Computer Science

Introduction

In the new millennium and the global era, the role of information and automation in the various domains and activities of the business industry are becoming more important. The successes of the activities are determined by how computer science can support in managing the information. Information must be up-to-date, accurate and comprehensive to allow decision makers to determine the enterprise's strategy. Furthermore, automation can facilitate human activity, accelerate the pace of work and make it more effective and efficient, while also increasing productivity in various activities. The development of communication and computer technology has made it possible to get information that is rapid, exact, and accurate. It also increases the application of automation in various fields such as industry, business, office affairs and development of science and technology.

Computer Science Undergraduate Study Program Bina Nusantara University Malang is one of the Study Programs of School of Computer Science Bina Nusantara University Jakarta. This study program focuses on learning process in the field of computer science with a Sarjana Komputer (S.Kom.) Academic Degree. The learning process is managed within 4 years by the 2 + 1 + 1 Program. The learning process in the first to third semesters is carried out in Malang Campus, East Java. The students then have the opportunity to study at Bina Nusantara Jakarta campus for a year, in the fourth and fifth semesters as part of the Mobility Program. Students also have the opportunity to enrich their learning with various partners of Bina Nusantara University for one year in the sixth and seventh semesters through Enrichment Program. The Enrichment Program offers seven optional tracks: Certified Internship, Certified Entrepreneurship, Certified Research, Certified Community Development, Certified Study Abroad, Certified Specific Independent Study, and Further Study. On the last semester every student takes a thesis as final course and will be guided by Faculty Member at Bina Nusantara University Malang. Computer Science Study Program at Bina Nusantara University @Malang campus emphasizes the processes, techniques, and tools that go into developing computer-based systems.

Vision

A world class study program by providing excellent educational experiences in computer science, fostering and empowering the society in building and serving the nation through digital technology and technopreneur.

Mission

The mission of Computer Science Department is to contribute to the global community through the provision of world-class education by:
1. Educating students to effectively apply their educational experiences in computer science to solve real-world problems through digital technology and technopreneur approach.
2. Preparing our graduates to develop examplary soft skills & technical skills required as ICT professionals, leaders and entrepreneurs in global market.
3. Promoting high impact research that contributes to the nation in digital technology themes.
4. Fostering BINUSIAN as lifelong learners through self-enrichment.
5. Empowering BINUSIAN to continuously improve and society's quality of life through digital technology and technopreneur approach.

Program Objective

The objectives of the program are:
1. Graduates will become successful professionals in ICT fields;
2. Graduates will obtain employment in global companies or become entrepreneurs;
3. Graduates will obtain professional certification or continue their study to the postgraduate level

Student Outcomes

After completing the study, graduates are:

1. Able to analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions
2. Able to design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of computer science
3. Able to communicate effectively in a variety of professional contexts
4. Able to recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles
5. Able to function effectively as a member or leader of a team engaged in activities appropriate to computer science
6. Able to apply computer science theory and software development fundamentals to produce computing-based solutions

Prospective Career of the Graduates

After finishing the program, the graduate of Computer Science Program could follow a career as:

1. Analyst

2. Developer

3. Entrepreneur

Curriculum

The curriculum of the Computer Science Study Program has been developed in line with the National Curriculum. Also, the local content has been developed in line with the Computer Science Curriculum standard of ACM (Association for Computing Machinery), several local and foreign universities, and market trends, so that the graduates of the Computer Science are expected to be able to face competition at both a national and international level.
Generally, the subjects of the curriculum are divided into these following groups of subjects:

Mathematics Group (Science)
The objective of this group is to provide an understanding of mathematics as one of the principal foundations of computer science. Another objective is to give an understanding of scientific methodology (data collection, hypothesis, research, analysis) in problem solving.

Character Building Group (Professional Practices)
The objective of this group is to develop the personal strengths of the student and to provide him or her with a professional character, professionalism in their field, management skills, oral and written communication skills, understanding of business ethic, ability to work as a team, and to develop a "Binusian" Character.

Core Group
The objective of this group is to provide a grounding in Computer Science through practice as well as applied theory which is required by business both now and in the future. The subjects that are included in this group are programming, algorithm design and analysis, software engineering, database systems, computer graphics, multimedia technology, human and computer interaction, operation systems, computer architecture, and computer network.

