



**ASIIN Seal**

# **Accreditation Report**

**Bachelor's Degree Programmes**

***Biology,***

***Microbiology,***

***Pharmaceutical Science and Technology,***

***Clinical and Community Pharmacy***

Provided by

**Institut Teknologi Bandung, Indonesia**

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## A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for <sup>1</sup>	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC) <sup>2</sup>
Program Studi Sarjana Biologi	Ba Biology	ASIIN	National Accreditation Agency for Higher Education in Indonesia (BAN-PT) from 11.04.2009 until 11.04.2014	10
Program Studi Sarjana Mikrobiologi	Ba Microbiology	ASIIN	National Accreditation Agency for Higher Education in Indonesia (BAN-PT) from 28.01.2011 until 28.01.2016	10
Program Studi Sarjana Sains dan Teknologi Farmasi	Ba Pharmaceutical Science and Technology	ASIIN	National Accreditation Agency for Higher Education in Indonesia (BAN-PT) from 12.06.2009 until 12.06.2014	10
Program Studi Sarjana Farmasi Klinik dan Komunitas	Ba Clinical and Community Pharmacy	ASIIN	National Accreditation Agency for Higher Education in Indonesia (BAN-PT) from 14.01.2011 until 14.01.2016	10

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<sup>1</sup> ASIIN Seal for degree programmes

<sup>2</sup> TC: Technical Committee for the following subject area: TC 10 – Biology.

**Date of the contract:** 17.01.2014

**Submission of the final version of the self-assessment report:** 17.11.2014

**Date of the onsite visit:** 13.-14.02.2015

**at:** Labtek XI, SITH Building. Jl. Ganesa 10, Bandung, 40132, Indonesia.

Labtek VII, Ganesha 10 Bandung 40132 Indonesia

**Peer panel:**

Prof. Dr. Günter Claus, Hochschule Mannheim / University of Applied Sciences Mannheim

Prof. Dr. Gert Fricker, Universität Heidelberg / University of Heidelberg

Prof. Dr. Friedhelm Meinhardt, Westfälische Wilhelms-Universität Münster / University of Münster

Prof. Dr. Heinz Trasch, Steinbeis Transferzentrum Science, Technology & Economy

**Representative of the ASIIN headquarter:** Dr. Thomas Lichtenberg

**Responsible decision-making committee:** Accreditation Commission for Degree Programmes

**Criteria used:**

European Standards and Guidelines, version 10.05.2005

ASIIN General Criteria, version 28.06.2012

Subject-Specific Criteria of Technical Committee 10 – Life Sciences as of 09.12.2011

## B Characteristics of the Degree Programmes

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF <sup>3</sup>	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Biology, B.Sc.	B.Sc.		6	Full time	No	8 Semester	200 ECTS = 144 CU	1948, Fall Semester
Microbiology, B.Sc.	B.Sc..		6	Full time	No	8 Semester	200 ECTS = 144 CU	2004, Fall Semester
Pharmaceutical Science and Technology, B.Sc.	B.Sc..		6	Full time	No	8 Semester	200 ECTS = 144 CU	1947, Fall Semester
Clinical and Community Pharmacy, B.Sc.	B.Sc..		6	Full time	No	8 Semester	200 ECTS = 144 CU	2006, Fall Semester

For the degree programme Ba\_Biology, the webpage of the study programme ([http://www.sith.itb.ac.id/prodibios1/?page\\_id=67](http://www.sith.itb.ac.id/prodibios1/?page_id=67); [http://www.sith.itb.ac.id/prodibios1/?page\\_id=69](http://www.sith.itb.ac.id/prodibios1/?page_id=69); access 20.03.2015) states the following **objectives and intended learning outcomes**:

The stated objectives are achieved by producing graduates who have the ability to:

- demonstrate understanding of biology and the conceptual framework to identify its integrating principles.
- integrate their knowledge, skills, scientific mindset and social competences to solve problems and face challenges related to life sciences.

The programme is designed as a broad (general) Biology degree programme to produce well-rounded, trainable biologists. While there is some specialization during the student's

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<sup>3</sup> EQF = The European Qualifications Framework for lifelong learning

final research project, the student is expected to graduate as a general biologist, distinguished from graduates of other programmes by his/her strong background understanding in core biology concepts and related skills and competences. The programme educational objectives and learning outcomes are expected to equip the graduate with life skills required to develop and adapt to the wide spectrum of possible occupations. UPB graduates will have a broad occupational area. Their occupational profile includes researcher, teacher/lecturer, entrepreneur, consultant, mass media practitioner etc., and they may work in industry, academia, or government.

Learning outcomes were formulated by a designated curriculum task force during the process of developing the latest (2013) curriculum. Students who have completed their degree from the undergraduate programme in Biology will have the ability to:

- demonstrate an understanding of biology at the molecular, cellular, organismic, and ecological levels; and recognize its integrating principles.
- conduct practical laboratory and field work using standard methodologies and skills in biology.
- identify and solve problems in biology and broader areas by applying and integrating knowledge of biology and relevant disciplines (e.g., such as mathematics, basic sciences, statistics).
- conduct full-fledged research which includes research design; data collection, quantitative data analysis and interpretation; and results dissemination.
- develop scientific reasoning and the ability to make sound and responsible decisions.
- develop and express an appreciation for the importance of biodiversity and bioresources.
- demonstrate effective oral and written communication skills, in Indonesian and English.
- work and learn independently as well as collaboratively in teams.
- demonstrate knowledge of ethics, safety, and environmental issues.
- demonstrate information literacy and technological fluency related to life science
- demonstrate basic knowledge of the management of bioresources and living systems.
- relate the science of biology to its application in technology and other fields to meet the needs of society.
- keep abreast of the latest advances in life sciences and engage in lifelong learning.

## B Characteristics of the Degree Programmes

Information about undergraduate programme in Biology and its expected learning outcomes is delivered to students on several occasions, e.g., during explanation of the programme to common first year students, and during welcoming address to second-year students who have been accepted to the programme.

The following **curriculum** is presented:

### Curriculum Structure

Semester I				Semester II			
No.	Course Code	Course Name	CU	No.	Course Code	Course Name	CU
1	MA1102	Mathematics IB	3	1	MA1202	Mathematics IIB	3
2	FI1102	Elementary Physics IB	3(1)	2	FI1202	Elementary Physics IIB	3(1)
3	KI1101	Basic Chemistry IA	3(1)	3	KI1201	Basic Chemistry IIA	3(1)
4	KU1101	Introduction to Design and Engineering I	2	4	KU1001	Sports	2
5	KU1071	Introduction to Information Technology A	2	5	KU102x	English	2
6	KU1011	Scientific Writing in Indonesian	2	6	KU1201	Introduction to Design and Engineering II	2
7	BI1101	Fundamental Biology	4	7	BI1201	Introduction to Life Sciences and Technology	2
<b>Total</b>			<b>19</b>	<b>Total</b>			<b>17</b>

Semester III				Semester IV			
No.	Course Code	Course Name	CU	No.	Course Code	Course Name	CU
1	BI2001	Environmental Science	2	1	BI2201	Animal Development	3(1)
2	BI2102	Animal Anatomy and Physiology	4	2	BI2202	Plant Structure and Development	3
3	BI2103	Animal Anatomy and Physiology Project	2(2)	3	BI2203	Plant Physiology	3
4	BI2104	Biosystematics	4(2)	4	BI2204	Plant Science Project	2(2)
5	BI2105	Genetics	4(1)	5	BI2205	Cell and Molecular Biology I	3
6	KI2051	Organic Chemistry	3(1)	6	KI3061	General Biochemistry	3(1)
<b>Total</b>			<b>19</b>	<b>Total</b>			<b>17</b>

## B Characteristics of the Degree Programmes

Semester V				Semester VI			
No.	Course Code	Course Name	CU	No.	Course Code	Course Name	CU
1	BI3101	Ecology	4	1	BI3201	Behavioural Biology	4(2)
2	BI3102	Ecology Project	3(3)	2	BI3202	Synthetic Biology	2
3	BI3103	Cell and Molecular Biology II	2	3	BM3207	Microbiology	4(1)
4	BI3104	Cell and Molecular Biology Project	2(2)	4	BI3090	Internship	3
5	BI3105	Evolution	2	5	BI3001	Research Methodology	2
6	MA2082	Biostatistics	3	6	XXXXXX	Elective courses	3
7	KU206x	Religion and Ethics	2				
		<b>Total</b>	<b>18</b>			<b>Total</b>	<b>18</b>

Semester VII				Semester VIII			
No.	Course Code	Course Name	CU	No.	Course Code	Course Name	CU
1	BI4001	Bioethics	2	1	BI4098	Research Project II	3
2	BI4002	Scientific Communication	2	2	BI4099	Seminar and Final Defense	2
3	BI4097	Research Project I	4	3	MB4070	Bioindustry Management and Entrepreneurship	3
4	KU2071	Pancasila and Civic Education	2	4	XXXXXX	Elective courses	10
5	XXXXXX	Elective courses	8				
		<b>Total</b>	<b>18</b>			<b>Total</b>	<b>18</b>



## B Characteristics of the Degree Programmes

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### Elective Courses provided by the Study Program

No.	Course Code	Course Name	CU
1	BI3106	Animal Histology	2
2	BI3107	Anatomy and Wood Properties	3(1)
3	BI3108	Marine Ecology	3(1)
4	BI3109	Plant Biotechnology	2
5	BI3110	Plant Microtechnique and Analysis	2(2)
6	BI3203	Animal Biotechnology	2
7	BI3204	Endocrinology	2
8	BI3205	Molecular Phylogenetics	2
9	BI3206	Soil Ecology	2
10	BI4101	Aquaculture	3(1)
11	BI4102	Bioconservation	3(1)
12	BI4103	Immunology	2
13	BI4104	Methodology in Biomedical Analysis	3(2)
14	BI4105	Neurobiology	2
15	BI4201	Environmental Impact Assessment	3
16	BI4202	Landscape Ecology	3
17	BI4203	Management of Tropical Marine and Coastal Ecosystems	3
18	BI4204	Urban Entomology	2
19	BI4205	Basic Toxicology	2
20	BI4206	Ethnobotany	2
21	BI4207	Formulation of Growth Media and Nutrition	2
22	BI4208	Plant Reproduction and Breeding	2
23	BI4209	Biogeography	2
24	BI4210	Aquaculture Genetics	2
25	BI4211	Genomics and Proteomics	2

For the degree programme Ba Microbiology, the webpage of the study programme ([http://www.sith.itb.ac.id/microbiology/?page\\_id=35](http://www.sith.itb.ac.id/microbiology/?page_id=35); access 20.03.2015) states the following **intended learning outcomes**:

In the category of conceptual and comprehensive competence, the students should be able to express an understanding of the core concept of microbiology, specifically in:

- fundamentals of biology-relevant knowledge of mathematics and natural sciences
- the evolution of prokaryotic cells, its adaptation, survival and diversity, including its impact on the environment
- relationship of cell structure and function
- metabolism related to the energy and usage of materials for survival, growth and interaction with environment
- genetic information flow and its response to environment
- microbial system in term of diversity and dynamic ecosystem
- impacts of microorganism in life

