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	Course		SCU	Total
1	CHAR6013056	Character Building: Pancasila	2	20
	LANG6027056	Indonesian	2	
	BTEC6030056	Introduction to Biotechnology and Ethics[1&2]	2	
	SCIE6074056	Biology[1]	2/2	
	SCIE6075056	Chemistry	4/2	
	SCIE6076056	Physics	2	
	MATH6204056	Mathematics	2	
	Foreign Language Courses		0	
2	CHAR6014056	Character Building: Kewarganegaraan	2	20
	COSC6011056	Foundations of Artificial Intelligence	2	
	SCIE6077056	Biochemistry	2/2	
	SCIE6078056	Genetics[1]	2	
	BTEC6031056	Physiology	2	
	BTEC6001056	Biodiversity[1&2] *(AOL)*	4	
	BTEC6004056	Microbiology[1&2]	2/2	
	Foreign Language Courses		0	
3	CHAR6015056	Character Building: Agama	2	20
	ENPR6311001	Creativity and Innovation	2	
	BTEC6005056	Cell and Molecular Biology[1]	4	
	BTEC6037056	Cell and Molecular Biology Laboratory[3] *(AOL)*	2	
	BTEC6011056	Enzyme Biotechnology[1]	2	
	BTEC6035056	Sustainable Bioindustry[2] *(AOL)*	2	
	COMP6888056	Basic Programming for Biotechnology	2/2	
	STAT6214056	Statistic Methods	2	
	Foreign Language Courses		0	
4	ENPR6312001	Venture Creation	2	20
	BTEC6010056	Genetic Engineering *(AOL)*	2/2	
	BTEC6006056	Plant Tissue Culture	2	
	BTEC6012056	Fermentation Technology[2] *(AOL)*	2/2	
	BTEC6008056	Bioinformatics I[1&2] *(AOL) & (AIE)*	2/2	
	BTEC6014056	Capita Selecta Biotechnology[1] *(AOL)*	2	
	BTEC6019056	Big Data in Biotechnology *(AIE)*	2	
	Foreign Language Courses		0	
5	**Stream: Smart Bioprospecting**			20
	BTEC6015056	Plant Biotechnology *(AOL)*	2/2	
	BTEC6016056	Marine Biotechnology[1&2] *(AOL)*	4	
	BTEC6018056	Bioinformatics II *(AOL)*	2/2	
	BTEC6020056	Current Issue in Biotechnology[1&2]	2	
	CPEN6258056	Smart Farming System	2/2	
	BTEC6038056	Bio-design process	2	
	Minor Program		20	

Sem	Course		SCU	Total
	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 Credits 146 SCU	

1) *This course is delivered in English*
2) *Global Learning System course*
-) **AOL** - *Assurance of Learning Process System*
-) **AIE** - *Artificial Intelligence Embedded Course*

Minor/Free Electives:
-) *For 5th Semester: Students are required to choose one of Minor Program or Free Electives. For Free Electives, students are required to choose from the list of Free Electives in Appendix.*

Foreign Language Courses:

Foreign language courses are personalized courses that can be taken by the students according to their own pace from semester 1 until semester 4 or before they take enrichment. The courses are available at BINUSMAYA – Beelingua.
The following are the provisions of the courses that must be taken by students:

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

*) This course is optional for students

1. Students with Beelingua Placement Test score less than 60 are required to take English for Frontrunners and English for Independent Users.
2. Students with Beelingua Placement Test score between 60 and 99 are required to take English for Independent Users and English for Professionals.
3. Students with Beelingua Placement Test score greater than 99 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.

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*

Minor Scheme

Minor Program	Semester 5
Minor @ Binus Kemanggisan	
Blockchain Technology and Business	-
Creative Digital Storytelling	V
Cross Cultural Communication	-
Data Analytics	V
Digital Banking	-
Digital Ecosystem	V
English for Business Professionals	V
Event Business and Entertainment	-
Human Capital in Digital Workplace	-
Interactive & Users Experience Design	V
Sustainable Development	V
Minor @ Binus Alam Sutera	
Digital Transformation	V
Minor @ Binus Bekasi	
Culinary	-
Korean Culture and Creativity	V
Minor @ Binus Malang	
Chinese for Career Pathways	V
English for Business Professionals	V
Digital Technopreneur	V
Minor @ Binus Bandung	
DesignPreneur	V
Robotic Process Automation	-
Minor @ Binus Semarang	
Content Creation	V
Data Analytics	V
Immersive Journey to Japanese Language and Culture	V
Metaverse in Business	V
Minor @ Binus Medan	
Global 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. Minor Program: Creative Digital Storytelling