Streaming
All campuses of Computer Science Undergraduate Study Program Bina Nusantara University have the same core courses to ensure the main competency standards in Computer Science. However, every student also has the opportunity to enrich into various streaming in the fourth and fifth semesters. There are 12 streaming (specialization) options for students of Computer Science Undergraduate Study Program Bina Nusantara University Malang, namely Digital Creative Technology, Immersive technology, Intelligent System, Database Technology, Network Technology, Network Security, Game Technology, Mobile Technology, Interactive Multimedia, Software Engineering, Data Science, and Internet of Things.

Streaming BINUS @Malang Campus

- **Digital Creative Technology:** Focus on smart software application development based on big data analytics regarding business innovation and digital transformation on Industry 4.0. era (**Digital Business Innovation and Transformation**).
- **Immersive Technology:** Focus on development of immersive technology-based solutions supported by AR (Augmented Reality), VR (Virtual Reality), and XR (Extended Reality) technologies.

Streaming BINUS @Greater Jakarta Campus

- **Intelligent System:** Focus on smart software development through complex algoritm based on Artificial Intelligence to solve problem.
- **Database Technology:** Focus on software development through database technology for business operation and business analytics and business intelligent.
- **Network Technology:** Focus on software development on computer network through computer network design and computer network programming.
- **Network Security:** Focus on secure software development through secure computer network design and secure computer network programming.
- **Game Technology:** Focus on interactive software development through game art, game design and game programming for entertainment and business solution.
- **Mobile Technology:** Focus on software development through *mobile* devices platform.
- **Interactive Multimedia:** Focus in exploring interactive multimedia applications based on computer programming, design tools, and software engine.
- **Software Engineering:** Focus on development of software through software architecture, various methodologies and software engineering equipment.
- **Data Science:** Focus on exploring the latest technologies and various tools in finding solutions and reaching conclusions based on Data.

Streaming BINUS @Bandung Campus

- **Cloud Technology:** Focus on various techiniques for cloud management, especially managing the network and computing services.
- **Internet of Things:** Focus on various techniques and implementation of IoT.

Course Structure

Sem	Code	Course Name	SCU	Total
1	CHAR6030002	Character Building: Pancasila	2	20
	MATH6118004	Discrete Mathematics	4	
	MATH6119004	Linear Algebra	2	
	COMP6764004	Basic Statistics	2	
	COMP6360004	Algorithm and Programming [2)]	4/2	
	COMP6840004	Program Design Methods [1)]	2	
	LANG6117004	Indonesian	2	
		Foreign Language Courses [3)]	0	
2	CHAR6031004	Character Building: Kewarganegaraan	2	20
	COMP6362004	Data Structures [1), 2)]	4/2	
	MATH6120004	Calculus	4	
	MATH6193004	Scientific Computing	2/1	
	COMP6851004	Human and Computer Interaction [2)]	2/1	
	ENTR6520002	Entrepreneurship: Prototyping	2	
		Foreign Language Courses [3)]	0	
3	CHAR6032004	Character Building: Agama	2	21
	COMP6365004	Algorithm Design and Analysis [1)]	4	

Sem	Code	Course Name	SCU	Total
	CPEN6250004	Computer Networks	2/1	
	SCIE6067004	Computational Physics	2/1	
	COMP6852004	Database Technology **2)**	2/1	
	COMP6853004	Artificial Intelligence **2)**	4	
	COMP6854004	Object Oriented Programming **1), 2)**	2	
	Foreign Language Courses 3)		0	
4	COMP6712004	Research Methodology in Computer Science **1)**	2	• Total SCU of Streaming Mobile Technology: 18 • Total SCU of Streaming Game Technology, Network Security, Mobile, Data Science, & Cloud Technology: 19 • Total SCU of Streaming Digital Creative Technology, Immersive Technology, Internet of Things, Intelligent System, Database technology, Interactive Multimedia, Network Technology, Software Engineering, & Game Technology: 21 • Total SCU of Minor Program Malang: 19 • Total SCU of Minor Program Jakarta, Bandung, Semarang Free Electives5,6) :17 • Cummulative SCU of Streaming Mobile Technology: 79 • Cumulative SCU of Streaming Game Technology, Network Security, Data Science, Cloud Technology: 80 • Cumulative SCU of Streaming Digital Creative Technology, Immersive Technology, Internet of Things, Intelligent System, Database technology, Interactive Multimedia, Network Technology, Software Engineering, Mobile and Game Technology: 82 • Cumulative SCU of Minor Program Malang: 80
	SCIE6068004	Computational Biology	2/1	
	COMP6855004	Software Engineering **2)**	4	
	COMP6955004	Database Design	2	
	Streaming: Digital Creative Technology 4)			
	COMP6679004	Web Programming **2)**	4	
	COSC6109004	Popular Programming Technology **1)**	4	
	COSC6001004	User Experience	2	
	Streaming: Immersive Technology 4)			
	COSC6002004	User Experience for Digital Immersive Technology	2	
	COSC6003004	Multimedia and 3D Modelling	2/2	
	COSC6004004	3D Web Programming	2/2	
	Streaming: Internet Of Things 5)			
	COMP6849031	Embedded System	2/2	
	COMP6850031	Multimedia & Mixed Reality	2/1	
	MOBI6072031	Mobile Programming	2/1	
	COMP6655031	Cyber Security in IoT	2	
	Streaming: Cloud Technology 5)			
	COMP6988031	Introduction to Cloud Computing	2/2	
	COMP6989031	Web Based Programming	2/2	
	COMP6990031	Introduction to Cloud security	2	
	Streaming: Intelligent System 6)			
	COMP6885001	Natural Language Processing **1), 2)**	2/2	
	COMP6577001	Machine Learning	4	
	COMP6822001	Speech Recognition	2/2	
	Streaming: Database Technology 6)			
	COMP6481001	Database Design	2/1	
	COMP6579001	Big Data Processing 1), 2)	2/2	
	COMP6710001	Distributed Cloud Computing	2/1	
	COMP6886001	Data Analytics	2	
	Streaming: Interactive Multimedia6)			
	COMP8129001	User Experience1), 2)	2/2	
	COMP6823001	Multimedia System2)	2	
	COMP7094001	Multimedia Programming Foundation1)	2/2	

