

Biotechnology

Introduction

The Biotechnology Study Program at BINUS University is aimed at those willing to learn about the principles and applications of modern biotechnology to gain the value of bioresources, develop innovative bio-based products, and solve problems related to bioresource management. **Biotechnology** is an applied science that combines various branches of science to study the use of living things and the products of living things in the production process to produce goods and services. **Modern biotechnology** includes genetic engineering tools, the methods for modifying the biological function of an organism by adding genes from other organisms or by the organism itself. The tools can be used to **produce new traits of an organism.**

The study program emphasizes the application of biotechnology in a wide industrial scope, including agriculture, marine, new material, nutraceutical, and pharmaceutical fields. The students will be enriched with information technology to support the knowledge of bioinformatics. The students also will learn about entrepreneurship to prepare future graduates to be ready to work in national and multinational companies and be able to build biotechnology-based businesses.

The facilities are well-equipped in the areas of biotechnology and bioinformatics. The laboratories are available for students to use during their studies, projects, and competitions, such as biology, chemistry, DNA technology, and computer laboratories. The study materials are provided in the Learning Management System (LMS) based on a website and mobile application. Besides that, the campus area also provides creative classes, a library, study rooms, and a gymnasium.

Vision

An innovative biotechnology study program with world-class standard and enriched with information technology for improving bioresources to advance good health and well-being, fostering and empowering the society.

Mission

The missions of Biotechnology Study Program are:

1. Providing a solid educational experience through the diffusion and integration of Biotechnology knowledge.
2. Educating students with the fundamental skills, knowledge, and practice of Biotechnology with IT-enriched knowledge in order to prepare graduates to be a professional in global communities and prepare them to pursue advanced degrees in Biotechnology or related disciplines.

3. Recognizing, nurturing, and acknowledging all talents that positively contribute to improving the body of knowledge in biotechnology in Indonesia and international communities.
4. Conducting research, community development, and professional services focusing on green and blue biotechnology contributes to enhancing good health and well-being, improving the quality of life needed to build and serve the nation.

Program Objective

The objectives of the program are:

1. To produce graduates with a solid foundation of knowledge in the core area of biotechnology that will be beneficial to contribute to International Biotechnology Research and Industry.
2. To produce graduates with the fundamental skills, knowledge, and practice of Biotechnology with IT-enriched knowledge to operate effectively and efficiently for direct involvement in problem-solving required in the biotechnology field.
3. To produce graduates with professionalism, ethics, communication skills, and understanding of contemporary issues in practice in delivering solutions relating to managing and utilizing bioresources.
4. To produce innovation in green and blue biotechnology to contribute to enhancing good health and well-being with a commitment to build and serve the nation for improving the quality of life.

Student Outcomes

After completing the study, graduate are:

1. Able to apply knowledge in the core area of biotechnology to manage and utilize the bioresources and environment.
2. Able to possess biotechnology and bioinformatics technical skills to analyze and synthesize bioresources.
3. Able to demonstrate professionalism, leadership, scientific ethics, and effective communication skills.
4. Able to design the solution to solve a problem relating to managing and utilizing bioresources based on the biotechnology application.
5. Able to utilize biotechnology application and bioinformatics for improving plant and marine bioresources, advancing good health and well-being.
6. Able to apply interdisciplinary knowledge and skills in developing alternative solutions for problem-solving.

Prospective Career of the Graduates

1. Biotechnology research and development specialist
2. Biomanufacturing engineer
3. Quality control specialist in a biotechnology related industry

4. Quality assurance specialist in a biotechnology related industry
5. Biotechnology regulatory affairs specialist
6. Marketing specialist; product specialist in biotechnology
7. Molecular biology analyst
8. Bioentrepreneur
9. Researcher
10. Bioinformatics specialist
11. Educator in the biotechnology field

Curriculum

The curriculum is designed in classes and laboratories to provide substantial knowledge and technical skills in biotechnology. Students will learn about (1) biosciences, including general biology, chemistry, microbiology, genetics, cell and molecular biology, genetic engineering, and plant tissue culture; (2) Industrial biotechnology, including fermentation technology and enzyme technology; (3) bioinformatics, including data science, basic programming, and big data; and (4) bio-entrepreneurship, bioethics, and scientific communication.