Introduction

Digital storytelling, by definition, is the process of telling a story using video, images, audio, music, geospatial applications, and any other digital media. Thus, this minor introduces the concept and skills in producing and communicating videos, images, and texts through English. It is interdisciplinary in its nature and relies heavily on critical and analytical thinking. It also aims to familiarize students with the technology/ tools needed to adapt a literary work to another form or vice versa. It is the minor that blend perspectives of arts with humanities to facilitate new interpretation of literary works**.**

Career Options

Social Media Content Creator; Digital Storyteller; Brand Designer; Digital Storytelling News Editor; Social Media Specialist; Digital Associate; Video Editor; Content Creator; Content Creator; Scriptwriter; Fiction writers; Non-Fiction Writers; Copywriter; Social Media Specialist.

Course Distribution

Fundamental Courses

Course		SCU
ENGL6274024	Approaches in Multimodal Storytelling	2
DSIN6033007	Visual Storytelling	2
ENGL6275024	Storytelling for Business	2
FILM6118009	Script Development & Pitching	4
	Total SCU	10

Supporting Courses

Course		SCU
ENGL6276024	Cultures, Language, and Arts Production	4
JAPN6212025	Anime and Manga as Storytelling	2
ENGL6277024	Music as Medium for Storytelling	4
	Total SCU	10

Additional Information

None

2. Minor Program: Data Analytics

Introduction

The Data Analytics minor program provides insight into acquisitions and analysis of data in organizations by using critical thinking from multiple strategic perspectives, including consumer behavior communicated in the form of visualizations/models that can support retrieval decision.

Career Options

Data Analyst, Marketing Analyst.

Course Distribution

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

Supporting Courses

Course		SCU
ISYS6682003	Application of Predictive Analytics to Business Data	4
ISYS6683003	Prescriptive Analytics and Optimization	4
MKTG6312005	Digitalization of Markets and Consumption	2
	Total SCU	**10**

Additional Information

None

3. Minor Program: Digital Ecosystem

Introduction

To face challenges in the era of technological disruption and the wave of the 4.0 industrial revolutions, this minor program offers foundational knowledge about the digital ecosystem in the 4.0 industrial revolutions. Through this minor program, students will be able to develop fundamental knowledge about main pillars of the digital ecosystem, such as informatics, business, and creative design. Students will also be able to combine the knowledge they gain from their respective majors with information technology to develop real solutions for society.

Career Options

Chief technology officer, digital business strategy expert/consultant, digital solution architect, digital business strategy manager, digital operations manager.

Course Distribution
Fundamental Courses

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

Supporting Courses

Course		SCU
COMM6501019	Narative Development	4
DSGN6834007	Visual Identity	4
COMP6685001	Cyber Security for Business	2
	Total SCU	**10**

Additional Information

None

4. Minor Program: English for Business Professionals

Introduction

This minor focuses on students who are interested in English in the business context. Students will learn about leadership and management, as well as language innovations in marketing and advertising. There will also be discussions on business communication issues.

Career Options

Manager, Business practitioner, Entrepreneur, Professional employee.

Course Distribution

Fundamental Courses

Course		SCU
ENGL6154024	English for Business Communications	4
MKTG6112024	Language Innovations in Marketing and Advertising	2
ENGL6244024	Social Media Broadcasting	4
	Total SCU	10

Supporting Courses

Course		SCU
ENGL6258024	English for Global Leadership	2
ENGL6169024	English for Professionals	2
COMM6506024	Current Issues in Business Communications	2
ENGL6245024	Business Rhetoric	4
	Total SCU	10

Additional Information

None

5. Minor Program: Interactive & Users Experience Design

Introduction

In today's digital era, people are competing to produce the best digital products that suit the users' needs. How can we make this happen? Minor Interactive & User Experience (UX) Design is the answer. In this Minor program, students will learn about the basics of UX starting from finding, designing, and building a digital product that is in accordance with a good UX concept to ensure that the digital products produced have adopted the UX theory. In this minor program, students will study UX from 3 (three) main pillars of UX, namely Information Systems, Psychology, and Design through 6 (six) subjects that can be selected.