Sem	Code	Course Name	SCU	Total
	COMP7128001	Game Design	2	▪ Cumulative SCU of Minor Program Jakarta, Bandung, Semarang, Free Electives: 78
	Streaming: Network Technology [6]			
	COMP6824001	Computer Security [1]	2/2	
	COMP6584001	Network and System Programming [1], [2]	2/2	
	COMP6827001	Linux System Administration and Security	2/2	
	Streaming: Software Engineering [6]			
	COMP6106001	Code Reengineering	4	
	COMP6114001	Pattern Software Design	2/2	
	COMP6884001	Agile Software Development [1], [2]	4	
	Streaming: Game Technology [6]			
	GAME6069001	Game Programming [1], [2]	4	
	GAME6082001	Game Animation [1], [2]	2	
	MOBI6006001	Mobile Community Solution [1], [2]	2/2	
	Streaming: Mobile Technology [6]			
	COMP6823001	Multimedia Systems [2]	2	
	MOBI6006001	Mobile Community Solution [1], [2]	2/2	
	MOBI6069001	Wearable Technology [1], [2]	3	
	Streaming: Data Science [6]			
	DTSC6013001	Data Mining and Visualization [1], [2]	2	
	DTSC6011001	Survey and Sampling Methods	2	
	COMP6577001	Machine Learning	4	
	DTSC6003001	Big Data Infrastructure and Technology [1]	2	
	Streaming: Network Security [6]			
	COMP6842001	Server and Network Administration [1], [2]	2	
	COMP6549001	Software Security [1], [2]	2	
	COMP6844001	Mobile Penetration Testing [2]	2/2	
	LAWS6110001	Cyber Law	2	
	Streaming: Mobile And Game Technology [7]			
	COMP6897051	Game Design & Programming	2/2	
	COMP6898051	User Experience [2]	2	
	COMP6899051	Machine Learning	2	
	COMP6900051	Mobile Embedded Systems	4	
	Foreign Language Courses [3]		0	
	Minor Program		8	
	Free Electives [6]		8	
5	COMP6390004	Compilation Techniques	4	▪ Total SCU of Streaming Mobile Technology: 21 ▪ Total SCU of Streaming : Cloud Technology, Game Technology, Data Science, Network Security: 20
	COMP6713004	Operating System	2	
	ENTR6521002	Entrepreneurship: Market Validation	2	
	Streaming: Digital Creative Technology [4]			
	COMP6678004	Big Data Analytics for Business	4	
	MOBI6063004	Mobile Application Programming [2]	4	