The curriculum supports the Merdeka Belajar Kampus Merdeka (MBKM) program, in which the students can choose the streaming “Smart Bioprospecting Technology” or minor programs and have two semesters for the enrichment program. The enrichment includes internships, research, entrepreneurship, study abroad, community service activities, and specific independent study programs.

Course Structure

Sem	Code	Course Name	SCU	Total
1	CHAR6013056	Character Building: Pancasila	2	20
	LANG6027056	Indonesian	2	
	BTEC6030056	Introduction to Biotechnology and Ethics*&**	2	
	SCIE6074056	Biology*	2/2	
	SCIE6075056	Chemistry	4/2	
	SCIE6076056	Physics	2	
	MATH6204056	Mathematics	2	
	Foreign Language Courses			
2	CHAR6014056	Character Building: Kewarganegaraan	2	20
	ENTR6509001	Entrepreneurship: Ideation	2	
	SCIE6077056	Biochemistry	2/2	
	SCIE6078056	Genetics*	2	
	BTEC6031056	Physiology	2	
	BTEC6001056	Biodiversity*&**	4	
	BTEC6004056	Microbiology*&**	2/2	
	Foreign Language Courses			
3	CHAR6015056	Character Building: Agama	2	20
	ENTR6510001	Entrepreneurship: Prototyping	2	
	BTEC6005056	Cell and Molecular Biology*	4	

Sem	Code	Course Name	SCU	Total	
	BTEC6037056	Cell and Molecular Biology Laboratory	2		
	BTEC6011056	Enzyme Biotechnology*	2		
	BTEC6035056	Sustainable Bioindustry**	2		
	COMP6888056	Basic Programming for Biotechnology	2/2		
	STAT6214056	Statistic Methods	2		
	Foreign Language Courses				0
4	ENTR6511001	Entrepreneurship: Market Validation	2	20	
	BTEC6010056	Genetic Engineering	2/2		
	BTEC6006056	Plant Tissue Culture	2		
	BTEC6012056	Fermentation Technology**	2/2		
	BTEC6008056	Bioinformatics I*&**	2/2		
	BTEC6014056	Capita Selecta Biotechnology*	2		
	BTEC6019056	Big Data in Biotechnology	2		
	Foreign Language Courses				0
5	Streaming: Communication System			20	
	BTEC6015056	Plant Biotechnology	2/2		
	BTEC6016056	Marine Biotechnology*	4		
	BTEC6018056	Bioinformatics II	2/2		
	BTEC6020056	Current Issue in Biotechnology*&**	2		
	CPEN6258056	Smart Farming System	2/2		
	BTEC6038056	Bio-design process	2		
	Multidisciplinary Stream				20
	Minor Program				20
	Free Electives				20
6	Enrichment Program I		20	20	
7	Enrichment Program II		20	20	
8	BTEC6021056	Pre – Thesis	2	6	
	BTEC6022056	Thesis	4		
	BTEC6029056	Thesis	6		
TOTAL CREDIT 146 SCU					

*) This course is delivered in English

**) Global Learning System Course

-) (AOL) - Assurance of Learning Process System

Streaming/Minor/Free Electives:

-) For 5th Semester: Students are required to choose one of the multidisciplinary/streamings/ minor program/free electives. For Free Electives, students are required to choose from the list of Free Electives in Appendix.

Foreign Language Courses:

Students will take foreign language courses according to BINUS University English proficiency test results. See foreign language courses appendix for the details. Students must pass with a minimum Grade of C.

Pre-thesis (2 SCU) & Thesis (4 SCU) can be taken in the 6th and/or 7th semester by the students who meet the requirements from the Study Program/Program

Appendix Foreign Language Courses

Group	Foreign Language Courses	SCU
MKB	ENGL6253056 English for Frontrunners	0
MKB	ENGL6254056 English for Independent Users	0
MKB	ENGL6255056 English for Professionals	0
MKB	JAPN6190056 Basic Japanese Language	0
MKB	CHIN6163056 Basic Chinese Language	0

*) This course is optional for students

1. Students with Binus University English Proficiency Test score less than 437 are required to take English for Frontrunners and English for Independent Users.
2. Students with Binus University English Proficiency Test score less than 520 are required to take English for Independent Users and English for Professionals.
3. Students with Binus University English Proficiency Test score equal to or greater than 520 are required to take English for Professionals. Additionally, students may choose to take either Basic Japanese Language or Basic Chinese Language.
4. Students are required to pass the foreign language courses before they take enrichment.
5. Students can see the requirements to pass the foreign language courses at BINUSMAYA – Beelingua.

