities in the Natural Science Education Study Program must be aimed at:

a. Providing a meaningful learning experience for students, through well-designed learning both theoretical and experimental activities to enable them to:

1) become citizens who are confident in mastering technology and able to make maximum use of various scientific information;
2) know the use of scientific methods and their application in natural science education and their application in daily life;
3) master the basics of knowledge and learning practice competencies needed to teach science in schools.

b. Developing abilities and skills that are:
1) relevant to teach and learn natural science in schools
2) relevant to the study and practice of natural science;
3) useful in daily life;
4) encourage effective, efficient and safe practices;
5) encourage effective communication using universal scientific conventions.

c. Developing the realm of attitudes that are relevant to the field of natural science studies, such as:

- concern for accuracy and precision
- objectivity
- integrity
- inquiry skills
- initiative
- creativity.

d. Stimulate students' interest and concern for local and global environmental issues, and help students understand the need for conservation.

e. Make students aware:
1. that scientific theories and methods have been developed, and continue to develop, as a result of groups and individuals working together, and that natural science transcends national boundaries;
2. that the study and practice of science is influenced and limited by social, economic, technological, ethical and cultural factors;
3. that various natural phenomena are very interesting, so they are stimulated to discover and study natural science in a fun and satisfying way.

C. Learning Outcomes

ATTITUDE
a. Be faithful to God Almighty and be able to show a religious attitude; b. Uphold the value of humanity in carrying out duties based on religion, morals, and ethics; c. Internalize academic values, norms and ethics; d. Act as a proud and loving citizen of the country, having nationalism and a sense of responsibility to the country and nation; e. Respect the diversity of cultures, views, religions, and beliefs, as well as other people's original opinions or findings; f. ContributE to the improvement of the quality of community, nation, state and civilization development based on Pancasila; g. Collaborate and have social sensitivity and care for the community and the environment; h. Obey the law and discipline in social and state life; i. Internalize the spirit of independence, struggle, and entrepreneurship; j. Shows responsible attitude for work in their area of expertise independently.

k. Have sincerity, commitment, sincerity to develop the attitudes, values, and abilities of students.

MASTERY OF KNOWLEDGE

In the substance of the scientific field

Mastering theoretical concepts in the field of Natural Sciences (IPA) which includes study material:

1) diversity of living things, evolution, genes, cells, systems in living things, ecological relations and interdependence;
2) measurement, mechanics, heat, vibration, sound waves, electricity, magnetism, optical systems and modern physics, and their application in biological systems;
3) the concept of particle matter, the periodicity of elements, chemicals, chemical reactions and their application and effects on living systems;
4) earth, the solar system and its influence in living systems

In the substance of education field

Mastering theoretical concepts in education, including study material:

1) Natural Science education research methodology;
2) Laboratory management for natural science learning.
3) The theoretical concepts of education, student development (physical, intellectual, social-emotional, moral, spiritual, and socio-cultural aspects) in general;
4) Theoretical concepts, principles, methods, and techniques:
   a. learning science teaching pedagogy in depth, which includes: planning, presentation and management of learning (curriculum, learning resources, media, and learning models), as well as assessment and evaluation of the process and results of science learning.
   b. development of science learning media;
   c. development of science laboratory tools for schools..
5) General concepts and management principles (planning, operational, supervision, evaluation, and improvement) of science laboratories for schools.
6) General concepts, principles, and techniques of mentoring students.

SPECIAL SKILL

1) Able to design, and carry out learning by using a variety of inquiry approaches needed to achieve learning objectives and build critical thinking skills, problem solving skills and performance skills;
2) Able to design and choose science learning activities, strategies, and resources by considering the characteristics of the material and students.
3) Implement K3 procedures and ethical treatment of organisms in learning science
4) able to design and use authentic assessment tools, techniques, and strategies in learning science (observations, students 'work portfolios, performance on assignments, projects, self-assessments, group assessments, and standardized tests) to evaluate students' performance and learning progress (ideas, preconceptions, knowledge) and interpret the results;
5) Able to do reflective analysis of learning and choose alternative solutions to improve science learning through classroom research (classroom research)

GENERAL SKILLS
1) able to apply logical, critical, systematic, and innovative thinking in the context of the development or implementation of science and technology that consider and applies humanities in accordance with their fields of expertise; 2) able to show independent, quality and measurable performance; 3) able to examine the implications of the development or implementation of science and technology that consider and apply the value of humanities in accordance with their expertise based on scientific principles, procedures and ethics in order to produce solutions, ideas, designs or art criticism; 4) able to compile a scientific description of the results of the study above in the form of a thesis or final project report, and upload it on the college page; 5) able to make appropriate decisions in the context of problem solving in their areas of expertise, based on the results of information and data analysis; 6) able to maintain and develop a network of supervisors, colleagues, colleagues both inside and outside the institution; 7) able to take responsibility for the achievement of group work and conduct supervision and evaluation of the completion of work assigned to workers under their responsibility; 8) able to carry out a process of self-evaluation of work groups under their responsibility, and be able to manage learning independently; and 9) able to document, store, secure, and rediscover data to ensure validity and prevent plagiarism.

CHAPTER II

ACADEMIC ADMINISTRATION

A. Student Registration in Bachelor of Education in Natural Science UNY

Registration must be carried out by all prospective students and students of Bachelor of Education in Natural Science UNY at the beginning of each semester periodically by filling out the semester study plan (KRS) with the approval of Academic Advisor Lecturer (PA). Every student is declared active as a Bachelor of Education in Natural Science student at UNY if they have registered, which includes :

1. **Payment of Tuition Fee**

   Payments can be made at a designated bank according to a predetermined schedule. In the quintance there is a PIN to update the data.

2. **Update Data**

   Data updates are made online via page registrasi.uny.ac.id by filling in the requested data. If there is a problem in terms of this registration, students are invited to contact the UNY registration office in the rector's building.