## **B Characteristics of the Degree Programmes**

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In the category of laboratory skill, the learning outcomes are that students have the ability to:

- apply microbiological lab equipment and methods
- apply molecular lab equipment and methods
- apply safety approaches using appropriate protective and emergency procedures

In the category of scientific skill, the learning outcomes are that the students have the ability to:

- express scientific processes and are capable to apply qualitative and quantitative reasoning to communicate and collaborate with other fields
- explain the relationship between science and society

In the category of social skill, the learning outcomes are that the students have the ability to:

- show effective communication and team-working attitude
- express the awareness and importance of long life learning

## B Characteristics of the Degree Programmes

The following **curriculum** is presented:

3 <sup>rd</sup> Semester				4 <sup>th</sup> Semester			
No	Code	Course Name	Credit Unit	No	Code	Course Name	Credit Unit
1	BI2105	General Environmental Science	2	1	BM2201	Cell and Molecular Biology	4 (1)
2	BM2101	General Microbiology	3	2	BM2202	Microbial Quantitative Physiology	3
3	BM2102	Microbiology Project	2	3	BM2203	Microbial Ecology and Evolution	3(1)
4	KI2051	Analytical Chemistry	3(1)	4	KI3061	Biochemistry	3(1)
5	KI2122	Organic Chemistry	3(1)	5	BM2204	Projects of Microbial Physiology	2
6	KU2061	Religion and ethics	2	6	BM2205	Statistics for Microbiology	3
7	KU2071	Pancasila and Civic Education	2	7			
<b>Total</b>			<b>17</b>	<b>Total</b>			<b>18</b>

5 <sup>th</sup> Semester				6 <sup>th</sup> Semester			
No	Code	Course Name	Credit Unit	No	Code	Course Name	Credit Unit
1	BM3101	Microbial Biosystematics	3(1)	1	BM3090	Internship	3
2	BM3102	Enzymology	2	2	BM3201	Metabolomic	2
3	BM3103	Environmental Microbiology	3	3	BM3001	Research Methodology	2
4	BM3104	Introduction of Bioinformatics	2(1)	4	BM3202	Analytical Microbiology	3(1)
5	BM3105	Virology	3	5	BM3203	Principles of Fermentation Technology	4(2)
6	BM3106	Microbial Genetic Engineering	3(1)	6	BI4002	Scientific Communication	2
7		Elective course	2	7		Elective course	2
<b>Total</b>			<b>18</b>	<b>Total</b>			<b>18</b>

7 <sup>th</sup> Semester				8 <sup>th</sup> Semester			
No	Code	Course Name	Credit Unit	No	Code	Course Name	Credit Unit
1	BM4090	Final Project I	4	1	BM4091	Final Project II	3
2	BM4101	Microbial Pathogenesis and Immunology	3	2	BM4092	Seminar and colloquium	2

3	BM4102	Microbial-Based Product Development Project	3	3	BM4201	Biosafety	2
4	BM4103	Food Microbiology	2	4	MB4070	Bioindustry Management and Entrepreneurship	3
5	----	Elective course	7	5	----	Elective course	8
<b>Total</b>			<b>19</b>	<b>Total</b>			<b>18</b>

**Elective courses**

No	Code	Nama Matakuliah	Credit Unit	No	Code	Nama Matakuliah	Credit Unit
1	BM3002	Microbiology Laboratory Assistant	2	11	BM4106	Extremophilic Microorganisms	2
2	BM3003	Current Topics on Microbiology	2	12	BM4107	Cosmetic Microbiology	2
3	BM3107	Fungal Technology Project	2	13	BM4108	Bioremediation	2
4	BM3108	Plant Microbes Interaction	2	14	BM4109	Predictive Microbiology	2
5	BM3204	Mycology	2	15	BM4202	Aquatic Microbial Ecology	2
6	BM3205	Bacteriology	2	16	BM4203	Metagenomik	2
7	BM3206	Phycology	2	17	BM4204	Petroleum Microbiology	2
8	BM3207	Microbiology*	4 (1)	18	BM4205	Diagnostic microbiology	2
9	BM4104	Microalgae Culture Technique	3 (1)	19	BM4206	Microbiology**	3 (1)
10	BM4105	(Biosecurity of Bioproduct	3	<b>Elective courses total credit</b>			<b>40</b>

For the degree programme Ba Pharmaceutical Sciences and Technology, the webpage of the study programme ([http://www.fa.itb.ac.id/en/?page\\_id=87](http://www.fa.itb.ac.id/en/?page_id=87); access 20.03.2015) states the following **intended learning outcomes**:

Bachelor programme in Pharmaceutical Sciences and Technology provides opportunity for student to acquire knowledge and skills in science and technology of pharmacy covering all aspects related to pharmaceutical products from discovery and invention, processing and development of raw material to pharmaceutical preparation. In other word, study programme of Pharmaceutical Science and Technology focus on product oriented knowledge to fulfil the need of expertise in research, product development and quality control of pharmaceutical product and medical devices.

**Graduate Competencies**

Graduate of bachelor programme in Pharmaceutical Science and Technology is expected to fulfil the current need of pharmaceutical skill to apply and develop science and technology to be able to perform the role of pharmaceutical scientist or pharmacist in production, quality control, research and development of pharmaceutical products.

The following **curriculum** is presented:

Code	Course Title	Credit
Semester I		
MA1102	Mathematics IB	3
FI1102	Elementary Physics IB	3
KI1101	Basic Chemistry IA	3
KU1101	Introduction to Design and Engineering I	2
KU1071	Introduction to Information Technology A	2
KU1011	Scientific Writing in Indonesian	2
FA1101	Introduction to Pharmacy & Health	3
Semester II		
MA1202	Mathematics IIB	3
FI1202	Elementary Physics IIB	3
KI1201	Basic Chemistry IIA	3
KU1201	Introduction to Design and Engineering II	2
KU1001	Sports	2
KU102X	English	2
BI1202	Cell Biology and Its Application	3
Semester III		
FA2111	Basics of Pharmaceutica Analysis	2
FA2112	Pharmaceutical Physical Chemistry	2
FA2114	Pharmaceutical Microbiology	3
FA2113	Principles of Drug Synthesis	2
FA2121	Pharmaceutical Botany	3
FA2131	Basic Pharmaceutics	3
FA2141	Human Anatomy and Physiology I	2
KU2071	Pancasila and Civic Education	2

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### Semester IV

FA2211	Drug Synthesis	2
FA2201	Environmental Pharmacy	2
FA2212	Practicum of Organic and Physical Pharmaceutical Chemistry	2
FA2221	Pharmacognosy	2
FA2202	Pharmaceutical Statistics	2
FA2231	Physical Pharmacy	4
FA2241	Human Anatomy and Physiology II	
KU206X	Religion and Ethics	2

### Semester V

FA3111	Pharmaceutical Biochemistry	2
FA3112	Instrumental Pharmaceutical Analysis	2
FA3113	Practicum of Instrumental Pharmaceutical Chemistry	2
FA3131	Pharmaceutical Technology of Liquid-Semisolid Dosage Form	3
FA3132	Practicum of Pharmaceutical Technology of Liquid- Semisolid	2
FA3141	Pharmacology and Toxicology I	2
FA3142	Immunology	2

### Semester VI

FA3201	Management and Entrepreneurship	2
FA3211	Practicum of Analytical Pharmaceutical Chemistry	2
FA3231	Pharmaceutical Biotechnology	3
FA3232	Pharmacokinetics	3
FA3241	Pharmacology and Toxicology II	2
FA3221	Analytical Pharmacognosy	3

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### Semster VII

FA4091	Final Project I	1
FA4011	Medicinal Chemistry	2
FA4112	Analysis of Active Compounds	2
FA4121	Phytochemistry	4
FA4131	Pharmaceutical Technology of Solid Dosage Forms	3
FA4141	Pharmacology and Toxicology III	2
FA4142	Practicum of Integrated Pharmacology	2
FK4141	Basic Pharmacotherapy	2

### Semester VIII

FA4092	Seminar	1
FA4093	Final Project II	5
FA4094	Final Comprehensive Examination	1
FA4221	Natural Product Technology	2
FA4231	Basic Industrial Pharmacy	2
FA4232	Biopharmacy	2

For the degree programme Ba Clinical and Community Pharmacy, the webpage of the study programme ([http://www.fa.itb.ac.id/en/?page\\_id=90](http://www.fa.itb.ac.id/en/?page_id=90); access 20.03.2015) states the following **intended learning outcomes**:

Bachelor programme in Clinical and Community Pharmacy provides knowledge and skills of pharmaceutical care, implementing the concept of clinical pharmacy and management of community pharmacy that is in line with healthy paradigm, to fill the need of health worker to achieve health service by tripartite professions consisting doctor (medical care), apothecary (pharmaceutical care), nurse (nursing care) and knowledgeable on various pharmaceutical product and medical devices designated at primary quality service to the patient (patient oriented).

### Graduate Competencies

Graduate of bachelor programme in Clinical and Community Pharmacy is able to perform pharmacy services (pharmaceutical product and clinical services) in accordance to principle and ethics of pharmaceutical care, from dispensing of quality, effective and safe medicine, supported with comprehensive information in order to achieve accurate use

## B Characteristics of the Degree Programmes

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and recovery of the patient. Able to actively contribute in evaluating, interpreting, and provide solution on preclinical and clinical tests or studies. Knowledgeable various pharmaceutical products and medical devices oriented at primary healthcare services to the patient and client.