Sem	Code	Course Name	SCU	Total
	COSC6005004	Agile Software Development	2	• Total SCU of Streaming Digital Creative Technology, Immersive Technology, Internet of Things, Intelligent Systems, Database Technology, Interactive Multimedia, Network Technology, Software Engineering, Mobile and Game Technology: 18
	Streaming: Immersive Technology [4]			
	COSC6006004	Augmented Reality Application Programming	2/2	
	COSC6007004	Virtual Reality Application Programming	2/2	
	COSC6008004	Immersive Technology Capstone Project	2	
	Streaming: Internet Of Things [5]			
	COMP6757031	Computer vision in IoT	2/2	
	COMP6882031	IoT Development and Architecture	2/2	• Total SCU of Minor Malang: 20
	Elective Course		2	• Total SCU of Minor Jakarta,Bandung, Semarang, Free Electives: 22
	Streaming: Cloud Technology[5]			
	COMP6991031	Cloud Services	2/2	
	COMP6992031	Software Development Operations in Cloud Environments	2	
	COMP6993031	Application Development in Cloud	2/2	• Cumulative SCU of Streaming : Digital Creative Technology, Immersive Technology, Internet of Things, Intelligent Systems, Database Technology, Interactive Multimedia, Network Technology, Software Engineering, Mobile and Game Technology, Cloud Technology, Game Technology, Data Science, Network Security, Mobile Technology: 100
	Elective Course		2	
	Streaming: Intelligent System [6]			
	COMP6822001	Speech Recognition	2/2	
	COMP6826001	Deep Learning	2/2	
	Elective Course		2	
	Streaming: Database Technology [6]			
	COMP6590001	Geographical Information System [1]	2/2	
	COMP6140001	Data Mining	2/2	
	Elective Course		2	
	Streaming: Interactive Multimedia [6]			
	COMP6583001	Computer Graphics	2/2	• Cumulative SCU of Minor Program, Free Electives: 100
	COMP7139001	Game Programming	4	
	Elective Course		2	
	Streaming: Network Technology [6]			
	COSC6104001	Cloud Interfacing with Virtualization	2/2	
	COSC6105001	Cloud Native Applications	2/2	
	Elective Course		2	
	Streaming: Software Engineering [6]			
	COSC6102001	Software Metrics and Quality assurance	2/2	
	COSC6103001	Mobile Technology Solution2	2/2	
	Elective Course		2	
	Streaming: Game Technology [6]			
	GAME6093001	Serious Game & Gamification	2	
	GAME6084001	Game Development Capstone Project [1,2]	4	
	GAME6071001	3D Modeling for Games [1,2]	2	
	GAME6092001	Fundamental in Game Balancing	2	
	GAME6091001	Advanced Game Development	2	

Sem	Code	Course Name	SCU	Total
	Streaming: Mobile Technology [6]			
	MOB6026001	Mobile Cloud Computing [1]	2/2	
	MOBI6009001	Mobile Multimedia Solution [2]	2/2	
	MOBI6068001	Web Design [1], [2]	2	
	MOBI6070001	Embedded System and Internet of Things [1], [2]	3	
	Streaming: Data Science [6]			
	DTSC6010001	Bayesian Data Analysis	2	
	COMP6826001	Deep Learning	2/2	
	DTSC6002001	Data Management and Organization [1]	2	
	DTSC6008001	Text Mining	2	
	DTSC6004001	Data Security	2	
	Streaming: Network Security [6]			
	COMP6544001	Network Penetration Testing [2]	2/2	
	COMP6695001	Secure Programming [1], [2]	2	
	COMP6843001	Reverse Engineering and Binary Exploitation	2	
	COMP6646001	Computer Forensic [1], [2]	2	
	COMP6873001	Blockchain Fundamental	2	
	Streaming: Mobile And Game Technology [7]			
	COMP6903051	Computer Vision	2/2	
	COMP6905051	Mobile and Game Development Capstone Project	4	
	Elective Course [9&11]			
	COMP6921031	Web Development	2	
	COMP6922031	Cloud Computing	2	
	Elective Course [10&11]			
	COSC6009031	Mobile Programming	2	
	COSC6010031	Embedded Systems	2	
	Elective Course [8]			
	MOBI6059001	Mobile Programming	2	
	COMP6586001	Embedded Systems	2	
	COMP6226001	Competitive Programming [1]	2	
	COMP6681001	Web Programming	2	
	COSC6065001	Nework Security Fundamental	2	
	COSC6101001	Mobile Professional Solution	2	
	General Course [12]			
	COMP6923051	Hybrid Application Development	2	
	Minor Program		12	
	Free Electives [6]		12	
6	Enrichment Program I		20	Total SCU: 20 Cumulative SCU: 120
7	Enrichment Program II		20	Total SCU: 20 Cumulative SCU: 140

Sem	Code	Course Name	SCU	Total
8	COMP6747004	Pre-Thesis	2	Total SCU: 6
	COMP6748004	Thesis	4	
	COMP6872004	Thesis	6	
				Total Credits 146 SCU