3. **Credit Filling Instruction**

   Filling in credits (KRS) must be done online through the siakad2013.uny.ac.id page, which is done after the data update is complete. The courses will appear in accordance with the existing semester in the curriculum of each study program. If students do not complete in filling KRS, then the value of courses in the semester they take cannot be processed. The credit filling process is done every semester in accordance with the specified schedule. If there is a problem in the KRS filling process, students are invited to contact the academic of Bachelor of Education in Natural Science.

B. Academic Advisor

Academic Advisor (PA) is a lecturer appointed and given the duties and responsibilities of the Bachelor of Education in Natural Science UNY to guide a number of students during the study period, so the student is able to complete their studies smoothly. Each PA Lecturer guides and fosters S2 or S3 students determined by the Director of Graduate School UNY.

The job of Academic Advisor include mentoring and giving direction in planning studies, taking courses in each semester, giving explanations to students about issues related to academic problems and study completion strategies at the Bachelor of Education in Natural Science UNY. Next, their jobs are giving approval of taking courses every semester, giving insight into the title of the thesis or dissertation, monitor, and report on the progress of student studies guided by the Chair of each Study Program at the Bachelor of Education in Natural Science UNY .

C. College Break

The students of the Bachelor of Education in Natural Science UNY are permitted to take

college break with the following conditions:

1. Permission Requirements of College Break
   a. Has taken a minimum of two semesters of study, with at least 40 (forty) credits and the lowest achievement index 2.00 (Two point zero zero).
   b. Not a scholarship awardee.
   c. Not to exceed the limit on the amount of college break.
2. **Rights of College Break**
   a. College break is not counted as a period of study and is not required to pay tuition fees.
   b. The length of study break is allowed for 2 (two) semesters while studying.
   c. Students who do not register at the beginning of the semester will be automatically processed for college break.
   d. Automatic college break is given at most twice as long as students still have the right to leave college.
   e. Students on college break do not have the right to obtain academic services and utilize academic facilities.
   f. Students who have already done registration can apply for leave of study and cancel their study plans, but the tuition fees that have been paid cannot be withdrawn.
   g. If after taking college break for two consecutive semesters and students do not register in the following semester, the semester during college break is counted as a period of study. If a student will re-register, the student must pay the tuition fees of the previous semester and the semester that will be taken.
   h. Students who have taken college break for two consecutive semesters and have not registered in the following two consecutive semesters, they are declared to resign as students and are entitled to obtain a certificate of study (SKPK).

3. Procedure of College Break

Submission of college break is done online through eservice.uny.ac.id with the procedures as specified and submitted every semester in accordance with the schedule set.

D. Administration of Course Score

Assessment of learning outcomes for each subject for students of the Bachelor of Education in Natural Science UNY is carried out by each lecturer in their respective study programs through online in siakad2013.uny.ac.id page. Each lecturer supporting a course is responsible for the validity of the subject matter uploaded via the siakad2013.uny.ac.id page.

Students or parents / guardians of students of the Bachelor of Education in Natural Science UNY can view the study results every semester and the Study Results List (DHS) online through siakad2013.uny.ac.id.

E. Yudisium Administration

1. Requirements to take part in the graduation are determined as follows:
   a. Has passed the final project.
   b. Free of charge of education bills.
   c. Free loan from central library and the Bachelor of Education in Natural Science UNY library.
   d. Have a minimum ProTEFL score of 400 issued from P2B UNY.

e. Already uploaded a photo in accordance with the provisions.
f. Validate diploma document data.
g. Register for yudisium and graduation by online through the siakad2013.uny.ac.id page.
h. Meet other requirements applicable at the Bachelor of Education in Natural Science UNY.

2. Obligations of students participating in yudisium are determined as follows:
   a. Students must follow the entire judicial process.
   b. If students cannot take part in the judicial process in the specified month, they must follow it in the following period.
   c. The Yudisium was stated by Decree of the Director of the Bachelor of Education in Natural Science UNY.
3. The implementation of yudisium is determined as follows:
   a. The yudisium time is set by the Bachelor of Education in Natural Science UNY and is held once a month.
   b. The yudisium date is set as the date of graduation of the student concerned.

F. Graduation Administration

Graduation ceremony is held in accordance with the Academic Calendar. At the time of graduation, each graduate will receive an original diploma and a Transcript. The procedures and implementation of graduations are regulated by the Academic Section of UNY.

G. Alumni Administration of the Bachelor of Education in Natural Science UNY

Graduates of the Bachelor of Education in Natural Science UNY automatically become members of the UNY Alumni Association (IKA UNY). Official registration as a member of IKA UNY alumni is done online through the alumni.uny.ac.id page.

CHAPTER III
PATTERN OF THE EDUCATION AND ASSESSMENT SYSTEM

A. Pre-Lecture Activities and Introduction to Study Programs

At the beginning of the academic year, students accepted into the Bachelor of Education in Natural Science UNY are required to take part in the Orientation Study and Campus Introduction. Campus introduction activities are carried out in the form of exposure and discussion by facilitators from the management of UNY's Bachelor of Science Education program explaining general insights, academic fields, administration, and finance of the Bachelor of Science Education of UNY. While the explanations from the management of the study program includes lectures , library, laboratory, Science Education Student Association, UNY Alumni Family Association (IKA), and academic regulations. In addition to the introduction of the campus, at the beginning of each academic year it also held public lectures with an actual theme, with speakers preferably coming from outside UNY.

B. Organization of Education Process

1. Study Load and Period

The Bachelor of Education in Natural Science UNY has a minimum of 144 credits of courses taken for a maximum of 14 (fourteen) semesters.