The following **curriculum** is presented:

Code	Course Title	Credit
Semester I		
MA1102	Mathematics IB	3
FI1102	Elementary Physics IB	3
KI1101	Basic Chemistry IA	3
KU1101	Introduction to Design and Engineering I	2
KU1071	Introduction to Information Technology A	2
KU1011	Scientific Writing in Indonesian	2
FA1101	Introduction to Pharmacy & Health	3
Semester II		
MA1202	Mathematics IIB	3
FI1202	Elementary Physics IIB	3
KI1201	Basic Chemistry IIA	3
KU1201	Introduction to Design and Engineering II	2
KU1001	Sports	2
KU102X	English	2
BI1202	Cell Biology and Its Application	3
Semester III		
FK2111	Pharmaceutical Analytical Chemistry	2
FK2112	Medical Microbiology	3
FA2131	Basic Pharmaceutics	3
FK2132	Basic Physical Pharmacy	2
FA2141	Human Anatomy and Physiology I	2
FA2121	Pharmaceutical Botany	3
KU206X	Religion and Ethics	2



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### Semester IV

FA2201	Environmental Pharmacy	2
FK2202	Biostatistics	2
FK2211	Organic Chemistry of Drug	3
FK2231	Basics of Pharmaceutical Dosage Form Technology	3
FK2241	Epidemiology and Public Health	2
FK2242	Pathophysiology	2
FA2241	Human Anatomy and Physiology II	2
KU2071	Pancasila and Civic Education	2

### Semester V

FK3112	Practicum of Drug Analysis	2
FK3121	General Pharmacognosy	3
FK3141	Basics of Hospital Pharmacy	2
FA3141	Pharmacology and Toxicology I	2
FA3142	Immunology	2
FA3112	Instrumental Pharmaceutical Analysis	2

### Semester VI

FK3211	Medical Biochemistry	2
FK3221	Phytotherapy	3
FK3213	Practicum of Medical and Clinical Bioscience	2
FK3212	Clinical Chemistry	2
FK3231	Medical Biotechnology	2
FA3201	Management and Entrepreneurship	2

## C Peer Report for the ASIIN Seal

### 1. The Degree Programme: Concept, content & implementation

**Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)**

**Evidence:**

- Biology: Self-Assessment Report (SAR-UPB-SLST-Final), chapter 2, page 5; SAR-Appendices UPB-SLST-ITB, page 121+122.
- Microbiology: Self-Assessment Report (SAR\_UPMb), chapter 2; UPMb\_Appendix, page 5+6.
- Pharmacy / Clinical and Community Pharmacy: Self-Assessment Report (31102014 SAR School of Pharmacy), chapter 2; Joint SAR SLST-SP with appendix (Appendix 1.c Objective Matrix)
- Diploma Supplements in Appendix 7.1 (Joint SAR SLST-SP Final)
- [http://www.sith.itb.ac.id/prodibios1/?page\\_id=69/](http://www.sith.itb.ac.id/prodibios1/?page_id=69/) (Access 20.03.2015)
- [http://www.sith.itb.ac.id/microbiology/?page\\_id=35](http://www.sith.itb.ac.id/microbiology/?page_id=35) (Access 20.03.2015)
- [http://www.fa.itb.ac.id/en/?page\\_id=87](http://www.fa.itb.ac.id/en/?page_id=87) (Access 20.03.2015)
- [http://www.fa.itb.ac.id/en/?page\\_id=90](http://www.fa.itb.ac.id/en/?page_id=90) (Access 20.03.2015)
- Diploma Supplement for each study programme, § 4.2
- [https://karir.itb.ac.id/tracerstudy/uploads/report\\_prodi/SF%20TS%202014.pdf](https://karir.itb.ac.id/tracerstudy/uploads/report_prodi/SF%20TS%202014.pdf) (Access 20.03.2015)
- <https://karir.itb.ac.id/tracerstudy/report> (Access 20.03.2015)

**Preliminary assessment and analysis of the peers:**

The Institut Teknologi Bandung (ITB) defined the study aims and the intended learning outcomes of the four bachelor programmes at a level of higher education which corresponds to learning outcomes relevant to level 6 of the European Qualifications Framework for lifelong learning. In the bachelor's programme Biology, the auditors understood that the students shall have the ability to demonstrate an understanding of biology at the molecular, cellular, organismal, and ecological levels including knowledge of ethics, safety

and environmental issues which implies a critical understanding of the matter as the auditors confirmed. Besides, the intended learning outcomes clearly state that graduates shall be able to identify and solve problems in biology and broader areas by applying and integrating knowledge of biology and relevant disciplines. The students shall also conduct full-fledged research which includes research design, data collection, quantitative data analysis and interpretation, and results dissemination. Finally, the students shall demonstrate basic knowledge of the management of bioresources and living systems and work and learn independently as well as collaboratively in teams which demonstrated to the peers that the students shall take responsibility for managing professional development of individuals and groups. The peers saw the objectives and intended learning outcomes published on the programme webpage but they could not see whether the goals had also been published in an official document because the Diploma Supplement of the Ba Biology was missing in Appendix 7.1 and the peers kindly ask to submit this.

The auditors appreciated the very specific objectives and learning outcomes of the Microbiology degree programme regarding the subject-specific knowledge. The students shall have profound knowledge of fundamentals of biology-relevant knowledge of mathematics and natural sciences and the evolution of prokaryotic cells, its adaptation, survival and diversity, including its impact on the environment. The auditors could see that “skills in solving microbiology-related issues” were clearly defined in the self-assessment report and appreciated that students were supposed to “play a positive role in their profession (researcher, entrepreneur, educator, managerial and company staff), demonstrate analytical and critical thinking as well as adaptability, and perform leadership in their career”. The auditors saw that these objectives correspond well with the descriptors of level 6 of the European Qualification Framework. But the peers wondered where the objectives were published as nothing of this kind was stated on the programme-specific webpage. The peers underlined that the objectives as stated in the self-assessment report (chapter 2.1, page 10) must also be published on the webpage to provide a more comprehensive picture of the study programme to external stakeholders. The Diploma Supplement does not provide information on the objectives of the degree programmes either.

The objectives and intended learning outcomes of the bachelor’s programme Pharmaceutical Sciences and Technology were published in a very comprehensive manner on the subject-specific webpage. The peers noticed that the aims of the degree programmes were described in more detail in the Diploma Supplement and acknowledged that they were well-anchored and binding. In the Diploma Supplement it was clearly stated that graduates shall obtain basic competences on pharmacology (drug classification), pharmacology (drug characterization), dosage form formulation, and drug discovery meth-

ods. The peers concluded that “drug discovery methods” implies problem-solving skills. In addition graduates shall acquire communication, teamwork, leadership, and managerial skills.

The objectives and intended learning outcomes of the degree programme Clinical and Community Pharmacy were described on the subject-specific webpage. The peers understood that graduates shall have knowledge on pharmacology of drugs and pathophysiology of disease, pharmacoconomics, as well as pharmaceutical formulation, manufacturing, and quality assessment. Furthermore, competences in trial design, rational medication selection, drug storage, preparation, dispensing, and distribution system organization, as well as pharmacovigilance shall be developed which proved to the auditors that complex solving skills shall be obtained. In addition, more general competences like writing and verbal communication, teamwork, leadership, and managerial skills shall be acquired which corresponds to the goals as defined for level 6 in the European Qualification Framework for Lifelong Learning. The auditors underlined for both degree programmes that the aims and the intended learning outcomes as specified in the Diploma Supplement should be published and must be harmonized in the official documents and the publications to ascertain that only one version is available which can be referred to.

The **Subject-Specific Criteria (SSC)** of the Technical Committee for Life Sciences provide the basis for judging whether the intended learning outcomes framed by Higher Education Institutions are constituted in the degree programmes in a comprehensible manner. The auditors examined the areas of competence as set forth by the *Subject-Specific Criteria (SSC)* for degree programmes and came to the following conclusions:

For the bachelor’s degree programme Biology ITB provided in the self-assessment report an overview how the objectives as defined by the study programme and the areas of competence of the subject specific criteria correspond and could prove that all subject-specific criteria defined by ASIIN were in line with the criteria of the study programme. Appendix “SAR-Appendices UPB-SLST-ITB” presented an objective matrix showing which module contributed to the achievement of the objectives and learning outcomes of the degree programme indicating the corresponding subject-specific criteria of ASIIN. The contribution distinguishes between low, moderate and high module support to the programme outcomes. The peers confirmed that this alignment was appropriately done and underlined that all aspects of subject specific and social competences of the subject-specific criteria were well referred to in the Learning Outcomes.

In the appendix “UPMb\_Appendix” ITB showed for the bachelor’s degree programme Microbiology how the subject-specific criteria of ASIIN were reflected in the Learning Outcomes of this degree programme. The objective matrix demonstrated how the differ-

ent modules contributed to the achievement of the learning outcomes. The peers concluded that this alignment was comprehensible and extensive and all relevant aspects of the subject-specific criteria of ASIIN had been observed appropriately.

In the appendix “Joint SAR SLST-SP with appendix” ITB outlined the subject-specific criteria of ASIIN and the respective Learning Outcomes of the bachelor’s degree programmes Pharmaceutical Science and Technology and Clinical and Community Pharmacy. There was a distinction between generic and specialist competences. For both study programmes the intended learning outcomes were aligned with the modules and their contribution to the achievement of the learning outcome. ITB referred to the ASIIN subject-specific criteria of Biology and proved in a comprehensible manner that the subject-specific criteria had been considered fully with a focus on the specific degree programmes.

In summary, the auditors appreciated the systematic and transparent approach chosen by ITB to show the alignment between the subject-specific criteria of ASIIN and the learning outcomes of the four programmes of ITB.

From a professional point of view, ITB explained that graduates from ITB were very well reputed and normally found comparatively easy working opportunities in their field of profession. This general statement was supported by the tracer studies which are being carried out regularly for each degree programme individually. The peers discovered the link on ITB’s Career Centre webpage but were not able to read it as it was only available in Indonesian language. The peers understood that the professional allocation of graduates differed from programme to programme. In the bachelor’s degree programme Biology on average about 60% of the graduates were employed in various companies/institutions; 5% were employed while also active in entrepreneurship, 4% were active in entrepreneurship and about 30% of the alumni directly continued their studies to a graduate level. In the Microbiology degree programme, the tracer study showed that a majority (more than 40%) of graduates worked purely as an employee in companies (local, national and multinational companies) as well as government institutions. Second majority of graduates pursued their study to a higher degree of education within the country and overseas. A minority of graduates (less than 10%) became entrepreneurs and employee plus entrepreneurs. In the degree programme Pharmaceutical Science and Technology, ITB explained that most of graduates of the programme continued straight to a professional degree programme (apothecary programme). In this regard, the undergraduate programmes had been designed to accommodate professional skills required in the subsequent study, in the form of laboratory exercises enriched with simulation of real cases found in the professional setting, e.g. quality control of pharmaceutical industry, active compound production, patient counselling and drug information. About 80% of the

graduates of the degree programme Clinical and Community Pharmacy continued to professional degree programmes (apothecary programme). Those graduates who started working after graduation turned to professions like the pharmaceutical distribution sector like pharmaceutical wholesale and retail, drug registration, business development, clinical studies and marketing. The peers comprehended that based on the results of the tracer studies graduates usually worked in a field appropriate to their qualification.

The auditors welcomed the information that the Programme Educational Objectives were evaluated once every five years. ITB explained that different sources of information like Alumni and employer surveys and the performance of students and graduates (tracer study information) were taken into consideration to determine the effectiveness of the Programme Educational Objectives. Also students were asked to give their input to improve the teaching and learning effectiveness. Given this information and input, the curriculum of the study programmes was revised where this deemed necessary. In addition, advisory boards are in place meeting once or even twice a year consisting of academic staff members and stakeholders from the private sector to critically reflect the degree programmes. The auditors strongly supported the involvement of stakeholders in the revision process of the study programmes.

<b>Criterion 1.2 Name of the degree programme</b>
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**Evidence:**

- The names of the study programmes are published under the following links:
- <http://www.sith.itb.ac.id/prodibios1/> (Access 20.03.2015)
- <http://www.sith.itb.ac.id/microbiology/> (Access 20.03.2015)
- [http://www.fa.itb.ac.id/en/?page\\_id=87](http://www.fa.itb.ac.id/en/?page_id=87) (Access 20.03.2015)
- [http://www.fa.itb.ac.id/en/?page\\_id=90](http://www.fa.itb.ac.id/en/?page_id=90) (Access 20.03.2015)

**Preliminary assessment and analysis of the peers:**

The names of all four degree programmes were published on the subject specific web-page. The auditors confirmed that the names of the degree programmes "Biology", "Microbiology", "Pharmaceutical Sciences and Technology" and "Clinical and Community Pharmacy" properly reflected the intended aims and learning outcomes. The programmes were published in English and in Indonesian language. The study programmes were primarily carried out in Indonesian language.