Career Options

UX Researcher, UX Designer, Usability Analyst, Information Architect, Interaction Designer, Visual Designer, Content Strategies

Course Distribution

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**

Supporting Courses

Course		SCU
ISYS6554003	Core Principles: Interactive Design	4
DSGN6837007	Digital Design Production	4
ISYS6556003	Information Architecture	2
	Total SCU	**10**

Additional Information

None

6. Minor Program: Sustainable Development

Introduction

The minor program on the topic of Sustainable Development prepares students from other disciplines for careers in engineering-related fields. Students will receive enrichment in the fields of Architecture, Industrial Engineering, Civil Engineering, Computer Engineering, and Food Technology. Students also gain knowledge of the development and application of the latest technology in the engineering field, which supports sustainable development and the industrial revolution 4.0.

Career Options

Construction Manager; Property Manager; Building Manager; Civil Engineer; Project Manager; Pre Sales and Marketing Engineer, Product Specialist, Product Development, Business Development.

Course Distribution

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**

Supporting Courses

	Course	SCU
ISYE6155011	Occupational, Health, Safety, and Administration in Engineering	2
DSGN6835008	Engineering Material	4
CIVL6118013	Engineering Economic	4
	Total SCU	**10**

Additional Information

None

7. Minor Program: Digital Transformation

Introduction

Digital Transformation provides knowledge on how information technology can be a competitive advantage in business processes. In this minor program, students will learn about innovation in business processes, data management, and strategies that can support companies to become leaders in the digital era.

Career Options

Business Analyst, System Analyst, Corporate Information Systems Designer, Database Administrator, Database Designer, Technopreneur, IS Project Manager, IT/IS Consultant and Auditor, Social Media professional, and Marketing Analyst.

Course Distribution

Fundamental Courses

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

Supporting Courses

	Course	SCU
ISYS6695003	Digital Marketing Analysis	4
STAT6200049	Practical Statistics for Digital Business	4
ISYS6560003	Success Factor for Leading Digital Transformation	2
	Total SCU	**10**

Additional Information

None

8. Minor Program: Korean Culture and Creativity

Introduction

This minor program provides knowledge and experience in Korean Performance and Culture. The courses will cover pop art, culture, cuisine, film, drama, music, and language. Students who have international experience, especially in Korea, will have a wide range of employment opportunities.

Career Options

Content Creator, Performer, Creative Marketer, Event Organizer, Foodpreneur, and Advertiser working in a Korean environment.

Course Distribution

Fundamental Courses

Course		SCU
HTMN6163021	Korean Cuisine and Culinary Arts	4
COMM6718019	Korean Language and Media	4
FILM6134009	Hallyu Creative Content	2
	Total SCU	10

Supporting Courses

Course		SCU
FILM6135009	K-Drama and Beyond: Analysis and Appreciation	4
COMM6719019	K-Pop Culture and Performance	4
MKTG6339005	K-Pop and K-Drama Marketing and Promotion	2
	Total SCU	10

Additional Information

None

9. Minor Program: Chinese for Career Pathways

Introduction

This minor program offers a variety of courses customized to industry needs for Binus non-Chinese Literature students. With this minor program, students who do not major in Mandarin can still experience the benefits of mastering basic Mandarin, which is currently required by industries such as Hospitality, Chinese Companies, Management Banking, and Communication skills.

Career Options

Business Administration, Translation and Interpretation, International Relations and Diplomacy, Tourism and Hospitality, Marketing and Communications.

Course Distribution

Fundamental Courses

Course		SCU
CHIN6196026	Mandarin for Future Career	4
CHIN6197026	Easy Way to HSK 2 Preparation	4
CHIN6198026	Exploring Modern Chinese Culture	2
	Total SCU	**10**

Supporting Courses

Course		SCU
CHIN6199026	Chinese Digital Technology	2
CHIN6200026	Traveling to China	2
CHIN6201026	Special Topics in Chinese Business	2
CHIN6202026	Global Strategic Marketing: Chinese Perspective	4
	Total SCU	**10**

Additional Information

Open a maximum of 2 classes per batch per semester, with each class accommodating up to 30 students.