2. Learning Process

Lectures carried out with the Semester Credit System (credits). The number of face-to-face lectures is 16 times per semester, including midterm and end of semester exams. The form of learning and the allocation of time required for face-to-face meeting per 1 (one) credits is carried out as follows.

a. Learning in the form of lectures, review sessions, or tutorials, consist of:
   1) 50 minutes of face-to-face learning processes per week per semester;
   2) 60 minutes of structured learning assignments per week per semester; and
   3) 60 minutes of self-study assignments per week per semester.
b. Learning in the form of seminar and other similar forms consist of
   1) Face to face meeting 100 (hundred) minutes, and
   2) Independent activity 70 (seventy) minutes.
c. Learning in the form of practicum, studio practice, workshop practice, field practice, research, community service and / or similar learning processes 170 minutes per semester, including for writing response and report.
d. Students must follow the learning process with a minimum of 75% attendance.
e. e. Students who do not meet 75% attendance are not entitled to take the final semester exams and the student concerned is given an E score.
f. Student absences due to illness or carrying out assignments, which are accompanied by a statement or permit that can be accounted will be counted as attendance.
g. Lecturers who have not met the number of face-to-face lectures are required to replace lecture hours and / or equivalent activities.

3. *Between* Semester Program

This program is intended to give students the opportunity to complete their study period faster by taking a number of courses offered in the semester between July and August of the current year for 8 (eight) weeks with a total of 16 meetings, including examinations midterm and final semester exams between. This semester program can be carried out as follows.

a. Study programs with special consideration can hold certain subjects in odd or even semester to be held in the *between* semester.

b. The courses offered have never been taken by students on the condition that they have a minimum previous semester achievement index of 3.00.

c. Maximum number of credits that can be taken by students is 7 credits.

d. The courses chosen by the study program must be approved by the Director of the Bachelor of Science Education UNY.

e. Students include these intermediate semester courses in the Credit in the *between* semester.

f. Students are not taking time off in the current semester.

g. The number of *between* semester program students is determined by the Director of the Bachelor of Science Education at UNY.

4. Transfer Credit Lecture Program

Students are allowed to take courses across study programs with similar Study Programs at domestic and foreign universities by firstly obtaining permission from their study programs. This program is one semester program with the following conditions.

a. Credit Transfer Program

This program is provided for students who with their own desires will broaden their knowledge by taking courses outside UNY which is determined by the study program, with the following conditions:

1) No need to fill in KRS;
2) Getting permission from the head of the study program;
3) Getting permission from the lecturer in question;
4) Have to attend all lectures and other assignments such as regular students who are given for one semester;
5) Have the right to take the midterm and in the end of the semester;
6) Have the right of the score given
7) Have to attend the course fully

b. S*it in* Program

This program is provided for students who with their own desires will broaden their knowledge by taking courses outside of the specified study program, with the following conditions:

a. No need to fill in KRS;
b. Getting permission from the head of the study program;
c. Getting permission from the related lecturer;
d. Attending all lectures and do the assignments given just like regular students for one

semester;
e. Not entitled to take the midterm and in the end of the semester;
f. Not entitled to the assessment score of the courses taken; and
g. Have to attend fully the course.

C. Learning Assessment and Evaluation of Learning Progress

Learning assessment is done to measure the achievability of learning outcomes of Bacelor Study Program of Science Education of UNY. The assessment is done based on the following principles.

1. The principles of learning assessment are conducted in an educative, authentic, objective, accountable, and transparent manner that is carried out in an integrated manner
2. Learning assessment techniques are carried out by observation, participation, performance, written test, oral tests, or questionnaire which is appropriate with the course characteristics
3. The assessment mechanism is carried out through stages which include: designing, implementing, providing feedback, and documenting the result of the assessment.
4. The assessment is carried out in accordance with the semester learning plan.
5. The assesment report is written in the form of numbers or letters which have their own scores.

Learning assessment is done throough the activeness in the lectures, assignments, mid term, final exams, and thesis final exam.

1. The Assessment of Learning Result

The assesment of students learning outcomes for each course is determined by students' performance which includes: attendance and participation in lectures, the completion of tasks, midterm and final semester exam. The percentage of each element are determined by the lecturer who is responsible for the course.

The final assessment of learning is written in the form of number which has been converted into letters. The scoring number is shown in a range of score from 0 to 10, or 10 to 100. Meanwhile, the assessment which is shown by letters is represented by A, A-, B+, B-, C+, C, D, and E. The conversion of assessment from number to letter and their categories are represented in the following:

Tabel 1. Grade Conversion

Score	Grade		Category
100	Letter	GPA	
86 – 100	A	4,00	Very Satisfying
81 – 85	A-	3,67	
76 – 80	B+	3,33	Satisfying
71 – 75	B	3,00	
66 – 70	B-	2,67	
61 – 65	C+	2,33	

56 – 60	C	2,00	
41 – 55	D	1,00	Weak
0 – 40	E	0,00	Very Weak

2. Evaluation of Progress of Learning Outcomes

The evaluation of learning progress for students is done to identify obstacles in the learning process in order to plan a more planned, structured, and systemic learning process and to find out the level of students' ability to complete their studies.

3. Thesis Examination

Thesis examination is intended to measure the level of mastery and accountability of students for the implementation and reports of their thesis research results. Thesis examination assessment includes content assessment and presentation assessment with assessment components includes: the structure / logic of thought in writing the thesis, the depth and breadth of scientific theory relevant to the thesis, theoretical arguments in preparing the framework of thought, originality, methods, including: techniques of collecting / validity / data analysis, the use of research findings for the development of science and technology, clarity of oral presentation and argumentation, and the use of standard language. Before being tested, the thesis script must be reviewed in advance by a lecturer appointed by the Dean of the Faculty of Mathematics and Natural Science Education of UNY.

Thesis examiners team consists of 3 (three) people consisting of: Chief examiner / doubled as supervisor of thesis, Secretary of Examiners comes from the appointed Study Program lecturers, Examiners, and the examiners are those lecturer who have been appointed by the Study Program.