<b>Criterion 1.3 Curriculum</b>
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**Evidence:**

- Joint Self-Assessment Report (Joint SAR SLST-SP Final 101114)
- [http://www.itb.ac.id/education/ITB\\_undergraduate\\_handbook.pdf](http://www.itb.ac.id/education/ITB_undergraduate_handbook.pdf) (20.03.2015)
- Biology: Self-Assessment Report (SAR-UPB-SLST-Final), chapter 2, page 5; SAR-Appendices UPB-SLST-ITB, page 121+122.
- Microbiology: Self-Assessment Report (SAR\_UPMb), chapter 2; UPMb\_Appendix, page 5+6.
- Pharmacy / Clinical and Community Pharmacy: Self-Assessment Report (31102014 SAR School of Pharmacy), chapter 2; Joint SAR SLST-SP with appendix (Appendix 1.c Objective Matrix)
- [http://www.sith.itb.ac.id/prodibios1/?page\\_id=34](http://www.sith.itb.ac.id/prodibios1/?page_id=34) (Access 20.03.2015)
- [http://www.sith.itb.ac.id/microbiology/?page\\_id=46](http://www.sith.itb.ac.id/microbiology/?page_id=46) (Access 20.03.2015)
- [http://www.fa.itb.ac.id/en/?page\\_id=87](http://www.fa.itb.ac.id/en/?page_id=87) (Access 20.03.2015)
- [http://www.fa.itb.ac.id/en/?page\\_id=90](http://www.fa.itb.ac.id/en/?page_id=90) (Access 20.03.2015)

**Preliminary assessment and analysis of the peers:**

On the webpage an undergraduate handbook was published describing all bachelor's degree programmes offered at ITB. This presentation of the study programmes entails the description of the curriculum and the workload in terms of credits for each individual study programme. Furthermore, for the degree programmes Biology and Microbiology the auditors laudably noted that the subject-specific webpage provided an overview of the curriculum and the module descriptions.

As outlined under criterion 1.1 ITB provided an analysis of the alignment of the subject-specific criteria with the intended learning outcomes for each individual study programme under review. In addition, ITB provided objective matrices depicting which module contributes to the fulfilment of which learning outcomes; the respective contribution was specified in terms of "high", "medium" or "low" contribution.

The peers understood that the first year at ITB was a common year for all students in one faculty (School of Life Sciences and Technology, School of Pharmacy) introducing students to "Mathematics", "Elementary Physics" and "Basic Chemistry" with mandatory laboratory courses and experimental works.

In Biology, Microbiology, Pharmaceutical Sciences and Technology and Clinical and Community Pharmacy, the peers could comprehend that the curricula followed a roadmap

and the course modules were systematically positioned in such a way that by the end of the programme, and according to the level of the expected academic content, the students would achieve the intended learning outcomes. In the final project it was expected that students applied concepts and theoretical knowledge related to their research topics, gained a comprehensive knowledge on research methodology, and were enabled to inquire appropriate references for their research. ITB indicated that the outcome-based curriculum had been established in 2013, and still needed to be confirmed if the intended learning outcomes could be attained as envisaged.

In summary, the panel acknowledged that the curricula of all programmes were very much aligned to the expected learning outcomes.

ITB explained that soft skills had been considered of increasing importance and the curriculum had been modified to accommodate social skills more prominently. Presentation skills were introduced in the first semester, and students were required to make between 7 to 10 presentations per year and facilitate the following discussions; some of the presentations had to be done in English. The peers positively acknowledged that the majority of students were almost fluent in English. Up to 40% of the accomplishments per semester were based on practical (e.g. group experiments) or oral performances. The peers confirmed that social skills were properly integrated into the curriculum.

Furthermore, the auditors underlined that objectives and intended learning outcomes for the degree programme were systematically substantiated and updated in its individual modules. The peers could comprehend which knowledge, skills and competences students would acquire in each module.

#### **Criterion 1.4 Admission requirements**

##### **Evidence:**

- <http://www.as.itb.ac.id/en/test-1/admission> (Access 20.03.2015)
- Joint Self-Assessment Report, chapter 2.5 (Joint SAR SLST-SP Final 101114)
- Regulation of Ministry of Education (of Indonesia) No. 034/2010
- § 2, Student Admission: Rector Decree No. 169/SK/I1.A/PP/2012 on Academic and Student Regulations Institut Teknologi Bandung

##### **Preliminary assessment and analysis of the peers:**

The peers were explained that admission to the undergraduate programmes of ITB was conducted centrally by ITB and the national committee on student selection for university studies. The management of student admission was centrally-organized at the Directorate



of Education of ITB for all faculties and schools within ITB. Since 2011, ITB had been using the national-level student admission system. The national admission committee was composed of all state university delegates.

Based on regulation of the Ministry of Education No. 034/2010, and more specifically spelled out in the Rector's Decree No. 169/SK/I1.A/PP/2012 on Academic and Student Regulations Institut Teknologi Bandung, student admission for state university was categorized into two types:

*Student admission based on written and skill test*

In this type of selection, student performance was evaluated through their written and skill test. The written test was clustered in two categories: science and technology (SAINTEK) and social and humanities (SOSHUM). Depending on the faculty the students want to enter they had to take another test specifically designed for the faculty the students applied for. ITB selected the best students based on the test results.

*Student admission based on academic performance (non-written and skill test)*

Student performance was evaluated through their subject score during high school and other relevant academic achievement (such as relevant science competition). Students also had to take the faculty-specific test.

In addition, through the Law of the Republic of Indonesia No. 12/2012, the government mandates all state universities to recruit students who have a high academic-performance but not the financial resources to pay the tuition fees. At least 20% of the new students admitted to the university have a background that does not allow them to pay the tuition fees. The government covers the financial expenses and provides incentives to the university to implement this policy.

The students, who were being admitted in the first year, were considered as students of the School of Life Sciences and Technology / School of Pharmacy and like other new students of ITB, they had to attend the so-called "First Common Year Programme". The purpose of this "First Common Year Programme" was to ensure that all students had the same knowledge and scientific foundation before entering the actual degree programmes. At the end of this first year, each student proposed three choices of study programmes they wanted to enter. Based on the performance of the students in the first year, the best students were admitted to the first choice. If all places in a degree programme were occupied, students were distributed into the programmes of the second choice and so on. Finally, all students were distributed into the programmes of the School of Life Sciences and Technology respectively School of Pharmacy. The first year had to be completed in two years, otherwise students had to leave the university. About 3 percent

of the students leave ITB due to dissatisfactory performance. The peers were concerned that students may be disappointed if they did not get their first choice and dropped out. Students as well as staff members admitted that there were students who were dissatisfied if they had been distributed to their second or third choice but it was confirmed by students and staff members that in most cases an acceptable solution was found. Cases that students leave ITB to study elsewhere because they did not get their first degree programme choice were rare.

The peers wondered if a change of the academic programme was possible at a later stage and learnt, that in Article 7.1 of the “Academic and Student Regulations” ITB defined that a student registered in a study programme was not allowed to move to another study programme at the same level. A change of study programme could only take place if there was proof that the current study programme the student had chosen was unsuitable. This change of study programme could be continued, considering the students’ academic achievement in the currently attended programme and the availability of the education facilities in the study programme the student would like to join. The students confirmed that they know cases where a change of the study programme or even a change of the faculty had taken place.

The auditors confirmed that the requirements and procedures for admission were transparent and the same for all applicants. According to the peers, especially the faculty-specific test supported the students in achieving the learning outcomes. Furthermore, the auditors appreciated the “First Common Year Programme” as it ascertained that all students meet adequate standards when entering the degree programme.

**Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 1:**

The peers gratefully acknowledged that ITB provides graduates with a Diploma Supplement (Surat Keterangan Pendamping Ijazah/SKPI) issued according to the regulations of Indonesian Ministry of Education in Decree No. 81/2014. Diploma Supplements had been provided in English for all degree programmes in the Self-Assessment Report except Ba Biology. The peers thank ITB for the additional documents including the Diploma Supplements in Indonesian language and concluded that respective documents were available for all programmes. The learning outcomes of the Ba Clinical and Community Pharmacy Study Program and Ba Pharmaceutical Sciences and Technology have still not been published on the subject-specific websites. Hence, the auditors confirmed their intended requirement that the aims of the study programmes and the intended learning outcomes must be presented in a uniform manner in all documents and must be published for all stakeholders. The auditors could comprehend that the link on ITB’s Career Centre web-

page was in Indonesian only as it focuses primarily on Indonesian graduates. All the other criteria are fulfilled from the auditor's point of view.

## 2. The Degree Programme: Structure, methods and implementation

### Criterion 2.1 Structure and modules

#### Evidence:

- Biology: Self-Assessment Report (SAR-UPB-SLST-Final), chapter 3, page 11; SAR-Appendices UPB-SLST-ITB, page 121+122.
- Microbiology: Self-Assessment Report (SAR\_UPMb), chapter 3; page 11; UPMb\_Appendix, page 5+6.
- Pharmacy / Clinical and Community Pharmacy: Self-Assessment Report (31102014 SAR School of Pharmacy), chapter 3, page 17; Joint SAR SLST-SP with appendix (Appendix 1.c Objective Matrix); Appendix 3.4 Student Exchange
- <http://www.as.itb.ac.id/en/test-1/curriculum> (access 28.02.2015)
- § 1, Article 1.7 SKS Load: Rector Decree No. 169/SK/I1.A/PP/2012 on Academic and Student Regulations Institut Teknologi Bandung
- Guidelines for Credit Earning and Credit Transfer at Institut Teknologi Bandung
- <http://lp4.itb.ac.id/wp-content/uploads/TERJEMAHAN-SK-CreditTransfer-Final1.pdf> (access 20.03.2015)
- Module handbooks

#### Preliminary assessment and analysis of the peers:

The programme structure of undergraduate programme within Institut Teknologi Bandung (ITB) was described in the "Regulation of Academic and Student Affairs". All degree programmes were divided into modules which were accredited with credit points and comprised a sum of teaching and learning. The auditors understood that the "Common First Year Programme" intended to strengthen the comprehension of basic sciences and enhancing required learning aptitudes. The bachelor stage (Sarjana) managed by the programmes within each faculty or school intended to develop the knowledge and skill of the chosen discipline. The minimum total credit for an undergraduate programme at ITB is 144 credits which is equal to 200 of European Credit Transfer and Accumulation System (ECTS, using 28.8 hours per credit). The normal duration for the subject-specific studies was 6 semesters with minimum 108 credits (150 ECTS). The peers wondered if the four

years bachelor's programme with the first common year and three years of subject specific studies was equivalent to a bachelor's programme of 180 credit points. The auditors agreed that parts of the first common year programme had to be seen as providing subject specific basic knowledge in mathematics and natural sciences. The peers had no doubt, also considering the learning outcomes which are discussed under criterion 3, that the study programmes offered at ITB were comparable to other bachelor's programmes, in terms of input as well as in terms of output.