1) This course is delivered in English
2) Global Learning System course
3) Students will take foreign language courses according to BINUS University English proficiency test results. See foreign language courses appendix for the detail.
4) Conducted in BINUS@Malang
5) Conducted in BINUS@Bandung
6) Conducted in BINUS@Greater Jakarta
7) Conducted in BINUS@Semarang
*) Students choosing stream/minor in @Malang must take general course Database Design in semester 4. Students undertaking mobility (Jakarta/Bandung) are required to take a general course/FE (2 SCU) on the host campus in semester 5.
8) Students will choose 1 course (2 credits) from the list of elective courses who enrolled in Computer Science BINUS@Bandung in semester 5
9) Students will choose 1 course (2 credits) from the list of elective courses for Streaming Software Engineering, Intelligent Systems, Interactive Multimedia, Database Technology, Network Technology, Minor Program, Free Electives, and Multidisciplinary Stream at Jakarta in semester 5

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

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

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:

Group	Foreign Language Courses		SCU
MKB	ENGL6268002	English for Frontrunners	0
MKB	ENGL6269002	English for Independent Users	0
MKB	ENGL6267002	English for Professionals	0
MKB	JAPN6208002	Basic Japanese Language	0
MKB	CHIN6185002	Basic Chinese Language	0

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 and choose 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 4	Semester 5
Minor @ Binus Kemanggisan		
Digital Ecosystem	V	V
Human Capital in Digital Workplace	V	V
Sustainable Development	V	V
Cross Cultural Communication	V	V
Interactive & Users Experience Design	V	V
Data Analytics	V	V
Robotic Process Automation	V	V
Event Business and Entertainment	V	V
Creative Digital Storytelling	V	V
Digital Banking	V	V
Blockchain Technology and Business	V	V
Minor @ Binus Alam Sutera		
Digital Transformation	V	V
Minor @ Binus Bekasi		
Virtual Services Experience	V	V
Culinary	V	V
Minor @ Binus Malang		
Digital Technopreneur	V	V
Minor @ Binus Bandung		
DesignPreneur	V	V
Minor @ Binus Semarang		
Metaverse in Business	V	V
Content Creation	V	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: 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**

Supporting Courses

Course		SCU
COMM6501019	Narative Development	4
DSGN6834007	Visual Identity	4

COMP6685001	Cyber Security for Business	2
	Total SCU	**10**

2. Minor Program: Human Capital in Digital Workplace

Fundamental Courses

	Course	SCU
PSYC6174027	Psychology in The Workplace	4
MGMT6349005	Digital Workplace Strategy	4
ISYS6551003	Digital Workplace and Technology	4
LAWS6157028	Legal Aspects in Digital Workplace	4
PSYC6175027	Human Resources Development	4
	Total SCU	**20**

3. Minor Program: 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**

Supporting Courses

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

4. Minor Program: Cross Cultural Communication

Fundamental Courses

	Course	SCU
CHIN6132026	Chinese Conversation in Daily Activities	4
COMM6502019	Communication in Diversity	2
BUSS6170025	Asian Business Ethics	4
	Total SCU	**10**

Supporting Courses

	Course	SCU
CHIN6134026	Chinese Conversation in Business Communication	4
LAWS6158028	Private International Law	2
INTR6135029	Comparative Politics	4
	Total SCU	**10**

5. Minor Program: 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**

Supporting Courses

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

6. Minor Program: 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**

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**

7. Minor Program: Robotic Process Automation

Fundamental Courses

Course		SCU
COMP6857001	Basic Programming for Automation	2
COMP6858001	RPA Concept & Design	2
ISYS6684003	RPA Developer Fundamental	4
ISYS6687003	Business Process Improvement	2
	Total SCU	**10**

Supporting Courses

Course		SCU
ISYS6685003	RPA Developer Advance	4

Course		SCU
ISYS6686003	RPA Business Analytics Fundamental	4
COMP6859001	Intelligence Automation	2
	Total SCU	10

8. Minor Program: Event Business and Entertainment

Fundamental Courses

Course		SCU
HTMN6151021	Event Marketing Management	2
HTMN6152021	Catering Management	4
TRSM6232022	MICE (Meeting, Incentive, Convention, Exhibition) Management	4
	Total SCU	10

Supporting Courses

Course		SCU
TRSM6233022	Event Sponsorship and Funding	2
TRSM6234022	Sport and Entertainment Event Management	4
TRSM6235022	Festival & Cultural Event	4
	Total SCU	10

9. Minor Program: Creative Digital Storytelling

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

10. Minor Program: Digital Banking

Fundamental Courses

Course		SCU
ISYS6824003	Technology Innovation in Banking	2
FINC6217020	Bank Risk Management in the Digital Era	4