4. Thesis Research Publication

Students are required to prepare a thesis article and dissertation to be published with the following conditions:

a. Have to publish the research results in student journals that are determined as one of the graduation requirements.

b. Students must include the name of the supervisor, the name of UNY Postgraduate Institute and email address in UNY.

c. The publication of this article is a prerequisite for attending the graduation.

D. Graduation Predicate

1. Bachelor of Science Education

Students are declared to graduate if they have taken the final thesis examination with graduation results, obtaining a cumulative achievement index (GPA) ≥ 2.00 within the specified study period. The GPA is determined by the formula:

$$\text{GPA} = \frac{\sum (\text{credits})(\text{score})}{}$$

 credits

The title of master's graduation is determined based on theoretical GPA, thesis examination scores, and the length of study which are determined as follows.

a. Predicate **with honors** or **cumlaude** is given if the graduate meets a GPA of more than or equal to 3.51 with a study period of no more than 4.0 years or 8 semesters and a thesis grade A.
b. **Very satisfying** predicate is given to them who have a GPA of 2.75-3.50. **Very satisfying** predicate is also given to the graduates who have a GPA of more than or equal to 3.51 but the study period exceeds 4.0 years and / or undergraduate thesis score is under A- (A minus).
c. A **satisfying** predicate is given to the graduates who have a GPA of 3.00-3.50

CHAPTER IV
CURRICULUM

A. Curriculum Structure

1. Characteristics of Science Study Program Curriculum (needs to be examined)

The overall curriculum for science study program consists of 145 credits with details of 133 credits of compulsory courses and 12 elective courses with 36 available credits. The types of compulsory and elective courses are classified as follows:

Compulsory Courses

No	Course Title	Credits
1	University Courses	20
2	Faculty Courses	2
3	Basic Education Course	8
4	Natural Science Course	66
5	Naturan Science Education Course	28
6	Education Development Course (Internship and Thesis Project)	9
Total		133

Elective Courses

No	Course Types	Credits
1	Pedagogical Supporting Course	20
2	Professional Development Supporting Course	16
Total		36

B. Course Distribution

1. Compulsory Course Distribution

No	Code	Course Title	Credits Detail				Semester		Prerequisites
			T	P	L	Total	Odd	Even	
1	MKU6301	Islam Education*	3		-	3	1	-	
	MKU6302	Catholic Education*							
	MKU6303	Christiant Education*							
	MKU6304	Budhist Education *							
	MKU6305	Hindu Education*							

No	Code	Course Title	Credits Detail				Semester		Prerequisites
			T	P	L	Total	Odd	Even	
	MKU6306	Confucius Education*							
2	MKU6207	Civic	2	-	-	2	1	-	
3	MKU6208	Pancasila	2	-	-	2	-	2	
4	MKU6209	Indonesian Language**	2	-	-	2	-	2	
5	MKU6210	Statistics**	1	1	-	2	1	-	
6	MKU6211	English Language**	2	-	-	2	-	2	
7	MKU6212	Entrepreneurship**	2	-	-	2	5	-	
8	MKU6313	Community Service	-	-	3	3	7		
9	MKU6214	Socio Cultural Education	2	-	-	2	-	6	
10	MDK6201	Education	2	-	-	2	1	-	
11	MDK6202	Education Psychology	2	-	-	2	3	-	
12	MDK6203	Education Management	2	-	-	2	-	2	
13	MDK6204	Sociology-Anthropology of Education	2	-	-	2	-	4	
14	AMF6201	Concept and Study of Mathematic and Natural Science	2	-	-	2	3	-	
15	BIO6216	Environmental Science	2	-	-	2	-	2	
16	IPA6301	Mathematic for Natural Science	3	-	-	3	1	-	
17	IPA6202	Basic Natural Science	2	-	-	2	1	-	
18	IPA6103	Basic Natural Science Pract.	-	1	-	1	1	-	
19	IPA6204	General Biology-I	2	-	-	2	1	-	
20	IPA6105	General Biology Pract-I	-	1	-	1	1	-	
21	IPA6206	Basic Physics-I	2	-	-	2	1	-	
22	IPA6107	Basic Physics Pract-I	-	1	-	1	1	-	
23	IPA6208	General Chemistry-I	2	-	-	2	1	-	
24	IPA6109	General Chemistry Pract.-I	-	1	-	1	1	-	
25	IPA6210	General Biology-II	2	-	-	2	1	2	IPA6204
26	IPA6111	General Biology Pract-II	-	1	-	1	1	2	IPA6105
27	IPA6212	Basic Physics-II	2	-	-	2	-	2	IPA6206
28	IPA6113	Basic Physics Pract-II	-	1	-	1	-	2	IPA6107
29	IPA6214	General Chemistry-II	2	-	-	2	-	2	IPA6208