Minor Scheme

Minor Program	Semester 5
Minor @ Binus Kemanggisian	
Digital Ecosystem	v
Human Capital in Digital Workplace	-
Sustainable Development	v
Cross Cultural Communication	-
Interactive & Users Experience Design	v
Data Analytics	v
Robotic Process Automation	-
Minor @ Binus Alam Sutera	
Digital Transformation	v
Minor @ Binus Bekasi	
Virtual Service Experience	v
Culinary	-
Minor @ Binus Malang	
Digital Technopreneur	v
Minor @ Binus Bandung	
DesignPreneur	v
Minor @ Binus Semarang	
Metaverse in Business	v

The minor programs can change anytime based on the trends of knowledge and industry each year. Students will receive information about the updated minor programs during the registration period.

1. Digital Ecosystem

Fundamental Courses

Course	SCU
COMP6683001 Introduction to Artificial Intelligence	2/2
ISYS6549003 Digital Innovation	4
COMP6937001 Current Trends in Technology	2
Total SCU	10

2. Sustainable Development

Fundamental Courses

Course	SCU
ISYE6154011 Sustainable Design and Manufacture	4
CPEN6217010 Digital for Sustainable Development	4
ARCH6119014 Introduction to Sustainable Development	2
Total SCU	10

3. Interactive & Users Experience Design

Fundamental Courses

Course	SCU
ISYS6553003 User-Centered Research and Evaluation	4
PSYC6176027 Psychology and User Experience	4
DSIN6003007 Fundamental of Interface Design	2
Total SCU	10

4. Data Analytics

Fundamental Courses

Course	SCU
ISYS6680003 Introduction to Data Analytics	2
ISYS6681003 Data Management & Descriptive Analytics	4
STAT6198049 Statistical for Decision Making	4
Total SCU	10

5. Digital Transformation

Fundamental Courses

Course	SCU
ISYS6559003 Business Models and Technology Innovation	4
ISYS6557003 Business Data Management	4
MGMT6484005 Digital Strategy	2
Total SCU	10

6. Virtual Service Experience

Fundamental Courses

Course		SCU
ISYS6561003	Fundamental of Virtual Services	2
ACCT6350020	Virtual Financial Services	4
MGMT6354005	Virtual Operation and Supply Chain	4
Total SCU		10

7. Digital Technopreneur

Fundamental Courses

Course		SCU
ENTR6528002	The Entrepreneurial Innovator	4
DSGN6839006	Interactive Design	4
COMM6504018	Digital Branding	2
ENPR6196002	Market Intelligence	2
COMP6687004	User Experience Design	4
DSGN6844023	Prototyping Digital Future	4
Total SCU		20

8. DesignPreneur

Fundamental Courses

Course		SCU
ENTR6525032	Fundamental of Designpreneur	4
COMP6688031	UI/UX Development	4
DSGN6797034	Surface Packaging Design	4
ENTR6526032	Hospitality and Service Design	4
DSGN6843033	Project Design	4
Total SCU		20

9. Metaverse in Business

Fundamental Courses

Course		SCU
ISYS6777052	Business Model	2
COMP6889051	Virtual Reality	4
COMP6890051	Augmented reality	4
Total SCU		10

10. English for Business Professionals

Fundamental Courses

Course	SCU
ENGL6154024 English for Business Communications	4
ENGL6258024 English for Global Leadership	2
ENGL6169024 English for Professionals	2
MKTG6112024 Language Innovations in Marketing and Advertising	2
COMM6506024 Current Issues in Business Communications	2
ENGL6244024 Social Media Broadcasting	4
ENGL6245024 Business Rhetoric	4
Total SCU	10