10. Minor Program: Digital Technopreneur

Introduction

Digital Technopreneur is a minor program that facilitates students in exploring the potentials of developing digital technology venture that combines technical competence with entrepreneurial skills, creativity, and innovative ideas to produce digital technology business models & prototypes. The minor program embraces the human-centered approach in helping students to develop innovative value propositions.

Career Options

Entrepreneur, Digital-preneur, Techno-preneur, Creative-preneur, Design-preneur.

Course Distribution

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**

Additional Information

None

11. Minor Program: Designpreneur

Introduction

The Designpreneur Minor program give students the ability to be able to produce innovative work in the form of products or services based on creativity and design that can be utilized in running or developing a business.

Career Options

Design journalist, product designer, packaging designer, service system designer, service process analyst, creative director, sociopreneur.

Course Distribution

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

Additional Information

None

12. Minor Program: Content Creation

Introduction

You've probably heard it by now: Content is king. But why? Those days Consumers are going online, marketing has gone digital, and content creation is more important now than ever. Content creation encapsulates copywriting, design, production and other media that provide value and connect you to your target audience. Matching search intent and providing value (to the consumer and brand) is the foundation of successful content creation. Content creators produce work on a variety of platforms including social media, blogs, podcasts, video platforms, case studies, white papers, infographics and more.

Career Options

Content Creator, Influencer, Social media Specialist.

Course Distribution

Fundamental Courses

Course		SCU
FILM6105009	Filmmaking Fundamental	4
MKTG6336055	Content Marketing Analytics	4
DSIN6042053	Photography for Creators	2
	Total SCU	10

Supporting Courses

Course		SCU
DSIN6094053	Content Storytelling	4
DSIN6043053	Strategic Influence	2
DSIN6041053	Introduction to Visual Communication Design	4
	Total SCU	**10**

Additional Information

None

13. Minor Program: Immersive Journey to Japanese Language and Culture

Introduction

Immersive Journey to Japanese Language and Culture Minor program is focused on the basic learning of the Japanese language (equivalent to N5 or corresponding to CEFR levels A1 to A2). This includes an understanding of Japanese characters (Hiragana, Katakana, basic Kanji) and grammar. Additionally, it encompasses the comprehension of reading and listening skills in Japanese, covering vocabulary, phrases, and simple sentences. This program also includes the development of basic writing and speaking skills in Japanese.

Upon completion of this minor, students will be prepared to read Japanese written in Hiragana, Katakana, and basic Kanji, as well as understand everyday conversations in the Japanese language. Subsequently, students will be equipped to engage in basic-level Japanese speaking and writing.

The outcomes of this minor, built upon a foundation of basic Japanese language proficiency, will benefit students who plan to study abroad in Japan, travel to Japan, or pursue interests and hobbies related to Japan.

Career Options

Working in Japan, either in Indonesia or Japan, in the following fields as Consultant, Front Office, Tour Guide, Secretary, Finance, HR, Industry Creative (Content creator, dubber, cosplayer).

Course Distribution

Fundamental Courses

Course		SCU
JAPN6221025	Essential Japanese Grammar (*Yoku Tsukaeru Bunpou*)	4
JAPN6222025	Survival Japanese in Various Situations (*Nihon E Ikou, Yasashii Kaiwa De*)	4
JAPN6223025	Ideas and Images of Japan (*Nihon Jijou*)	2
	Total SCU	**10**

Supporting Courses

Course		SCU
JAPN6224025	Japanese Reading Comprehension (*Tanoshiku Yomou*)	4
JAPN6225025	Understanding Native Japanese Speakers (*Tanoshiku Kikou*)	2
JAPN6226025	Japanese N5 Level Certification Preparation (*Nihongo Charenji N5*)	4
	Total SCU	**10**

Additional Information

None

14. Minor Program: Metaverse in Business

Introduction

The objective of the Metaverse in Business minor program in general is to offer a new learning experience in business innovation in the digital world. After completing the Metaverse in Business minor program, students will be able to design Virtual Reality applications so that they are able to present users in a virtual world, as if they are in another place, and develop Augmented Reality applications to present virtual effects in the real world.

Career Options

AR/VR Designer, AR/VR Developer, AR/VR Engineer, AR/VR Researcher.