No	Code	Course Title	Credits Detail				Semester		Prerequisites
			T	P	L	Total	Odd	Even	
30	IPA6115	General Chemistry Pract-II	-	1	-	1	-	2	IPA6109
31	IPA6216	ICT	2		-	2	-	2	
32	IPA6117	ICT Practicum	-	1	-	1	-	2	
33	IPA6218	Material and its Nature	2	-	-	2	3	-	
34	IPA6119	Material and its Nature Practicum	-	1	-	1	3	-	
35	IPA6220	Basic Biochemistry	2	-	-	2	3	-	IPA6205& IPA6210
36	IPA6121	Basic Biochemistry Pract	-	1	-	1	3	-	IPA6105& IPA6111
37	IPA6222	Earth Science	2	-	-	2	3	-	
38	IPA6123	Earth Science Pract	-	1	-	1	3	-	
39	IPA6224	Energy and its Change	2	-	-	2	-	4	IPA6218
40	IPA6125	Energy and its Change Practicum	-	1	-	1	-	4	IPA6119
41	IPA6226	Human Biology and Nutrition	2	-	-	2	-	4	
42	IPA6227	Plants Basic Structure and Function	2	-	-	2	5	-	IPA6210, IPA 6220, IPA6234
43	FIP6323	Astronomy	2	1	-	3	-	4	
44	IPA6230	Living Creature and Life Process	2	-	-	2	5	-	IPA6224
45	IPA6131	Living Creature and Life Process Practicum	-	1	-	1	5	-	IPA6125
46	IPA6232	Applied Chemistry	2	-	-	2	5	-	
47	IPA6233	Nautural Science History	2	-	-	2	5	-	
48	IPA6234	Biophysics	2	-	-	2	-	6	IPA6206 & IPA6212
49	IPA6135	Biophysics Practicum	-	1	-	1	-	6	IPA6106 & IPA6113
50	IPA6236	Natural Science Philosophy	2	-	-	2	-	6	
51	IPA6230	Applied Natural Science	2	-	-	2		6	
52	IPA6138	Applied Natural Science Pract	-	1	-	1	-	6	
53	BIM6223	Biotechnology	2	-	-	2	-	6	IPA6210
54	PIA6201	Management and Technique of Lab Science	2	-	-	2	3	-	IPA6206, IPA6208, IPA6210
55	PIA6102	Practical Laboratory & Science Lab Practicum	-	1	-	1	3	-	
56	PIA6216	English for Science Classroom	2	-	-	2	3	-	

No	Code	Course Title	Credits Detail				Semester		Prerequisites
			T	P	L	Total	Odd	Even	
57	PIA6203	Science Learning Media Development- I	2	-	-	2	-	4	
58	PIA6104	Science Learning Media Development Pract- I	-	1	-	1	-	4	
59	PIA6205	Science Learning Strategy and Learning Media-I	2	-	-	2	-	4	
60	PIA6106	Science Learning Strategy and Management	-	1	-	1	-	4	
61	PIA6207	Study and Development of Science Education Curriculum	2	1	-	3	5	-	
62	PIA6308	Science Education Assessment & Evaluation	2	1	-	3	5	-	
63	PIA6209	Science Learning Media Developmeny-II	2	-	-	2	5	-	IPA6203
64	PIA6110	Science Learning Media Developmeny Pract -II	-	1	-	1	5	-	
65	IPA6239	Culture Industry Science	2	-	-	2	5	-	
66	PIA6311	Integrated Science and Learning	2	-	-	2	-	6	
67	PIA6112	Integrated Science Practicum and its Learning		1	-	1	-	6	
68	PIA6213	Science Education Research Methodology	2	-	-	2	-	6	
69	PIA6114	Science Education Research Methodology Practicum	-	1	-	1	-	6	
70	PIA6215	Natural Science Teaching	1	-	1	2	-	6	PIA6311& PIA6112
71	PPL6301	Educational Internship	2	1	-	3	7	-	PIA6215
71	PIA6616	Thesis Project	-	-	6	6	-	8	
Total			93	31	8	132			
The number of Credit Total			**94**	**31**	**8**	**133**			

Notes : * Choose only one

** Competency is based on the major

2. Elective Course List

No	Code	Course Title	Credits Detail				Semester		Prerequisites
			T	P	L	Total	Odd	Even	
1.	PIA6217	Science Teacher Professional Development	2			2	-	4	
2.	PIA6218	Study of Science Education Research Results	1	1	-	2	3	-	
3.	PIA6219	CAR Methodology and R & D of Natural Sciences Education	1	1	-	2	5	-	PIA6213
4.	PIA6220	Integrated Quality Management of Natural Science Education	2	-	-	2	-	4	
5.	PIA6221	Study on Science Education Trends	2	-	-	2	-	6	
6.	PIA6222	Item Response Theory	2	1	-	3	5	-	
7.	PIA6323	Natural Science Audio-Visual Media	2	1	-	3	-	6	
8.	PIA6224	School Based Management	2	-	-	2	3	-	
9.	PIA6225	Academic Writing for Science	2	-	-	2		4	
10.	IPA6240	Electronics Skills	1	1	-	2	3	-	IPA6212
11.	IPA6241	Chemical Skills	1	1	-	2	3	-	IPA6214
12.	IPA6242	Applied Statistics	1	1	-	2	-	4	MKU6210
14	IPA6243	Science Research Methodology	2	-	-	2	-	4	
15.	IPA6245	Health Science	2	-	-	2	5	-	
16.	IPA6246	Geology	2	-	-	2	-	6	
17.	IPA6247	Advanced Biochemistry	2	-	-	2	5	-	
18.	IPA6247	Environmental Physics	2	-	-	2	-	4	
		Total	**29**	**7**		**36**			

3. Course Distribution Each Semester

SEMESTER I

No	Kode	Mata kuliah	Rincian sks			
			T	P	L	J
1	MKU6301	Islamic Education*	3			3
	MKU6302	Catholic Education*	3			
	MKU6303	Christian Education*	3			
	MKU6304	Buddhist Education*	3			
	MKU6305	Hindu Education*	3			
	MKU6306	Confucian Education*	3			
2	IPA6301	Mathematics for Science	3	-	-	3
3	IPA6202	Basic Natural Science	2	-	-	2
4	IPA6103	Basic Natural Science Pract	-	1	-	1
5	IPA6204	General Biology-I	2	-	-	2
6	IPA6105	General Biology Pract-I	-	1	-	1
7	IPA6206	Basic Physics-I	2	-	-	2
8	IPA6107	Basic Physics Pract-I	-	1	-	1
9	IPA6208	General Chemistry-I	2	-	-	2
10	IPA6109	General Chemistry Pract.-I	-	1	-	1
11	MDK6201	Education Science	1	1	-	2
Total			**15**	**5**	**-**	**20**