Appendix: Free Electives (5th Semester)

No	Course Owner Department	Course Code	Course Name	SCU	Semester
1	Management	MGMT6297005	Operations Management	4	5
2	Management	FINC6001005	Financial Management	4	5
3	Global Business Marketing	MKTG6321005	Marketing Data Analytics	4	5
4	Global Business Marketing	MKTG6322005	Sales and Customer Relationship Management	4	5
5	Global Business Marketing	MKTG6237005	Global Strategic Marketing : Asia Pasific Perspective	4	5
6	Global Business Marketing	MKTG6272005	Marketing Research	2/2	5
7	Global Business Marketing	MGMT6358005	Managing Business Information	2/2	5
8	Civil Engineering	CIVL6030013	Environmental Engineering	2	5
9	Computer Engineering	CPEN6225010	Telco Network & Switching System	2	5
10	Computer Engineering	CPEN6232010	Cloud Technology Practice	2	5
11	Computer Engineering	CPEN6220010	Computer Networks & Information Security	4/1	5
12	Industrial Engineering	ISYE6067011	Global Supply Chain	2	5
13	Industrial Engineering	ISYE6165011	Supply Chain Risk & Negotiation	2	5
14	Industrial Engineering	MKTG6128011	Market Research	2	5
15	Industrial Engineering	ISYE6167011	Decision Support System	2	5
16	Industrial Engineering	ISYE6168011	Financial Engineering	2	5
17	Industrial Engineering	ISYE6130011	Project Management	2	5

No	Course Owner Department	Course Code	Course Name	SC U	Semester
18	Industrial Engineering	ISYE6169011	Maintenance Management Systems	2	5
19	Industrial Engineering	ISYE6170011	Sustainable Engineering Systems	2	5
20	Industrial Engineering	ISYE6113011	Leadership & Organizational Behavior	2	5
21	Food Technology	FOOD6092015	Molecular Gastronomy	2	5
22	Food Technology	FOOD6076015	Food Fermentation Technology	2	5
23	Food Technology	FOOD6073015	Current Issues in Food Technology	2	5
24	Food Technology	CPEN6235015	IoT in Food Industry	2	5
25	Food Technology	FOOD6094015	Nutrition & Health	4	5
26	Architecture	ARCH6146014	Interior Architecture	4	5
27	Computer Science	COMP6144001	Web Programming	2/1	5
28	Computer Science	COMP6590001	Geographical Information System	2/2	5
29	Computer Science	ISYS6197001	Business Application Development	2/2	5
30	Marketing Communication	COMM6624019	Digital Creative Content	2/2	5
31	Marketing Communication	COMM6533019	Creative Program Design	2/2	5
32	Marketing Communication	COMM6633019	Corporate Sustainability	4	5
33	Marketing Communication	COMM6632019	Writing for Corporate Communication	2/2	5
34	Marketing Communication	COMM6541019	Digital Corporate Communication	2/2	5
35	Marketing Communication	COMM6634019	Environmental Issues and Brand Activism	4	5
36	Marketing Communication	COMM6635019	Integrated Marketing Communication	2	5
37	Marketing Communication	COMM6637019	Brand Activation	2/2	5
38	Marketing Communication	COMM6638019	Social Media Planning & Engagement	2/2	5
39	Tourism	TRSM6142022	Event Management	4	5
40	Tourism	TRSM6196022	Tourism Community Empowerment	2	5
41	Tourism	TRSM6218022	Adventure Tourism Management	4	5
42	Tourism	TRSM6219022	Wildlife and Marine Tourism	2	5
43	Tourism	TRSM6222022	Climate Change & Tourism	2	5
44	Tourism	TRSM6217022	Immigration, Quarantine and Customs	2	5
45	Tourism	TRSM6212022	Indonesian Culture	4	5
46	Tourism	TRSM6224022	Environmental Health and Safety in Tourism	2	5