Course		SCU
FINC6218020	Digital Finance and The Role of Central Bank	4
	Total SCU	**10**

Supporting Courses

Course		SCU
MGMT6510005	Business Process Management in Banking and Finance	4
ISYS6825003	Data Analytics in Banking and Finance	4
MGMT6511005	Digital Leadership	2
	Total SCU	**10**

11. Minor Program: Blockchain Technology and Business

Fundamental Courses

Course		SCU
ISYS6826003	Introduction to Blockchain Technology	4
ISYS6827003	Blockchain Economy & Business	4
DTSC6016001	Basic Blockchain Programming	2
	Total SCU	**10**

Supporting Courses

Course		SCU
ISYS6828003	Blockchain Architecture Design and Implementation	4
DTSC6017001	Advanced Blockchain Programming	2
DTSC6018001	Prototyping Blockchain Project	4
	Total SCU	**10**

12. Minor Program: 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**

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**

13. Minor Program: 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**

Supporting Courses

Course		SCU
ISYS6562003	Virtual Market Place	4
HTMN6082021	Virtual Hospitality Management	4
ISYS6563003	Seminar on Virtual Services	2
	Total SCU	**10**

14. Minor Program: Culinary

Fundamental Courses

Course		SCU
HTMN6108021	Food and Beverage Management	2
HTMN6008021	Kitchen Operation	4
HTMN6128021	Pastry and Bakery Operation	4
	Total SCU	**10**

SCU for HTMN6008021, HTMN6128021 are practical

Supporting Courses

Course		SCU
HTMN6155021	Indonesian Cuisine	4
HTMN6125021	Restaurant Operation	4
HTMN6154021	Culinary Tourism	2
	Total SCU	**10**

SCU for HTMN6155021, HTMN6125021 are practical

15. Minor Program: 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**

16. Minor Program: 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**

17. Minor Program: Metaverse in Business

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**

18. Minor Program: Content Creation

Fundamental Courses

Course		SCU
FILM6105009	Filmmaking Fundamental	4
MKTG6392055	Digital marketing	4
DSIN6042053	Photography for Creators	2
	Total SCU	**10**

Supporting Courses

Course		SCU
DSGN6990053	Creative Storytelling	4
DSIN6043053	Strategic Influence	2
DSIN6041053	Introduction to Visual Communication Design	4
	Total SCU	**10**

Appendix: Free Electives

No	Course Owner Department	Course Category	Course Code	Course Name	SCU	Semester
1	Business Creation	MKK	ENTR6580005	Digital Business Transformation	2	4
2	Business Creation	MKB	ENTR6494005	Managing Growing Business	2	5
3	Business Management	MKB	MGMT6401005	Digital Supply Chain Management	2	4
4	Business Management	MKB	MKTG6298005	Service Marketing Management	2	4
5	Business Management	MKB	MGMT6365005	Current Issue in Service Business and Technology	2	5
6	International Business Management	MKB	BUSS6162005	Market Entry Strategy	2	4
7	International Business Management	MKB	MGMT6370005	E-Business for International Business	2	5
8	Management	MKB	BUSS6088005	Current Issue in Business and Technology	2	4
9	Management	MKB	BUSS6109005	Business Development	4	4
10	Management	MKB	BUSS6173005	Managing Innovation and Knowledge	4	4
11	Management	MKB	ISYS6079005	E-Business System	4	4
12	Management	MKB	MGMT6276005	Leadership & Managing Human Capital in Organization	4	4
13	Management	MKB	MGMT6374005	Analysis on E-Business Investment	4	4
14	Management	MKB	ISYS8175005	E-Business Strategy and Implementation	4	5
15	Management	MKB	MGMT6029005	Knowledge Management	2	5
16	Management	MKB	MGMT6063005	Strategic Management	2	5
17	Management	MKK	MGMT6297005	Operations Management	4	5
18	Management	MKB	MGMT6341005	Strategic Management	4	5
19	Accounting	MKB	ACCT6358020	Management Audit	4	4
20	Accounting Bekasi	MKB	ACCT6382020	Business Process Analysis and Solution	2	4
21	Accounting Bekasi	MKB	ACCT6389020	Big Data Analytics in Accounting & Finance	2	5
22	Marketing Communication	MKB	COMM6541019	Digital Corporate Communication	2/2	5
23	Marketing Communication	MKB	COMM6543019	Digital Brand Communicaton	2/2	5
24	Tourism	MKB	TRSM6208022	Tourism Innovation and Product Development	4	5
25	Civil Engineering	MKK	CIVL6025013	Hydrology	2	5
26	Civil Engineering	MKB	CIVL6035013	Airport Engineering	2	5
27	Civil Engineering	MKB	CIVL6037013	Railway Engineering	2	5
28	Civil Engineering	MKB	CIVL6080013	Construction Methods & Heavy Equipment	2	5
29	Civil Engineering	MKB	COMP6046013	Computer Applications in Construction Management	2	5
30	Computer Engineering	MKB	CPEN6126010	Cross Platform Application Development	4	5
31	Computer Engineering	MKB	CPEN6225010	Telco Network & Switching System	2	5
32	Computer Engineering	MKB	CPEN6232010	Cloud Technology Practice	2	5
33	Food Tech	MKK	FOOD6073015	Current Issues in Food Technology	2	4
34	Industrial Engineering	MKB	ISYE6041011	Engineering Economy	2	4
35	Industrial Engineering	MKB	ISYE6113011	Leadership & Organizational Behavior	2	4
36	Industrial Engineering	MKB	ISYE6181011	System Engineering & Analysis	2	4
37	Computer Science	MKB	COMP6586001	Embedded Systems	2	5