SEMESTER II

No	Code	Course Title	Credit Detail			
			T	P	L	J
1	MKU6208	Pancasila	2	-	-	2
2	MKU6209	Indonesian Language **	2	-	-	2
3	MKU6211	English Language **	2	-	-	2
4	MDK6203	Education Management	2	-	-	2
5	IPA6210	General Biology-II	2	-	-	2

No	Code	Course Title	Credit Detail			
			T	P	L	J
6	IPA6111	General Biology Practicum-II	-	1	-	1
7	IPA6212	Basic Physics-II	2	-	-	2
8	IPA6113	Basic Physics Practicum-II	-	1	-	1
9	IPA6214	General Chemistry-II	2	-	-	2
10	IPA6115	General Chemistry Pract.-II	-	1	-	1
11	BIO6216	Environmental Science	2	-	-	2
12	IPA6116	ICT	1	1	-	2
13	IPA6217	ICT Practicum	-	1	-	1
Total			**17**	**5**		**22**

NOTE:
English Language in this course is *Basic English for Science*

SEMESTER III

No	Code	Course Title	Credits Detail			
			T	P	L	J
1	MDK6202	Education Phsychology	2	-	-	2
2	MKU6207	Civics	2	-	-	2
3	AMF6201	Concept and Study of Mathematic and Natural Science	2	-	-	2
4	PIA6201	Management and Technique of Lab Science	2	-	-	2
5	PIA6102	Management and Technique of Lab Science Practicum	-	1	-	1
6	IPA6218	Material & Its Nature	2	-	-	2
7	IPA6119	Material & Its Nature	-	1	-	1
8	IPA6222	Earth Science	2	-	-	2
9	IPA6123	Earth Science Practicum	-	1	-	1
10	IPA6220	Basic Biochemistry	2	-	-	2
11	IPA6121	Basic Biochemistry Pract.	-	1	-	1
12	PIA6216	English for Science Class Room	2	-	-	2

No	Code	Course Title	Credits Detail			
			T	P	L	J
13	------	Elective course (1 Course)	2	-	-	2
Jumlah			**18**	**4**		**22**

SEMESTER IV

No	Code	Course Title	Credits Detail			
			T	P	L	J
1	MDK6204	Sociology-Anthropology of Education	2	-	-	2
2	PIA6205	Science Learning Strategy and Management	2			2
3	PIA6106	Science Learning Strategy and Management Pract	-	1	-	1
4	PIA6203	Science Learning Media Development- I	2	-	-	2
5	PIA6104	Science Learning Media Development Pract- I	-	1	-	1
6	IPA6224	Energy and Its Change	2	-	-	2
7	IPA6125	Energy and Its Change Pract.	-	1	-	1
8	IPA6226	Human & Nutrition Biology	2	-	-	2
9	FIP6323	Astronomy	2	1	-	3
10	MKU6210	Statistics**	2	-	-	2
11	--------	*Elective Course (1 course)*	2	-	-	2
12	--------	*Elective Course (1 course)*	2			2
Total			**18**	**4**		**22**

SEMESTER V

No	Code	Course Title	Credits Detail			
			T	P	L	J
1	MKU6212	Entrepreneurship	2	-	-	2
2	IPA6232	Applied Chemistry	2	-	-	2
3	IPA6227	Plants Basic Structure & Function	2	-	-	2
4	PIA6207	Study and Development of Science Education Curriculum	2	-	-	2
5	PIA6209	Science Learning Media Development -2	2	-	-	2
6	PIA6110	Science Learning Media Development Pract -2	-	1	-	1
7	PIA6308	Science Education Assessment & Evaluation	2	1	-	3

No	Code	Course Title	Credits Detail			
			T	P	L	J
8	IPA6233	Science History	2	-	-	2
9	IPA6230	Living Creature and Life Process	2	-	-	2
10	IPA6131	Living Creature and Life Process Practicum	-	1	-	1
10	IPA6239	Culture Industry Science	2	-	-	2
11	---	*Elective Course (1 Course)*	2	-	-	2
Jumlah			**20**	**3**		**23**

SEMESTER VI

No	Kode	Mata kuliah	Rincian sks			
			T	P	L	J
1	MKU6214	Socio Cultural Education	2	-	-	2
2	PIA6215	Micro Teaching Practicum (Internship II)	-	2	-	2
3	PIA6311	Integrated Science and Learning	2	-		2
4	PIA6112	Integrated Science and Learning Practicum		1		1
5	IPA6234	Biophysics	2	-	-	2
6	IPA6135	Biophysics Practicum	-	1	-	1
7	IPA6236	Natural Science Philosophy	2	-	-	2
8	IPA6237	Applied Natural Science	2	-	-	2
9	IPA6138	Applied Natural Science Pract	-	1	-	1
10	PIA6213	Science Education Research Methodology	2	-	-	2
11	PIA6114	Science Education Research Methodology Practicum	-	1	-	1
12	BIM6223	Biotechnology	2	-	-	2
13	--------	Elective course (1 Course)	2	-	-	2
Total			**16**	**6**		**22**

Note:
Micro Teaching Program is a program to facilitate student teacher to train them in developing their teaching skill in limited form for Junior High School.