No	Course Owner Department	Course Code	Course Name	SC U	Semester
47	Hotel Management	HTMN6146021	Food Safety Management	2	5
48	Hotel Management	HTMN6123021	Hygiene and Safety for Hospitality	4	5
49	Hotel Management	HTMN6108021	Food and Beverage Management	2	5
50	Hotel Management	HTMN6132021	Gastronomy Study	2	5
51	Finance	FINC6189020	Introduction to Financial Market and Fin-Tech	2	5
52	Finance	FINC6010020	International Finance	2	5
53	Data Science	DTSC6006001	Machine Learning	2/1	5
54	Mobile Application & Technology	MOBI6068001	Web Design	2	5
55	Mobile Application & Technology	MOBI6059001	Mobile Programming	2	5
56	Statistics	STAT6157049	Data Mining and Visualization	2	5
57	Information Systems	ISYS6196003	Business Analytics	2	5
58	Information Systems	ISYS6199003	Data & Text Mining	4	5
59	Information Systems	ISYS6402003	Business Analytics	2/2	5
60	Business Information Technology	ISYS6579003	Knowledge-Based AI: Cognitive Systems	4	5
61	Creative Advertising	DSGN6661007	Photography	4	5
62	Creative Advertising	DSGN6732007	Photography	4	5
63	International Relations	INTR6137029	Indonesia in Perspectives	2	5
64	Chinese Literature	CHIN6157026	Chinese Business for Etiquette (Beginner)	4	5
65	Chinese Literature	CHIN6158026	Chinese Business in Daily Communication	4	5
66	Chinese Literature	CHIN6159026	Chinese Character Writing	2	5
67	English Literature	SOCS6021024	Social and Digital Media Writing	2	5
68	English Literature	CHIN6159026	Chinese Character Writing	2	5
69	English Literature	ENGL6244024	Social Media Broadcasting	4	5
70	English Literature	EDUC6054024	Classroom Communication and Learning	4	5
71	Business Law	LAWS6017028	Intellectual Property Rights	4	5
72	Business Law	LAWS6172028	Environmental and Natural Resources Law	2	5
73	Psychology	PSYC6145027	Urban Psychology	4	5
74	Psychology	PSYC6215027	Leadership and Organizational Behaviour	4	5

No	Course Owner Department	Course Code	Course Name	SC U	Semester
75	Psychology	PSYC6138027	Lifespan Development	4	5
76	Primary Teacher Education	EDUC6015030	Educational Research Methodology	4	5
77	Primary Teacher Education	EDUC6018030	Micro Teaching	4	5
78	Primary Teacher Education	EDUC6072030	International Curriculum	2	5
79	Primary Teacher Education	EDUC6063030	English for Academic Purposes	2	5
80	Primary Teacher Education	EDUC6074030	Art & Craft	4	5
81	Japanese Literature	JAPN6111025	Introductory Japanese I	4	5
82	Japanese Literature	JAPN6145025	Japanese Grammar I (Bunpou I)	4	5
83	Japanese Literature	JAPN6148025	Japanese Letter I (Kanji I)	2	5
84	Japanese Literature	JAPN6149025	Reading Comprehension I (Dokkai I)	2	5
85	Japanese Literature	JAPN6145025	Japanese Grammar I (Bunpou I)	4	5
86	Japanese Literature	JAPN6148025	Japanese Letter I (Kanji I)	2	5
87	Japanese Literature	JAPN6149025	Reading Comprehension I (Dokkai I)	2	5
88	Japanese Literature	JAPN6111025	Introductory Japanese I	4	5
89	Japanese Literature	JAPN6071025	Japanese Drama (Nihon no Geki)	2	5
90	Japanese Literature	JAPN6036025	Japanese Tourism (Nihon Kankou)	2	5
91	Japanese Literature	JAPN6104025	Japanese Industry and Technology	2	5
92	Business Creation	ENPR61420005	Digital Business Transformation	4	5
93	Business Creation	ENPR6106005	Product Design & Branding	2	5
94	Business Creation	ENPR6107005	Business Communication & Strategy	4	5
95	Biotechnology	BTEC6015056	Plant Biotechnology	2/2	5
96	Biotechnology	BTEC6016056	Marine Biotechnology	4	5
97	Biotechnology	BTEC6018056	Bioinformatics II	2/2	5
98	Biotechnology	BTEC6020056	Current Issue in Biotechnology	2	5
99	Biotechnology	CPEN6258056	Smart Farming System	2/2	5
100	Biotechnology	BTEC6038056	Bio-design Process	2	5

Enrichment Program I (6th Semester) & Enrichment Program II (7th Semester):

-) Student will take one of enrichment program tracks (off campus). See enrichment appendix for the tracks detail.