In general, the undergraduate programmes at ITB were designed to be completed within four academic years. The maximum length of study was limited to six years. The peers were explained that the majority of students completed their degree in the given 4 year's time frame and only a minority needed to extend the studies to 6 years (compare criterion 6). According to ITB this applied to all study programmes and the peers could comprehend that the curriculum was structured in a way to allow students to complete the degree in the regular timeframe.

The peers examined the curriculum and module descriptions and noticed that all degree programmes comprised a number of compulsory and elective modules which allowed the students to define an individual focus of study. In the degree programme Biology the modules were small entities consisting of 2-4 CU (about 3-6 ECTS points). But for the other three programmes the auditors noticed that some so-called modules consisted of up to 8 courses (e.g. Conceptual Learning, Techniques in Microbiology, Microbial Systems II) with 16 CU or about 22 ECTS points. The peers underlined that modules must be a coherent and consistent package of teaching and learning in itself. The size and duration of the modules must be designed in a way that they allow students to combine them flexibly and facilitate the transfer of credits. The courses might be appropriate entities to be "modules". The given structure of modules does not allow students to flexibly conceptualize their study programme. In addition, the peers discovered a number of minor issues in the module descriptions which are presented in more detail in chapter 5.1.

The auditors wanted to know if the curriculum provided sufficient flexibility to study abroad or conduct a practical placement in another country. The peers underlined that the given structure of modules as applied in the programmes Microbiology, Pharmaceutical Sciences and Technology and Clinical and Community Pharmacy was not suitable to allow students to study at another institution. Regarding the practical experiences of international mobility, ITB explained that a number of international co-operations were maintained by the university. ITB also supported a number of double degree programmes with universities in the Netherlands, Japan, Spain, or Australia but only for graduate courses. According to ITB, student mobility depended on the degree programme. In the School of Life Sciences and Technology, outbound mobility and inbound mobility focussed

on Japan and Thailand with almost 100 participants in total per year. In Biology, for example, students were sent to Thailand or via the Erasmus Mundus programme 2-3 students could go to Europe, (6 months and 1 year programmes). For undergraduate programmes ITB rather supported short term assignments or short term study exchanges, like students coming from abroad and finishing their theses. In the School of Pharmacy, there were about 5-25 outbound students per year.

Regarding the recognition of credit points, ITB explained that there were a number of agreements with specific universities in place and students could arrange learning agreements with the supervisor to make sure credit points were easily recognized. But even if learning agreements had not been drafted beforehand, students can get credit points accredited if the modules were also part of the curriculum of ITB. This needs to be approved by the supervisor. The peers understood that student mobility was practically taking place and the “Guidelines for Credit Earning and Credit Transfer at Institut Teknologi Bandung” provided a clear regulation of recognition of credit points.

In Biology and Microbiology compulsory internships are integrated in the sixth semester. The School of Life Sciences and Technology maintained working relations with numerous industrial partners which acted not only as research collaborators, but also, for the academic programmes, as training partners in which students take on working experiences and practice their academic knowledge and skills through a compulsory 3 CU -internship (about 5 ECTS) course as well as community services. Students who did internships had to write a report about the internship and make a presentation. The peers confirmed that internships were well-integrated into the curriculum, and the higher education institution vouches for their quality in terms of relevance, content and structure.

In Pharmaceutical Sciences and Technology and Clinical and Community Pharmacy work placements or internships were not required but it was possible to conduct internships. Particularly for the Clinical and Community Pharmacy degree programme the students critically indicated that internships had to be carried out during the holidays and were not integrated into the curriculum. The auditors recommended integrating internships into the academic grading and to ascertain that internships were meaningfully integrated into the rest of the curriculum.

<b>Criterion 2.2 Work load and credits</b>
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**Evidence:**

- § 4, Article 4.3 Study Load per Semester: Rector Decree No. 169/SK/I1.A/PP/2012 on Academic and Student Regulations Institut Teknologi Bandung

- Biology: Self-Assessment Report (SAR-UPB-SLST-Final), chapter 3.2
- [http://www.sith.itb.ac.id/prodibios1/?page\\_id=34](http://www.sith.itb.ac.id/prodibios1/?page_id=34) (Access 20.03.2015)
- Microbiology: Self-Assessment Report (SAR\_UPMb), chapter 3.2
- [http://www.sith.itb.ac.id/microbiology/?page\\_id=46](http://www.sith.itb.ac.id/microbiology/?page_id=46) (Access 20.03.2015)
- Pharmacy / Clinical and Community Pharmacy: Self-Assessment Report (31102014 SAR School of Pharmacy), chapter 3.2
- [http://www.fa.itb.ac.id/en/?page\\_id=87](http://www.fa.itb.ac.id/en/?page_id=87) (Access 20.03.2015)
- [http://www.fa.itb.ac.id/en/?page\\_id=90](http://www.fa.itb.ac.id/en/?page_id=90) (Access 20.03.2015)
- Module Descriptions of the degree programmes
- Joint Self-Assessment Report, (Joint SAR SLST-SP Final 101114, chapter 3.2)
- Audit discussions with programme coordinators, lecturers, students

**Preliminary assessment and analysis of the peers:**

The normal study load for each regular semester for the undergraduate programme was limited to a maximum of 20 (twenty) SKS. According to the self-assessment report provided by ITB, the normal workload for each regular semester was limited to 800 hours corresponding to 20 credit units (27.8 ECTS). 18 SKS corresponded approximately to 25 ECTS credit points (conversion factor 1 SKS correspond approximately to 1,38 ECTS points).

The standard evaluation questionnaires contained a standard question on the workload in relation to the credit points earned (Question 8. "Lecturer gives reasonable workload proportional to the course's credits"). In the analysis of this question for Biology it became evident that in most cases students assessed the work-load relation to the credit points earned as reasonable with some exceptional voices indicating that this was not true for all modules. During the discussion with the students it was confirmed that only in exceptional cases the students had the feeling that the work-load and credit point relation was not realistic. More specifically, this referred to two courses, due to high activity in these lectures, particularly as practical project classes were part of it. The other self assessment reports did not provide any information on the student evaluation of the work load. Orally, the students indicated that particularly Pharmacokinetics (Pharmacy) was very demanding the actual workload did not correspond to the credit points earned. In any case the auditors took positively note of the fact that the workload evaluation was part of the standard evaluations and could see that the data was analysed and available. ITB indicated that the student's evaluation data was taken into consideration for the revision of the modules.

On the subject-specific webpage of all degree programmes, the curriculum with all modules and the respective workload for each semester was presented and hence transparent and available to interested stakeholders. Based on the self-assessment reports the workload was fairly balanced over the semesters and the estimated time budgets were realistic enough to enable students to complete the degree within the given time-frame.

In § 1, Article 1.6 of the “Academic and Student Regulations” it was defined that one SKS of academic load for the undergraduate programme was equivalent to 3 (three) hours a week of the student’s efforts within one regular semester which consists of:

- a. One (1) hour of scheduled academic interactions with the teaching staff, or face-to-face learning activities.
- b. One (1) hour of structured activities related to lectures, such as doing the assignments, solving problems, writing papers, or reviewing literature.
- c. At least one (1) hour of independent activity, students’ independent activity to obtain better understanding of the subject matters and to prepare academic assignments such as reading references.

Based on this rule of the “Academic and Student Regulation” the auditors confirmed that in the module handbook, for each individual module the hours of lectures, the hours of structured work, and the hours of individual study per week were outlined.

<b>Criterion 2.3 Teaching methodology</b>
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**Evidence:**

- Biology: Self-Assessment Report (SAR-UPB-SLST-Final), chapter 3.3
- Microbiology: Self-Assessment Report (SAR\_UPMb), chapter 3.3
- Pharmacy / Clinical and Community Pharmacy: Self-Assessment Report (31102014 SAR School of Pharmacy), chapter 3.4
- Audit discussions with programme coordinators, lecturers, students

**Preliminary assessment and analysis of the peers:**

The undergraduate programmes at ITB were full-time programmes with classroom, structured, and self-study activities. ITB frankly admitted that in the past lecturers applied more teacher-centred approaches in which all learning materials were given by lecturers, and students passively absorbed the information provided. But about a decade ago, ITB moved towards more student-centred learning applying more innovative teaching methods. The staff members of ITB explained various teaching and learning methods such as

lectures, computer training and classroom and lab exercises, individual and group assignments, seminars and projects. Structured activities included tutorials, homework, assignments (reading or problem exercises), and practical activities. Group project assignments were also given in some courses to develop students' skills in teamwork, discussion, and coordination. ITB admitted that currently, not all lecturers were complementing their courses with all available methods and provided systems. The students indicated that in some courses it became not clear to them how the theoretical knowledge gained at the university may be of value for the practical working life. Sometimes case studies from other countries were presented which had no relevance for the situation in Indonesia. The peers understood that it would be worthwhile to better illustrate the practical relevance of the theoretical knowledge taught at the university. In summary, the peers concluded that the teaching methods and instruments used supported the students in achieving the learning outcomes but recommended to better illustrate the practical relevance of the theoretical knowledge.

As indicated in the preceding criterion, the peers acknowledged that in § 1, Article 1.6 of the "Academic and Student Regulation" a clear definition and distribution of face-to-face, structured and self study activities was provided and was well reflected in the module descriptions.

The peers wanted to know where the students learnt independent academic research and writing. ITB explained that in the "Common First Year" there were several compulsory modules for all students like "Scientific Writing in Indonesian", "Introduction to Information Technology", and "Academic Writing (English)". Furthermore, in the 7<sup>th</sup> and 8<sup>th</sup> semester, the curriculum included a final project (also called "research project"), which was a written report related to a topic in the student's major studies. The project was conducted independently under guidance of a supervisor and consisted of literature study, empirical research (including experimentation/observation), or simulation. The final project report was then defended orally in front of examiners. The peers confirmed that independent academic research and writing were properly implemented in the curriculum.

<b>Criterion 2.4 Support and assistance</b>
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**Evidence:**

- Article 4.5, Academic Advisor: Rector Decree No. 169/SK/I1.A/PP/2012 on Academic and Student Regulations Institut Teknologi Bandung
- Joint Self-Assessment Report (Joint SAR SLST-SP Final 101114), chapter 3.5



- <http://www.international.itb.ac.id/web/> (access 20.03.2015)
- Audit discussions with programme coordinators, lecturers, students

**Preliminary assessment and analysis of the peers:**

The auditors appreciated the concept of the “Academic Advisor” as it was defined in Article 4.5 in the “Regulation for Academic and Student Affairs”. As students commenced their study at the common first year programme, academic advisors were appointed for them. The academic advisor was supposed to play the role as a “parent-like” who give advice to students when selecting the courses. One academic advisor was responsible to supervise about 20 students. The peers learnt that it was not planned that the academic advisors were exchanged. In case of problems or conflicts, which occurred rarely as students stated, the student could turn to the Head of Department. According to the students, disagreements were normally settled amicably. Depending on the kind of problem, also psychological services were offered. If students felt under severe pressure they could also turn to the Dean. In addition, students could raise their academic or non-academic problems in the Counselling Centre. The Agency for Students managed all types of scholarships and provided respective support for students who were eligible. ITB’s health centre offered health services for students and faculty members. The ITB Career Development Centre (ITB CDC) maintained an on-line job application and career opportunity information system for all ITB students. ITB also maintained a Language Centre which offers courses for ITB students and staff particularly pre-departure courses like “TOEFL Preparation Courses” and “Courses in English for Specific Purposes” especially in science and technology. The peers confirmed that the webpage of the International Office provided all required information about studies at ITB. Even an online tour through some of the facilities of ITB was offered. The auditors concluded that there were adequate resources available to provide individual assistance, advice and support for all students. The peers underlined that the allocated advice and guidance, namely the academic advisor assisted the students in achieving the learning outcomes and in completing the course within the scheduled time.

**Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2:**

The peers gratefully received the revised module structure of Ba Microbiology and could see that the module structure was appropriate and allowed flexibility in the curriculum and mobility. The auditors appreciated the efforts of the School of Pharmacy to revise their structure of modularisation; however, the modules are still overarching headings (e.g. “Basic Natural Sciences”) with “courses” which resemble “modules” according to the understanding of the peers. The revised module distribution looks reasonable according

to the peers because the courses allow individual study courses and would allow for mobility. However, the peers still think that it was misleading to call these entities “courses”. That is why they stick to the intended requirement to make sure that the size and duration of the modules must be designed in a way that they allow students to combine them flexibly and facilitate the transfer of credits.

The auditors could comprehend that the number of institutions that can accept internship participants was not large enough to be able to offer all students a place. Still ITB considers making internships a compulsory subject, while enhancing cooperation with pertinent institutions. The peers welcomed this intention and confirmed their intended recommendation.

The auditors very much welcomed the efforts of ITB Efforts to better illustrate practical relevance of theoretical knowledge through inviting guest lecturers from industry, the internship opportunities and field excursions. The peers underlined that this recommendation was made based on the feedback of students and the remarks of the students related to some modules only. Hence, the peers encourage ITB to further implement the envisaged measures to explicate the practical relevance of theoretical knowledge as indicated in the response. All the other criteria are fulfilled from the point of view of the peers.

### 3. Exams: System, concept and organisation

<b>Criterion 3 Exams: System, concept and organisation</b>
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**Evidence:**

- Article 1.4 Regular Semesters, Article 5.1 Evaluation of Learning Processes: Rector Decree No. 169/SK/I1.A/PP/2012 on Academic and Student Regulations Institut Teknologi Bandung
- Module Descriptions
- Audit discussions with programme coordinators, lecturers, students

**Preliminary assessment and analysis of the peers:**

The peers were explained that ITB adopted the concept of multi-component assessments to measure the achievement of course outcomes and thus the programme’s learning outcomes. The types of evaluations used in each course were determined in the syllabus and the module descriptions of the curriculum. In Article 5.1 of the Academic and Student Regulations it was outlined that the evaluation of the students’ learning processes should be done at least twice a semester, during the semester and at the end of the semester. In

the module descriptions it was specified that in most modules the overall final grade was composed of the mid-term test, the final examination, quizzes and home work. In the degree programme Biology the module descriptions described clearly the percentage of each test result for the overall final mark of the module. As far as the auditors comprehended, the final exam was a comprehensive test covering the content of the entire module. The degree programmes Microbiology, Pharmaceutical Sciences and Technology and Clinical and Community Pharmacy did not explain the contribution of the different tests (mid-term, final, assignment) to the final grade.

In principal the auditors supported this approach of a “continuous assessment” as it offered students continuous feedback on their progress in developing competences. The peers noticed that the most common evaluation used was written examinations; however quizzes, laboratory works, assignments (reading, small projects, simulation, report, etc.), presentations, seminars, and discussions also contributed to the final grade as specified in the module descriptions. Looking at the fairly large number of assignments and presentations, the auditors were convinced that the students had sufficient opportunities to develop their oral skills to express a scientific topic appropriately. The peers also took positive note of the active and communicative students during the audit. Students have the right to inquire their marked examination, quizzes, and assignments and ask questions should there be a grading mistake.

The peers learnt that in article 1.4 of the “Academic and Students Regulation” that a semester comprised 16 week of which at least 14 weeks were dedicated to lectures and 2 weeks to examinations. The Directorate of Education of ITB arranged the schedule of examinations; the mid-semester examination was usually held in week 8 or 9, and the end-semester examination during the two weeks following the completion of classes. In addition to course schedule publication, the examinations’ dates and times were normally announced in each undergraduate programme’s announcement board or could be accessed online. The students confirmed that the examinations were well organised and fully transparent. The auditors understood that the Final Score List needed to be submitted one month after the period of end-semester examinations to ascertain that no delays hampered the progression of the students. Article 5.2 of the “Academic and Student Regulations” stated clearly that evaluation of a student’s academic performance was done through the evaluation adopting the principles of justice, relevancy, and accountability. The peers gained the conviction that exams were marked using transparent criteria.

The peers were unable to find a concise set of rules in the “Academic and Student Regulations” for the repetition of examinations if a student failed the examination. Orally, the peers were explained, that students failing an exam had the opportunity to participate in

short semesters during the summer to repeat the essence of the modules and repeat the test. If this re-visit examination was also failed, the student was required to repeat the entire module which normally leads to a prolongation of the study time. The auditors kindly requested ITB to provide the rules and regulations that specify the repetition of examinations for those who failed. The peers appreciated article 4 in the “Academic and Student Regulations” stating that disabled students get special services in accordance with the institute-provided facilities; they wondered if other compensational measures were available too.

At the end of each degree programme, the curriculum included a final project which was a written report related to a topic in the student’s major studies. The final project was conducted in two semesters (one year) and divided into Final Project 1 and Final Project 2 (also called research project). The School of Life Sciences and Technology determined that the first seminar was worth 4 credits (Indonesian), the second 3 credits, and the Seminar and Final Defence 2 credit points. In the School of Pharmacy the first part of the final project was accredited with 1 and the second with 5 credit points plus the Seminar of 1 credit point; the peers could not find the respective module descriptions. Final Project 1 usually consisted of the exposition regarding the topic and problem that would be discussed, the literature study, motivation in choosing the topic, and methods that would be utilized. Final Project 2 then consisted of empirical research or simulation conducted to solve the problem. The project was conducted independently under guidance of a supervisor; the supervisor could be selected by the student and did not have to be the academic advisor. The topic and content of the project might be decided by both the student and supervisor. This final project report had to be defended orally in front of examiners. The auditors examined the final theses from the different degree programmes and gained the impression that the quality of the theses was generally of good standard. But the peers wondered if the theses could really be drafted in the given timeframe (according to the credits provided) and learnt that in fact in many cases the final report took longer than indicated in the credit points. ITB added that requests for prolongations of the final theses were easily approved. The peers pointed out that they see a mismatch between the actual workload of the final theses and the corresponding credit points. The auditors also underlined that students should learn to finalize a piece of work in a given timeframe to ascertain comparability of final theses.

ITB added that it was possible that a student carried out the final thesis outside the university. Some lecturers maintained close connections to private businesses and if the supervisor and the student agreed on a topic accepted by the private company the project could be conducted in the company. The first supervisor had to be the staff member from ITB, but the project could also be co-supervised by an expert from outside of the respec-

tive undergraduate programme. The auditors concluded that there were clear rules for final projects written outside the university in place. Students were allowed to do their final research even abroad; in this case, a second supervisor from a collaborative university/institution might be needed.

**Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 3:**

The peers understood that the composition of the contribution of different tests to the final grade is provided in the syllables; the peers underline that this should also be made transparent in the module descriptions.

The peers thanked ITB for the clarification on the repetition of examinations for those who failed examination and concluded that this was a fair and transparent approach. The peers also appreciated that ITB tries to find individual solutions based on the specific needs for students with disabilities.

The peers thanked ITB for the clarification of the credit points for the Final Project. The peers could comprehend, based on the information provided by ITB that the credit points for the bachelor's thesis represent adequately the real workload and decided to refrain from the intended requirement.

## 4. Resources

<b>Criterion 4.1 Staff</b>
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**Evidence:**

- Staff handbook for all degree programmes under review
- Joint Self-Assessment Report (Joint SAR SLST-SP Final 101114), chapter 5
- Audit discussions with programme coordinators, lecturers, students

**Preliminary assessment and analysis of the peers:**

ITB provided staff handbooks for all degree programmes. The auditors were impressed that most of the permanent faculty members of the School of Pharmacy and the School of Life Sciences and Technology LST were PhD holders in related fields from reputable both national and overseas universities (i.e. Japan, Australia, Germany, France, UK, The Netherlands, USA, etc.). ITB explained that the Indonesian government encouraged the universities to employ staff members holding a doctorate degree. Retired staff members were normally replaced in due time. Recruitment of faculty members was managed by ITB, based on the necessity of the faculty and available position provided by the government.

The minimum qualification of the applicant was a master's degree. The peers wondered about the significant difference of available staff members for the School of Pharmacy (40) and the School of Life Sciences and Technology (88) and learnt that a private university under the jurisdiction of the West Java Province government, which wanted to cease its support to this institution, was merged with ITB, and many of the staff members were allocated to the School of Life Sciences and Technology. However, many of these new staff members did not hold the proper qualification to be professors. Some of them were aiming at a PhD degree presently and had to be prepared to be able to conduct teaching according to the standards of ITB. Based on the staff handbooks and the discussion with the teaching staff, the peers concluded that the composition, scientific orientation and qualification of the teaching staff team were suitable to ascertain the learning outcomes of the different degree programmes.

Regarding the amount of staff members, the peers could comprehend that sufficient resources were available to provide appropriate assistance and advice to students. The auditors referred particularly to the concept of the academic advisors who provide individual support to students.

Regarding research activities the peers learned that ideally, the staff members dedicated about 40% of their time to teaching, 30% to community services and about 30% to research. In reality, the teaching load was higher and required more than 40% of the time available. Especially the summer breaks were used for research activities. ITB added that it maintained a number of international research programmes and research with partner institutions aiming at joint publications. For new staff members, the track record of research activities and publications was one of the evaluation criteria. The government was also keen to improve publications in international journals and provided incentives for publications; the higher the impact factor of a journal was the higher the benefit. This incentive showed considerable impact as could be seen in Biology, for example, where the number of research activities had increased significantly, as represented by the increasing number of seminars, publications both national and international, as well as books and patents within the past three years (2011-2013). ITB underlined that all staff members were involved in research activities because this was an additional source to generate resources. The auditors comprehended that research activities played an important role at ITB and that students were involved in these research activities where feasible. The peers confirmed that the research and development activities carried out by the teaching staff were in line with and supported the level of academic qualification aimed at.