Course Distribution

Fundamental Courses

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

Supporting Courses

Course		SCU
ISYS6778052	Data Analytics	2
DSGN6981053	Design Thinking	4
DSGN6980053	Interface Design	4
	Total SCU	**10**

Additional Information

None

15. Minor Program: Global Business

Introduction

The Global Business minor program is designed for students who aspire to integrate creativity, business acumen, and technological expertise in a global context. This program equips students with essential knowledge and skills in digital business innovation, creative industry management, and emerging technologies. Students will explore topics such as digital entrepreneurship, creative content monetization, business model innovation, and the application of advanced technologies like artificial intelligence, blockchain, and immersive media in creative industries. By combining business strategy with technological advancements, this minor prepares students to become agile professionals capable of navigating and leading in the evolving global marketplace. This program is ideal for students from various disciplines who wish to enhance their competencies in creative business and technology, fostering interdisciplinary innovation and international competitiveness.

Career Options

Digital Business Strategist, Creative Entrepreneur, Digital Marketing Specialist, UX/UI Designer, Tech-Driven Product Manager, Creative Industry Manager, E-commerce & Content Monetization Expert, Brand & Digital Experience Manager, Creative Technologist.

Course Distribution

Fundamental Courses

Course		SCU
DSIN6142066	Global Interactive Design	4
BUSS6275061	E-Commerce and Digital Entrepreneurship	4
COSC6159060	Emerging Technologies in Global Business	4
ISYS6997064	Data Analytics For Global Business	4
TRDE6001065	Global Regulatory Environment	4
	Total SCU	**10**

Additional Information

Open a maximum of 2 classes per batch per semester, with each class accommodating up to 30 students.

Appendix: Free Electives (5th Semester)

Students will receive information about Free Electives during the registration period.
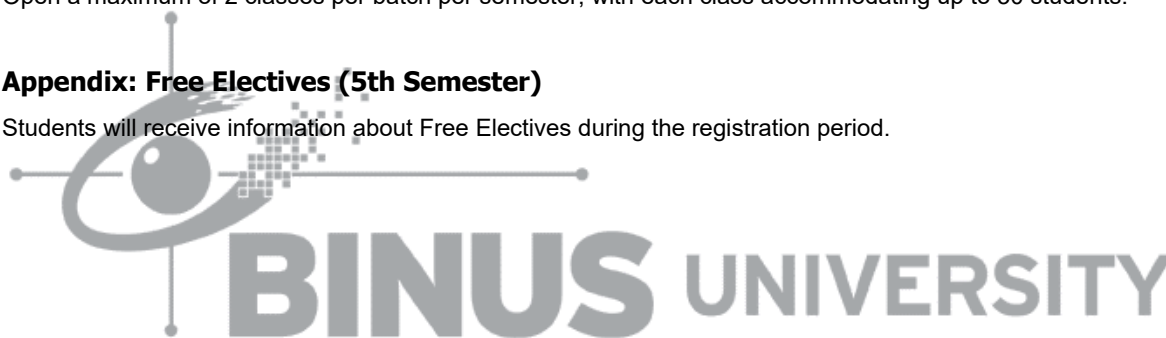
Enrichment Program I (6th Semester) & Enrichment Program II (7th Semester):

-) *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			
BTEC6023056	Instrumentation in Bioindustry	8	20
BTEC6024056	Industrial Experience	8	
BTEC6025056	Scientific Ethics and Effective Communication	4	
Enrichment Program II			
BTEC6026056	Professionalism & Leadership	4	20
BTEC6027056	Technical Skills in Biotechnology Industry	8	
BTEC6028056	Scientific Writing in Biotechnology	8	

Certified Research Track

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

Certified Entrepreneurship Track

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

Code	Course Name	SCU	Total
Enrichment Program II			
CMDV6404056	Professionalism and Leadership	4	
CMDV6405056	Problem Solving for Community Project	8	20
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	
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	20
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 Indenpendent Study Track

Code	Course Name	SCU	Total
Elective courses list for Specific Indenpendent 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	**20**
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	

Code	Course Name	SCU	Total
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	
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 Study Program

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.	ENPR6312001	Venture Creation	C
Stream Courses			
7.	BTEC6015056	Plant Biotechnology	C
8.	BTEC6016056	Marine Biotechnology*	C

*) Tutorial