38	Computer Science	MKB	COMP6226001	Competitive Programming	2	5
39	Computer Science	MKB	MOBI6059001	Mobile Programming	2	5
40	Computer Science	MKB	COMP7116001	Computer Vision	2/2	5
41	Computer Science	MKB	COMP6821001	Web Programming	2	5
42	Computer Science	MKB	COMP6590001	Geographical Information System	2/2	5
43	Game Application and Technology	MKB	GAME6082001	Game Animation	2	4
44	Game Application and Technology	MKB	GAME6085001	Object Oriented Game Programming	2	5
45	Animation	MKB	DSGN6693007	Motion Graphic	4	4
46	Animation	MKB	DSGN6694007	Visual Effect (VFX)	4	4
47	Animation	MKB	DSGN6695007	Asset Creation	4	4
48	Animation	MKB	DSGN6689007	Concept Art & Production Design	2	5
49	Creative Advertising	MKB	DSGN6671007	Creative Writing for Commercials	4	4
50	Film	MKK	FILM6026009	History of Indonesian Cinema	2	4
51	New Media	MKB	DSGN6743007	Digital Graphic Reproduction	4	4
52	Interior Design	MKB	DSGN6611008	Business in Interior Design	2	4
53	Business Information Technology	MKB	ISYS6574003	Information Retrieval	4	4
54	Business Information Technology	MKB	ISYS6577003	Machine Learning & Foundations	2	4
55	Business Information Technology	MKB	ISYS6606003	Smart Application	2	4
56	Business Information Technology	MKB	ISYS6579003	Knowledge-Based AI: Cognitive Systems	4	5
57	Information Systems	MKB	BUSS6043003	Introduction to E-Business	4	4
58	Information Systems	MKB	ISYS6016003	Social Media Fundamental	2	4
59	Information Systems	MKB	ISYS6203003	Mobile Application Development	2/2	4
60	Information Systems	MKB	ISYS6210003	Data Visualization	2	4
61	Information Systems	MKB	ISYS6285003	Digital and New Media	2	4
62	Information Systems	MKB	ISYS6594003	Coding for Finance	2	4
63	Information Systems	MKB	ISYS6196003	Business Analytics	2	5
64	Information Systems	MKB	ISYS6199003	Data & Text Mining	4	5
65	Information Systems	MKB	ISYS6202003	Social Informatics	4	5
66	Information Systems	MKB	ISYS6289003	Collaborative Computing	4	5
67	Information Systems	MKB	ISYS6402003	Business Analytics	2/2	5
68	Information Systems	MKB	ISYS8066003	Business Process Management	4	5
69	Information Systems Accounting & Auditing	MKB	ISYS6608003	IT Service & Risk Management	2	5
70	Data Science	MKB	DTSC6007001	Deep Learning	2	4
71	Data Science	MKB	DTSC6008001	Text Mining	2	5
72	Cyber Security	MKB	COMP6646001	Computer Forensic	2	5
73	Mobile Application & Technology	MKB	MOBI6068001	Web Design	2	5
74	International Relations	MKB	INTR8043029	International Media and State Role	4	4
75	International Relations	MKB	INTR6162029	Multiculturalism and Digital Society	2	5
76	Business Law	MKB	LAWS6017028	Intellectual Property Rights	4	4
77	Business Law	MKB	LAWS6110028	Cyber Law	2	4
78	Business Law	MKB	LAWS6171028	Business Competition & Consumer Protection Law	2	4
79	Business Law	MKB	LAWS6052028	Bankruptcy Law	2	5
80	Business Law	MKK	LAWS6167028	Legal Philosophy & Professional Ethics	2	5
81	Business Law	MKB	LAWS6176028	Tax Law	2	5
82	Chinese Literature	MKB	CHIN6157026	Chinese Business for Etiquette (Beginner)	4	4
83	Chinese Literature	MKB	CHIN6157026	Chinese Business for Etiquette (Beginner)	4	5
84	English Literature	MKB	ENGL6169024	English for Professionals	2	4