SEMESTER VII

No	Code	Course Title	Credits Detail			
			T	P	L	J
1	PPL6301	Educational Internship	2	1		3
2	MKU6313	Community Service	-	-	3	3
3	----	Elective course (1 Course)	2			2
Total					**8**	**8**

Note:
Community Service can be taken in the previous short semester.
Educational Internship is a Field Recognition Program to facilitate student teacher to practice and develop their basic skills of teaching real-life science in Junior High School

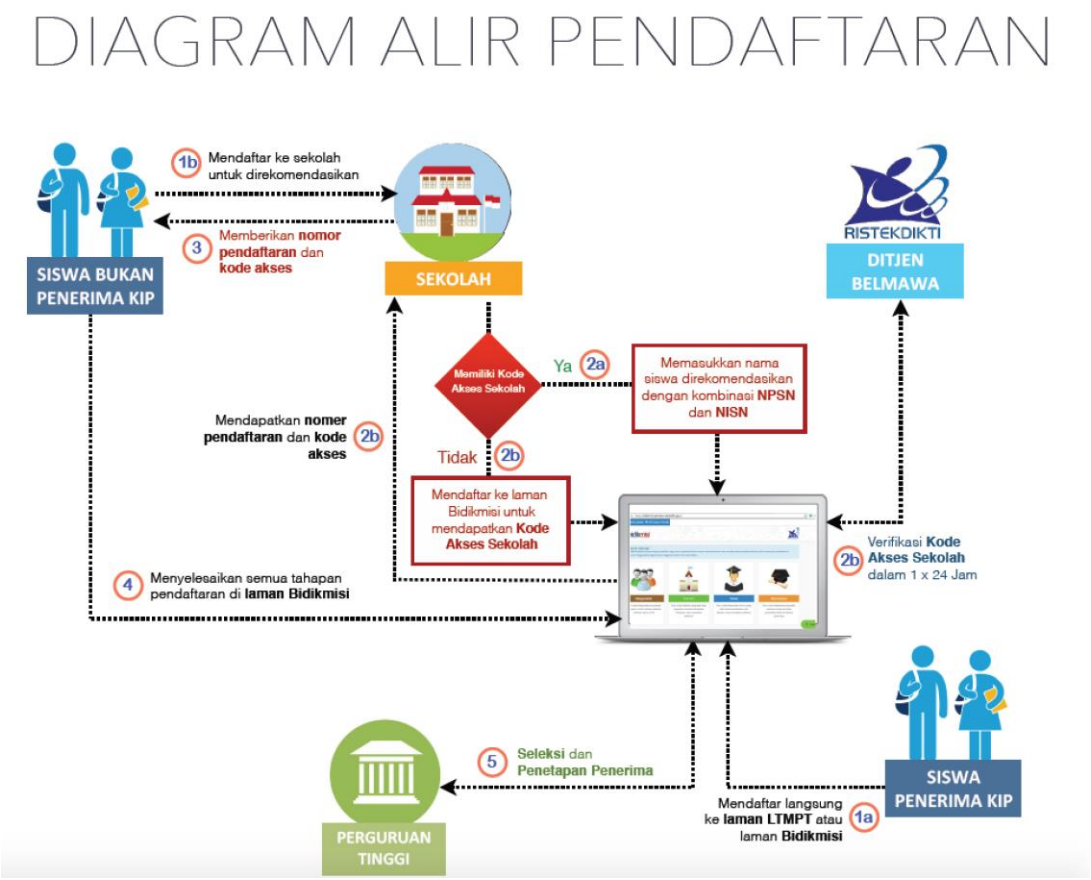
SEMESTER VIII

No	Code	Course Title	Credits Detail			
			T	P	L	J
1	PIA6616	Thesis Project	-	-	6	6
Total				**6**		**6**

CHAPTER V
SCHOLARSHIP AND SUPPORTING FACILITIES

A. Scholarship

This scholarship is provided by the government in several forms; Bidikmisi scholarships (for students who come from poor families), Academic Achievement Improvement scholarships, PPA (for outstanding students). BIDIKMISI is the tuition assistance for prospective students who are economically incapable and have good academic potential to study at tertiary institutions in a superior study program until they graduate on time. This scholarship is awarded by the Directorate of Learning and Student Affairs (Belmawa), the Ministry of Research and Technology.



Requirements for Academic Achievement Improvement scholarship (Peningkatan Prestasi Akademik, or PPA):

1) Photocopy of score transcript with a Grade Point Average (GPA) of at least 3.0 which is approved by the leadership of the college.
2) Statement of income of the applicant's parent / guardian authorized by the competent authority (for civil servants / private officials authorized by the Finance Department, and those who are not civil servants / private officials are endorsed by the Village Chief / Village Head).

Determination:

1. Academic Achievement Improvement Scholarship (PPA)
   a. Students as scholarship recipients are determined based on the requirements set out in this guideline.
   b. If the prospective recipient exceeds the set quota, the university can determine the scholarship awardee student in the order of priority as follows:
      1) Students who have the highest GPA.
      2) Students who have the most course credits (least number of semesters)
      3) Students who have achievements in co-curricular activities (sports, technology, arts / culture at international / world, Regional / Asian / Asean and National level).
      4) Students who (their parents) are the least able.

Scholarships are also given by the Ministry of Education and Culture in the form of Outstanding Community Scholarships for the Indonesian people. This program is a domestic

scholarship for S1, S2 and S3 students. Participants who can take part in this program are prospective students (new students) who have received letters received at university or are students who are studying at a maximum of semester 2 at the time of registration.

Freshman

1. Maximum age of 22 years.
2. Have a Certificate of Graduation (Certificate Received) in an accredited tertiary institution of at least B.
3. Have at least district-level achievements held by the government and / or community. The validity period of the certificate is at most 3 (three) years.
4. Achieved a top 5 ranking.

On-Going Students (who are studying in S1)

1. Maximum age of 22 years.
2. Registered at an accredited institution with a minimum of B, maximum semester 2 at the time of registration, evidenced by a Certificate of Active Student. If you are currently stepping in semester 3, then you cannot apply for the Flagship Scholarship.
3. Minimum GPA of 3.25 of the 4.0.
4. Have at least district-level achievements held by the government and / or community. The maximum validity period of the certificate is 3 years.
5. Achieved a top 5 ranking.

Note: please check your institution here:
https://ban-pt.ristekdikti.go.id/direktori/institusi/pencarian_institusi.