<b>Criterion 4.2 Staff development</b>
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**Evidence:**

- Joint Self-Assessment Report (Joint SAR SLST-SP Final 101114), chapter 5.2
- <http://pmo.itb.ac.id> (Access 20.03.2015)
- Audit discussions with programme coordinators, lecturers, students

**Preliminary assessment and analysis of the peers:**

ITB explained that there were several concepts to enhance the didactical competences of staff members. ITB supported academic staff members who hold a master's Degree to continue their study to doctorate level. Normally, the respective staff members obtained a scholarship either from a foreign government and universities or the Indonesian government for their further study. Faculty members could also improve their competencies through schemes like post-doctoral programmes, trainings, workshops, joint research, etc. In addition, faculty members were encouraged to present their research papers in both national and international conferences, and to collaborate with colleagues from leading foreign universities.

Furthermore, there was an incentive system in place which followed the regulation of the University, which was based on merit systems, on teaching obligation and other workloads such as managerial roles. All faculty members were requested to complete a "planning activities form" at the beginning of a semester and a "self-evaluation form" at the end of semester. These documents were evaluated by the Head of Research Divisions/Department and the Dean and were used as a basis for incentives of the staff members.

Academic and non-academic staff members were requested to regularly participate in trainings or workshops organized by a special division at ITB called "People and Organization Development". This division offered in-house training for any institution needing tailor-made training based on specific cases, particularly in relation to human resources development, management and organization. New staff members, for example, were required to take short courses in teaching called "Applied Approaches". A number of lecturers had worked as teaching assistants abroad and gained teaching experiences at the respective institutions.

The peers saw that ITB offered opportunities to staff members to further develop their professional and teaching skills and concluded that the evaluations provided feedback on the teaching competences of staff members.

<b>Criterion 4.3 Funds and equipment</b>
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**Evidence:**

- Biology: Self-Assessment Report (SAR-UPB-SLST-Final), chapter 5
- Microbiology: Self-Assessment Report (SAR\_UPMb), chapter 5
- Pharmacy / Clinical and Community Pharmacy: Self-Assessment Report (31102014 SAR School of Pharmacy), chapter 5
- Audit discussions with programme coordinators, lecturers, students

**Preliminary assessment and analysis of the peers:**

The auditors visited the laboratories and gained the impression that the different degree programmes could be carried out on a basic level. In some cases also more advanced equipment was available. The students added that the equipment at private companies was more advanced; at ITB the lab equipment was satisfactory but not always of state of the art. Other students complemented that if the required equipment was not available they would turn to other departments which had the equipment. In summary, the auditors concluded that some of the equipment was outdated and not available in sufficient quantity to grant laboratory exercises in small groups. The peers recommended improving the quality and quantity of laboratory equipment in all disciplines. In addition, the peers noted that in some instances appropriate safety equipment was lacking and wondered if safety regulations for each laboratory were in place. The peers kindly request the safety regulations for each laboratory. In addition, the peers underlined the importance to establish the necessary equipment to avoid possible hazards of persons.

ITB added that the University had received a new campus about 20 kilometres far away from the main campus with 7 new buildings under construction; even on the main campus a number of new buildings were being built. The peers understood that ITB was expanding its facilities and would be able to provide additional resources in future where required. The students were, in general, satisfied with the equipment: the opening hours of the library were sufficient and computer labs were available in an acceptable quantity. For all degree programmes the necessary computer hardware and also the software were available.

The peers were explained that financial sources for ITB originated from government funding, society funding, and tuition fees. The report provided an overview of the “operational budget” and the “research grants”. The peers were impressed to see that the operational budget steadily increased over the last years and learnt that the government made additional means available to further upgrade higher education in Indonesia. The peers wondered about the fluctuation of research funds and were told that research funds also come from private businesses and depend on the research cooperation. Hence, the amount fluctuates depending on the additional means received from private businesses.



The auditors were convinced that the financial means were sufficient and secured for the timeframe of the accreditation.

The peers were told that ITB had signed a number of cooperation agreements with different international universities; the self-assessment reports provided proof of the existing cooperation. The peers concluded that internal and external cooperation was based on transparent regulations.

**Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 4:**

The peers appreciated the letter of commitment from ITB regarding the upgrading of the existing laboratory infrastructure. The peers thank ITB for providing the safety regulations in Appendix 4.3.b (Indonesian) and understand that they can be downloaded. Hence, the peers confirmed that safety regulations for each laboratory are in place and safety inductions are held. However, the peers underlined that also safety equipment must in place to avoid possible hazards of persons.

**Criterion 5.1 Module descriptions**

**Evidence:**

To examine the module descriptions the following links had been consulted:

- <http://www.sith.itb.ac.id/prodibios1/> (Access 20.03.2015)
- <http://www.sith.itb.ac.id/microbiology/> (Access 20.03.2015)
- School of Pharmacy:
- Pharmacy / Clinical and Community Pharmacy: Self-Assessment Report (Joint SAR SLST-SP with appendix

**Preliminary assessment and analysis of the peers:**

The peers could find the module descriptions and the curriculum on the English webpage of the Biology and Microbiology degree programmes of ITB; for Pharmaceutical Sciences and Technology and Clinical and Community Pharmacy the module descriptions were not available on the webpage. ITB explained that all new students received the full syllables of their programmes upon arrival but the peers indicated that the degree programmes should also be transparent to other interested stakeholders. International students, for example, were not able to comprehend the content of the degree programmes and were not able to decide if the programmes offered were suitable for them. The peers under-

lined that the module descriptions, the curriculum and other relevant information of the degree programmes should be made available on the subject-specific webpage.

The fact that the modularisation of the degree programmes of Microbiology, Pharmaceutical Sciences and Technology and Clinical and Community Pharmacy need revision had been explained in criterion 2.1. The peers indicated that the modules followed a uniform format but content-wise the quality of the module descriptions differed considerably. ITB explained that the format was given by ITB but the individual lecturers had to complete the form which was not always done with the same diligence.

The auditors noted that the modules (Biology) or so-called “title of classes” had reasonable names and identification codes, responsible coordinators. In some cases the lecturers were not mentioned (e.g. Microbiology: FI 1102 Elementary Physics 1B, KI 1101 Basic Chemistry 1A, MA 1102 Mathematics 1B). The work load was properly specified in lectures, tutorials, structured activities and individual study. Credit points were indicated and the intended learning outcomes were subdivided into knowledge, skills, and competences. The type of examination and the calculation of the overall module mark were outlined, even though not consistently for all modules (e.g. FA1101 Introduction to Pharmacy and Health, MA 1102 Mathematics 1B, MA 1202 Mathematics 2B etc.). Also recommended literature was provided in most module descriptions but not in all. In some cases outdated literature was mentioned (e.g. Microorganisms - plant interaction, Practicum of Integrated Pharmacology). ITB indicated that e-books were provided in addition and some of the classical literature was still relevant today. In the School of Pharmacy the requirement for the modules was “Registered Student to Undergraduate Programme in Pharmaceutical Science and Technology”; the peers wonder if this could not be specified. In Microbiology no requirements were mentioned in a number of modules (e. G. Microbial System, General Microbiology). In the School of Pharmacy the module descriptions of the Final Project were missing. The peers underlined that the modules descriptions must be modified based on the aspects mentioned above.

#### **Criterion 5.2 Diploma and Diploma Supplement**

##### **Evidence:**

- Diploma Supplement in Indonesian and English language for Ba Microbiology, Pharmaceutical Sciences and Technology and Clinical and Community Pharmacy (Biology is missing)
- Bachelor certificates and Transcripts of Records Transcript in Indonesian and English language are missing for the degree programmes

**Preliminary assessment and analysis of the peers:**

The peers understood that after graduation, a degree certificate was issued to each graduate. Exemplary certificates of each degree programme had not been made available to the auditors. Also the Diploma Supplement for Ba Biology was missing. The peers requested to submit these documents.

The peers could not find any indication of statistical data as set forth in the ECTS User's Guide to allow readers to categorise the individual result/degree. The auditors underlined that the Diploma Supplement must include the grade distribution (statistical data).

<b>Criterion 5.3 Relevant rules</b>
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**Evidence:**

- Rector Decree No. 169/SK/I1.A/PP/2012 on Academic and Student Regulations Institut Teknologi Bandung
- Guidelines for Credit Earning and Credit Transfer at Institut Teknologi Bandung
- <http://lp4.itb.ac.id/wp-content/uploads/TERJEMAHAN-SK-CreditTransfer-Final1.pdf> (access 20.03.2015)

**Preliminary assessment and analysis of the peers:**

The peers acknowledged that in the “Academic and Student Regulations” a full section on “Student Ethics” clearly defined the behavioural expectations ITB had towards the students. Furthermore, the section on “Academic Regulations” explained the rights and duties of ITB and students in detail. The auditors could see that all necessary rights and duties of both ITB and students were clearly defined and binding for all relevant stakeholders. The peers could not find the “Academic and Student Regulations” on the webpage and kindly requested ITB to provide an indication where this regulation was published.

The peers understood that the students received all relevant course material in the language of the degree programme including the syllables at the beginning of each semester. In addition, most information was also available on the intranet accessible for all students.

**Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 5:**

The peers thanked ITB for the clarifications on the module descriptions and comprehend that the missing information was made available now. In addition, questionable issues

(outdated literature) had been explicated. The peers decided to refrain from the intended requirement. However, the peers confirmed that for the Ba Pharmaceutical Sciences and Technology and Ba Clinical and Community Pharmacy the module descriptions, the curricula and other relevant information of the degree programmes must be made available on the subject-specific webpage.

The peers appreciated the submitted Diploma Supplements and could see that the grade distribution is included in the Diploma Supplement; however, the grade distribution presented refers to students entering the study programme. The ECTS users guide refers to the grade distribution of graduates of students of a degree programmes. Additionally to the final grade, the Diploma Supplement should also indicate the relative statistical data according to the ECTS User's guide to enable the reader to assess the individual mark compared to the overall distribution of grades.

The peers took positive note of the information that the "Rules and Regulations" are published on the internal website which proves that students have access to this document.

## 6. Quality management: quality assessment and development

### Criterion 6 Quality management: quality assessment and development

#### Evidence:

- Joint Self-Assessment Report (JOINT SAR FMNS ITB FINAL), chapter 6
- Article 5.1 Evaluation of Learning Processes: Rector Decree No. 169/SK/I1.A/PP/2012 on Academic and Student Regulations Institut Teknologi Bandung
- <https://karir.itb.ac.id/tracerstudy/> (access 20.03.2015)
- <https://karir.itb.ac.id/tracerstudy/report> (access 20.03.2015)
- [https://karir.itb.ac.id/tracerstudy/uploads/report\\_prodi/SF%20TS%202014.pdf](https://karir.itb.ac.id/tracerstudy/uploads/report_prodi/SF%20TS%202014.pdf) (access 20.03.2015)

#### Preliminary assessment and analysis of the peers:

The auditors were explained that the University applied two types of quality assurance system, namely the Internal Quality Assurance and External Quality Assurance systems. The Internal Quality Assurance encompasses all activities focused on the improvement of teaching and learning quality within the university. The External Quality Assurance focused on both national and international accreditation. National accreditation is con-

ducted by National Accreditation Agency of Higher Education (NAAHE). ITB maintained a Quality Assurance Unit which was in charge of preparing the guidelines and quality standards for institutional programmes and carry out the respective activities. The auditors had not received a quality assurance policy where ITB provided its understanding of quality and quality assurance and presented the techniques applied to ensure quality. The peers kindly request the quality assurance policy.