Enrichment Track Scheme

Track	Semester 6						Semester 7					
	IN	RS	EN	CD	SA	IS	IN	RS	EN	CD	SA	IS
1			v						v			
2	v						v					
3		v					v					
4				v			v					
5					v		v					
6						v	v					
7	v							v				
8		v						v				
9				v				v				
10					v			v				
11						v		v				
12	v									v		
13		v								v		
14				v						v		
15					v					v		
16						v				v		
17	v										v	
18		v									v	
19				v							v	
20						v					v	
21	v											v
22		v										v
23				v								v

Note:

- | | | | |
|----|-----------------------------------|-----|--|
| IN | : Certified Internship | SA | : Certified Study Abroad |
| RS | : Certified Research | IS | : Certified Specific Independent Study |
| EN | : Certified Entrepreneurship | FS | : Further Study |
| CD | : Certified Community Development | etc | : Study Program Special Purposes |

Description:

Student will take one of enrichment program tracks

Certified Internship Track

Code	Course Name	SCU	Total
Enrichment Program I			20
BTEC6023056	Instrumentation in Bioindustry	8	
BTEC6024056	Industrial Experience	8	
BTEC6025056	Scientific Ethics and Effective Communication	4	
Enrichment Program II			20
BTEC6026056	Professionalism & Leadership	4	
BTEC6027056	Technical Skills in Biotechnology Industry	8	
BTEC6028056	Scientific Writing in Biotechnology	8	

Certified Research Track

Code	Course Name	SCU	Total
Enrichment Program I			20
RSCH6630056	Research Experience	8	
RSCH6631056	Experimental Design	8	
RSCH6632056	Scientific Ethics and Effective Communication	4	
Enrichment Program II			20
RSCH6633056	Professionalism & Leadership	4	
RSCH6634056	Advanced Method in Biotechnology	8	
RSCH6635056	Advanced Method in Biotechnology	8	

Certified Entrepreneurship Track

Code	Course Name	SCU	Total
Enrichment Program I			20
ENPR6118056	Bio-based Product Innovation	8	
ENPR6119056	Bio-based Product Development Process	8	
ENPR6120056	Scientific Ethics and Effective Communication	4	
Enrichment Program II			20
ENPR6121056	Professionalism & Leadership	8	
ENPR6122056	Bio-based Product Launching	8	
ENPR6123056	Business Development of Bio-based Product	4	

Certified Community Development Track

Code	Course Name	SCU	Total
Enrichment Program I			
CMDV6401056	Community Outreach Project Implementation	8	20
CMDV6402056	Community Outreach Project for Biotechnology	8	
CMDV6403056	Scientific Ethics and Effective Communication	4	
Enrichment Program II			
CMDV6404056	Professionalism and Leadership	4	20
CMDV6405056	Problem Solving for Community Project	8	
CMDV6406056	Community Outreach Project Management	8	

Certified Study Abroad Track

Code	Course Name	SCU	Total
Enrichment Program I/II			
GLOB6005056	Elective Course for Study Abroad 1	4	20
GLOB6006056	Elective Course for Study Abroad 2	4	
GLOB6007056	Elective Course for Study Abroad 3	4	
GLOB6008056	Elective Course for Study Abroad 4	4	
GLOB6009056	Elective Course for Study Abroad 5	2	
GLOB6010056	Elective Course for Study Abroad 6	2	
GLOB6011056	Elective Course for Study Abroad 7	2	
GLOB6012056	Elective Course for Study Abroad 8	2	
GLOB6013056	Elective Course for Study Abroad 9	2	
GLOB6014056	Elective Course for Study Abroad 10	2	
GLOB6015056	Elective Course for Study Abroad 11	2	
GLOB6016056	Elective Course for Study Abroad 12	2	
GLOB6249056	Elective Course for Study Abroad 27	3	
GLOB6250056	Elective Course for Study Abroad 28	3	
GLOB6251056	Elective Course for Study Abroad 29	4	