Scholarships are also given by private companies for outstanding students through academic selection.

B. Supporting Facilities

1. Computer Laboratory

UNY's Bachelor of Science Education has a Computer Laboratory with a Client-Server LAN network with an NT 4.0 Server which is sufficient to support various academic and / or research activities. Computer Laboratory has 48 computers that are divided into server computers (NT server and Internet Server), computer workstations for college activities and computer technicians. All workstation computers are connected to the UNY Bachelor of Science Education LAN Computer network, while technician computers are not connected to the LAN network.

UNY Bachelor of Science Education students can also access the UNY Computer Center (Puskom UNY). Facilities owned by Puskom UNY to support information and communication technology-based services include Training Room, Blade Based Server, Storage System, Gigabit Connection-based Switch Core, Wireless Hotspot, IP PBX, Video Conference Devices, Data Center Room, Connection to Localnode INHERENT UGM 1Gbps, 30 Mbps domestic internet connection, 90 Mbps international internet connection, and 120Kva Generator Set.

2. Laboratory of Study Program

To support the lecture process, UNY's Bachelor of Science Education develops laboratories, including the Microteaching Laboratory, Science Laboratory, Science Learning Laboratory and Computer Laboratory. In addition, several study programs work together with

other study programs at FMIPA to support the learning process of the study program concerned.

3. Library

In the learning process at UNY's Bachelor of Science Education, libraries play a very important role. For this reason, Bachelor of Science Education UNY develops a library with a collection that increases every year. Collection of books, research results, journals, and magazines can be used by all students for the benefit of improving the quality of learning, research, and community service. UNY Bachelor of Science Education students can also take advantage of existing libraries in study programs and faculties as well as UNY libraries.

4. Internet

UNY's Bachelor of Science Education also provides an internet service unit for students to access information. These service facilities can be obtained at the Computer Laboratory and digital library. In addition, UNY has a hotspot facility so students can access the internet in every corners of the UNY campus.

5. Sport Facilities

UNY's Bachelor of Science Education students can take advantage of UNY's sports facilities to maintain and improve their fitness. Sports facilities available include indoor and outdoor tennis courts, fitness centers, basketball courts, soccer fields, takraw fields, volleyball courts, table tennis courts, futsal fields, badminton courts, swimming pools, athletics, and martial arts arenas. Students can use these facilities in groups of Bachelor of Science Education students, together with lecturers and / or employees, or join the Student Activity Unit (UKM) of UNY.

6. Other Supports

Other supporting facilities owned by UNY's Bachelor of Science Education and / or UNY, which can be utilized by UNY's Bachelor of Science Education students, include: places of worship, Technical Consultation and Legal Aid Services Unit (LKBH), Technical Implementation Unit for Guidance and Counseling Services (UPT LBK) UNY, Health Services (LK), FIK Therapy Clinic, and Arts Facilities. These facilities can be utilized according to their individual needs.

CHAPTER VI
ACADEMIC VIOLATIONS AND SANCTIONS

A. Types of Academic Violations

1. Minor Academic Violations

a. Cheating and or deceitful

b. Deliberately or unintentionally, using or trying to use information materials or other study aids without permission from the lecturer concerned in academic activities.

c. Deliberately or unintentionally, helping or trying to help provide facilities and infrastructure that can cause cheating.

2. Medium Academic Violations

a. Substitute

Deliberately or unintentionally, replace positions or carry out tasks or activities for the benefit of others, at the request of others or at their own volition, in academic activities.

b. Repeating minor academic violations.

c. Help or attempt to conduct the medium academic violations.

Deliberately or unintentionally, cooperating or participating in committing or committing an act that causes moderate academic violations.

3. Serious Academic Violations

a. Plagiarism

Intentionally or unintentionally, use the sentence or work of others as a sentence or work itself that is contrary to the rules of scientific writing in force.

b. Counterfeiting

Intentionally or unintentionally without permission authorized to change or change / falsify academic names, signatures, grades or transcripts, diplomas, student cards, assignments, practicums, information, or reports in the academic sphere.

c. Bribery

Intentionally or unintentionally, influence or try to influence others by persuading, giving gifts or threats with the intention of influencing the assessment of academic achievement.

d. Insult

Intentionally or unintentionally, conveying words, writing or in any form that basically demeans the position of fellow students, lecturers, administrative staff or officials within the Bachelor of Science Education UNY and UNY.

B. Academic Violation Sanctions

1. Academic Sanctions against Students
   a. Sanctions for Minor Academic Violations
      1) Oral or verbal warnings by officers or written by Lecturers / Study Program Leaders / Leaders of Bachelor of Science Education UNY.
      2) Reduction of exam scores and / or statement not passing the course or academic activities carried out by the relevant lecturer at the request of the study program leader or not.

   b. Sanctions for Medium Academic Violations
      Revoked the right / permission to temporarily follow academic activities by the leadership of UNY no later than 2 (two) semesters.

   c. Sanctions for Serious Academic Violations
      Sanctions are in the form of dismissal or issued or revoked student status permanently by the leadership of Yogyakarta State University. Sanctions for plagiarism violations follow the Republic of Indonesia's Minister of National Education Regulation No. 17 of 2010 concerning Prevention and Management of Plagiarism in Higher Education.

2. Students are lost to follow-up and their rights as a student
   Students who do not do administrative registration and / or academic registration are called absent students. Students lost to follow-up are not entitled to get academic or administrative services from UNY's Bachelor of Science Education. Students absent for two consecutive semesters with no reason for leave were declared resigned and lost their status as UNY's Bachelor of Science Education students.

CHAPTER VII
CLOSING

This student handbook is structured to help students in the Bachelor of Science Education Study Program, Faculty of Mathematics and Science, Yogyakarta State University, to help them prepare well for successful lectures on time and for academic success. Suggestions and criticisms are needed to improve this book. Hopefully useful.