In article 5.1 Evaluation of Learning Processes of the “Academic and Student Regulations Quality” it was defined that the evaluation of the students’ learning processes should be done at least twice a semester, during the semester and at the end of the semester. The evaluations are implemented both by online and written surveys; students have to submit their evaluation results to obtain their grades which enforces high participation of the students. ITB staff members reported that especially the mid-term results were discussed and measurements for improvement were defined. If staff members received bad evaluation results the Head of Department discussed this with the lecturers and possibly encouraged them to take additional didactical training. If the bad performance persisted the Dean would talk to respective lecturer. Students had the right to inquire their marked examination and pose questions. Furthermore, there was also a complaint box available which was used occasionally. The evaluation results were published in a generalized way but not for individual modules. The peers learnt that it was not a custom to discuss the evaluation results with the students. The students explained that they could approach lecturers directly if they were discontent with certain aspects of a lecture and some lecturers changed the lecture according to the recommendation of the student. Even though the peers could see that the results of evaluations were used to further improve the degree programmes and the students could raise issues directly, the auditors encouraged ITB to request the lecturers to discuss the results with the students to include the students more actively in the quality management feedback loops.

In addition to the student’s course evaluations, there was a fresh graduate survey and just prior to graduation; ITB distributed a standardized questionnaire to the graduating students regarding their educational experience in the programme and their readiness to enter the job market. Furthermore, ITB explained that the university conducted formal tracer studies to alumni who have worked in various fields to reflect their educational experiences in the programme and the impacts to their professional career paths.

The available evaluation data indicated that in the degree programme Biology and Microbiology the students who graduate on time (in 8 semesters or less) was steadily increasing in recent years and reached 80% respectively 70% in 2014. In the School of Pharmacy the graduation rate on time is usually more than 85%. According to the statistics, the actual drop-out rate is between 0 and 5%.

Regarding job market perspectives (also compare criterion 1.1) the peers learnt that graduates from a well-know university like ITB usually found employment within a reasonable timeframe after graduation.

The peers wondered if there was a policy of how to deal with people who have any kind of handicap. The peers requested to submit this kind of policy of anything of this kind was available. The peers were surprised to read in the self-assessment report that people with colour blindness were excluded from the studies. The peers comprehended that in some cases it was crucial to be able to identify colours; nevertheless the peers reckoned this as discriminating and recommended developing additional measures for people with any kind of handicap to give also these students an opportunity to achieve a degree.

The peers concluded that ITB had considerable quality assurance measures in place to assess the quality and the relevance of its degree programmes and maintained closed feedback loops to improve the programmes if deficiencies are stated.

**Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 6:**

The peers could see that a “Policy on Quality Assurance” is in place. The peers appreciated that ITB is committed to improve facilities and services for the physically challenged. The peers could understand that the inability to see and differentiate the colour of medication accurately may pose danger to the patients if they work in the patient care area; the peers could comprehend that the career prospect for student with colour blindness is limited. To be able to assess the improvements achieved for physically challenged students, the peers confirm the intended recommendation.

## D Additional Documents

Before preparing their final assessment, the panel ask that the following missing or unclear information be provided together with the comment of the Higher Education Institution on the previous chapters of this report: All requested documents had been provided to the peer group

1. Policy on quality management
2. Policy on physically challenged students
3. Safety regulations
4. Diploma Supplement for Ba Biology
5. Bachelor certificates and Transcript of Records for all programmes

## E Summary: Peer recommendations (30.05.2015)

Taking into account the additional information and the comments given by ITB, the peers summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN-seal	Maximum duration of accreditation
Ba Biology (UPB)	ASIIN-seal with requirements	30.09.2020
Ba Microbiology (UPMb)	ASIIN-seal with requirements	30.09.2020
Ba Pharmaceutical Science and Technology (UPPST)	ASIIN-seal with requirements	30.09.2020
Ba Clinical and Community Pharmacy (UPCCP)	ASIIN-seal with requirements	30.09.2020

### Requirements

A 1. (ASIIN 1.1) The aims of the study programmes and the intended learning outcomes must be presented in a uniform manner in all documents and must be published for all stakeholders.

#### **Ba Microbiology**

A 2. (ASIIN 1.1) The objectives of the degree programme as defined in the self assessment report must be made accessible to interested stakeholders.

#### **Ba Microbiology, Ba Pharmaceutical Sciences and Technology, Ba Clinical and Community Pharmacy**

A 3. (ASIIN 3.1) Each module must be a coherent and consistent package of teaching and learning in itself. The size and duration of the modules must be designed in a way that they allow students to combine them flexibly and facilitate the transfer of credits. The program concept must be designed in a way to allow for time to be spent at another higher education institution or on a practical placement without loss of time.



**Ba Pharmaceutical Sciences and Technology, Ba Clinical and Community Pharmacy**

A 4. (ASIIN 5.1) The module descriptions, the curricula and other relevant information of the degree programmes must be made available on the subject-specific webpage.

**Recommendations**

- E 1. (ASIIN 4.3) It is recommended to improve the quality and quantity of laboratory equipment in all disciplines. In addition, safety equipment should be established to avoid possible hazards of persons.
- E 2. (ASIIN 2.3) It is recommended to illustrate the practical relevance of theoretical knowledge gained at the university.
- E 3. (ASIIN 5) Additionally to the final grade, the Diploma Supplement should also indicate the relative statistical data according to the ECTS User's guide to enable the reader to assess the individual mark compared to the overall distribution of grades.
- E 4. (ASIIN 6) It is recommended to develop additional measures for students with limited capacities or other physical challenges.

**Ba Clinical and community Pharmacy**

- E 5. (ASIIN 3.2) It is recommended awarding credits for internship; the internship must be meaningfully integrated into the rest of the curriculum.

## F Comment of the Technical Committee 10 - Life Sciences (12.06.2015)

### *Assessment and analysis*

The Technical Committee 10 discussed the accreditation procedure and accepted the proposed requirements and recommendations of the peers.

Degree Programme	ASIIN-seal	Maximum duration of accreditation
Ba Biology (UPB)	ASIIN-seal with requirements	30.09.2020
Ba Microbiology (UPMb)	ASIIN-seal with requirements	30.09.2020
Ba Pharmaceutical Science and Technology (UPPST)	ASIIN-seal with requirements	30.09.2020
Ba Clinical and Community Pharmacy (UPCCP)	ASIIN-seal with requirements	30.09.2020

### Requirements

A 1. (ASIIN 1.1) The aims of the study programmes and the intended learning outcomes must be presented in a uniform manner in all documents and must be published for all stakeholders.

#### **Ba Microbiology**

A 2. (ASIIN 1.1) The objectives of the degree programme as defined in the self assessment report must be made accessible to interested stakeholders.

#### **Ba Microbiology, Ba Pharmaceutical Sciences and Technology, Ba Clinical and Community Pharmacy**

A 3. (ASIIN 3.1) Each module must be a coherent and consistent package of teaching and learning in itself. The size and duration of the modules must be designed in a way that they allow students to combine them flexibly and facilitate the transfer of credits. The program concept must be designed in a way to allow for time to be spent at another higher education institution or on a practical placement without loss of time.

### **Ba Pharmaceutical Sciences and Technology, Ba Clinical and Community Pharmacy**

A 4. (ASIIN 5.1) The module descriptions, the curricula and other relevant information of the degree programmes must be made available on the subject-specific webpage.

### **Recommendations**

- E 1. (ASIIN 4.3) It is recommended to improve the quality and quantity of laboratory equipment in all disciplines. In addition, safety equipment should be established to avoid possible hazards of persons.
- E 2. (ASIIN 2.3) It is recommended to illustrate the practical relevance of theoretical knowledge gained at the university.
- E 3. (ASIIN 5) Additionally to the final grade, the Diploma Supplement should also indicate the relative statistical data according to the ECTS User's guide to enable the reader to assess the individual mark compared to the overall distribution of grades.
- E 4. (ASIIN 6) It is recommended to develop additional measures for students with limited capacities or other physical challenges.

### **Ba Clinical and community Pharmacy**

- E 5. (ASIIN 3.2) It is recommended awarding credits for internship; the internship must be meaningfully integrated into the rest of the curriculum.

## **G Decision of the Accreditation Commission (26.06.2015)**

The Accreditation Commission takes the following decision:

<b>Degree Programme</b>	<b>ASIIN-seal</b>	<b>Maximum duration of accreditation</b>
Ba Biology (UPB)	ASIIN-seal with requirements	30.09.2020
Ba Microbiology (UPMb)	ASIIN-seal with requirements	30.09.2020
Ba Pharmaceutical Science and Technology (UPPST)	ASIIN-seal with requirements	30.09.2020
Ba Clinical and Community Pharmacy (UPCCP)	ASIIN-seal with requirements	30.09.2020

### **Requirements**

A 1. (ASIIN 1.1) The aims of the study programmes and the intended learning outcomes must be presented in a consolidated manner in all documents and must be published for all stakeholders.

A 2. (ASIIN 5) The Diploma Supplement must include a statistical distribution table of the passing grades awarded in the programme or field of study attended by the student (grade distribution table) showing how the grading scale is actually used in that programme.

### **Ba Microbiology, Ba Pharmaceutical Sciences and Technology, Ba Clinical and Community Pharmacy**

A 3. (ASIIN 3.1) Each module must be a coherent and consistent package of teaching and learning in itself. The size and duration of the modules must be designed in a way that they allow students to combine them flexibly and facilitate the transfer of credits. The programme concept must be designed in a way to allow for time to be spent at another higher education institution without loss of time.

**Ba Pharmaceutical Sciences and Technology, Ba Clinical and Community Pharmacy**

A 4. (ASIIN 5.1) The module descriptions, the curricula and other relevant information of the degree programmes must be made available on the subject-specific webpage.

**Recommendations**

- E 1. (ASIIN 4.3) It is recommended to improve the quality and quantity of laboratory equipment in all disciplines. In addition, safety equipment should be provided to avoid possible hazards of persons.
- E 2. (ASIIN 2.3) It is recommended to illustrate the practical relevance of theoretical knowledge gained at the university.
- E 3. (ASIIN 6) It is recommended to develop additional measures for students with disabilities.

## H Fulfilment of Requirements (01.07.2016)

### Analysis of the peers and the Technical Committee 10 – Life Sciences (02.06.2016)

The peers and the Technical Committee 10 – Life Sciences judge the requirements to be fulfilled.

### Decision of the Accreditation Committee (01.07.2016)

The Accreditation Committee decides to extend the accreditation term as follows:

<b>Degree Programme</b>	<b>ASIIN-seal</b>	<b>Subject-specific labels</b>	<b>Duration of accreditation</b>
Ba Biology (UPB)	All requirements fulfilled	n.a.	30.09.2020
Ba Microbiology (UPMb)	All requirements fulfilled	n.a.	30.09.2020
Ba Pharmaceutical Science and Technology (UPPST)	All requirements fulfilled	n.a.	30.09.2020
Ba Clinical and Community Pharmacy (UPCCP)	All requirements fulfilled	n.a.	30.09.2020