*) Transferred courses will be transferred based on credit transfer policies on study program with total of 20 credits

Certified Specific Independent Study Track

Code	Course Name	SCU	Total
Elective courses list for Specific Independent Study*			
Enrichment Program I/II			
CSIS6001056	Course Certification	3	
CSIS6002056	Technical Skill Enrichment	4	
CSIS6003056	Industrial Project	9	
CSIS6004056	Soft Skill Enrichment	4	
CSIS6005056	Elective Course for Specific Independent Study 1	8	
CSIS6006056	Elective Course for Specific Independent Study 2	8	
CSIS6007056	Elective Course for Specific Independent Study 3	6	
CSIS6008056	Elective Course for Specific Independent Study 4	6	
CSIS6009056	Elective Course for Specific Independent Study 5	6	
CSIS6010056	Elective Course for Specific Independent Study 6	5	
CSIS6011056	Elective Course for Specific Independent Study 7	5	
CSIS6012056	Elective Course for Specific Independent Study 8	5	
CSIS6013056	Elective Course for Specific Independent Study 9	5	
CSIS6014056	Elective Course for Specific Independent Study 10	4	
CSIS6015056	Elective Course for Specific Independent Study 11	4	
CSIS6016056	Elective Course for Specific Independent Study 12	4	
CSIS6017056	Elective Course for Specific Independent Study 13	4	
CSIS6018056	Elective Course for Specific Independent Study 14	4	
CSIS6019056	Elective Course for Specific Independent Study 15	3	
CSIS6020056	Elective Course for Specific Independent Study 16	3	
CSIS6021056	Elective Course for Specific Independent Study 17	3	
CSIS6022056	Elective Course for Specific Independent Study 18	3	
CSIS6023056	Elective Course for Specific Independent Study 19	3	
CSIS6024056	Elective Course for Specific Independent Study 20	3	
CSIS6025056	Elective Course for Specific Independent Study 21	2	
CSIS6026056	Elective Course for Specific Independent Study 22	2	
CSIS6027056	Elective Course for Specific Independent Study 23	2	

Code	Course Name	SCU	Total
CSIS6028056	Elective Course for Specific Independent Study 24	2	
CSIS6029056	Elective Course for Specific Independent Study 25	2	
CSIS6030056	Elective Course for Specific Independent Study 26	2	
CSIS6031056	Elective Course for Specific Independent Study 27	2	
CSIS6032056	Elective Course for Specific Independent Study 28	2	
CSIS6033056	Elective Course for Specific Independent Study 29	1	
CSIS6034056	Elective Course for Specific Independent Study 30	1	
CSIS6035056	Elective Course for Specific Independent Study 31	1	
CSIS6036056	Elective Course for Specific Independent Study 32	1	

*) For students who take BINUS certified specific independent study courses, they should take the first 4 courses on the list above (20 credits). Meanwhile, electives courses 1 to 32 are transferred courses for students who take certified specific independent study courses outside BINUS University. Transferred courses will be transferred based on credit transfer policies on study program with total of 20 credits

The Table of Prerequisite for Biotechnology

Course	SCU	Sem.	Prerequisite Course	SCU	Sem.
BTEC6015056 Plant Biotechnology	2/2	5	BTEC6006056 Plant Tissue Culture	2	4
BTEC6018056 Bioinformatics II	2/2	5	BTEC6008056 Bioinformatics I	2/2	4

Student should pass all of these quality controlled courses as listed below:

No	Course Code	Course Name	Minimal Grade
1.	CHAR6013056	Character Building: Pancasila	B
2.	BTEC6005056	Cell and Molecular Biology*	C
3.	BTEC6008056	Bioinformatics I	C
4.	BTEC6010056	Genetic Engineering	C
5.	BTEC6012056	Fermentation Technology*	C
6.	ENTR6511001	Entrepreneurship: Market Validation	C
Stream Courses			
7.	BTEC6015056	Plant Biotechnology	C
8.	BTEC6016056	Marine Biotechnology*	C

*) Tutorial & Multipaper