85	English Literature	MKB	SOCS6021024	Social and Digital Media Writing	2	4
86	English Literature	MKB	ENGL6244024	Social Media Broadcasting	4	5
87	Primary Teacher Education	MKB	EDUC6018030	Micro Teaching	4	4
88	Primary Teacher Education	MKB	EDUC6041030	Current Issues in Primary Education	2	4
89	Primary Teacher Education	MKB	EDUC6062030	International and National Curriculum	2	4
90	Primary Teacher Education	MKB	EDUC6033030	Physical Education	2	5
91	Primary Teacher Education	MKB	EDUC6061030	ICT for Distance Learning	2	5
92	Psychology	MKB	PSYC6124027	Psychology of Early Childhood Education	4	4
93	Psychology	MKB	PSYC6125027	Psychology of Special Needs Education	4	4
94	Psychology	MKB	PSYC6130027	Human Performance Technology	4	4
95	Business Creation	MKK	ENTR6580005	Digital Business Transformation	2	4
96	Business Creation	MKB	ENTR6494005	Managing Growing Business	2	5
97	Business Management	MKB	MGMT6401005	Digital Supply Chain Management	2	4
98	Business Management	MKB	MKTG6298005	Service Marketing Management	2	4
99	Business Management	MKB	MGMT6365005	Current Issue in Service Business and Technology	2	5
100	International Business Management	MKB	BUSS6162005	Market Entry Strategy	2	4

Enrichment Track Scheme

Track scheme for semester 6 and semester 7

Track	Semester 6							Semester 7							
	IN	RS	EN	CD	SA	IS	etc	IN	RS	EN	CD	SA	IS	FS	etc
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			

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

Students who failed in Enrichment Program I can retake with the same track or change into another track. As for Enrichment Program II, student who failed with Internship, Research, Community Development, and Study Abroad track on Enrichment Program II, can retake with the same track or change into another track. However students who take Entrepreneurship track on Enrichment Program II, should retake with another track.

CERTIFIED INTERNSHIP TRACK
Enrichment Program I

Group	Course		SCU
MKB	COMP6930004	Industrial Experience in Information Technology	8
	COMP6931004	Information Technology Practice in Industrial Experience	8
	COMP6932004	EES in Information Technology Industry	4
		Total SCU	**20**

Enrichment Program II

Group	Course		SCU
MKB	COMP6933004	Professional Experience in Information Technology	8
	COMP6934004	Information Technology Practice in Professional Experience	8
	COMP6935004	Professional Development in Information Technology Industry	4
		Total SCU	**20**

CERTIFIED RESEARCH TRACK
Enrichment Program I

Group	Course		SCU
MKB	RSCH6089004	Research Experience I	8
	RSCH6573004	Scientific Writing I	8
	RSCH6091004	Global EES I (Team Work, Communication, Problem Solving & Decision Making)	4
		Total SCU	**20**

Enrichment Program II

Group	Course		SCU
MKB	RSCH6092004	Research Experience II	8
	RSCH4574004	Scientific Writing II	8
	RSCH6094004	Global EES II (Self-Management, Planning & Organizing, Initiative & Enterprise)	4
		Total SCU	**20**

CERTIFIED ENTREPRENEURSHIP TRACK
Enrichment Program I

Group		Course	SCU
MKB	ENPR6144004	New Venture Initiation in Computer Science	8
	ENPR6145004	Computer Science Product Development Process	8
	ENPR6146004	EES in New Computer Science Business I	4
		Total SCU	**20**

Enrichment Program II

Group		Course	SCU
MKB	ENPR6147004	Computer Science Product Launching	8
	ENPR6148004	Computer Science Business Development	8
	ENPR6149004	EES in New Computer Science Business II	4
		Total SCU	**20**

CERTIFIED COMMUNITY DEVELOPMENT TRACK

Enrichment Program I

Group		Course	SCU
MKB	CMDV6028004	Community Outreach Project Implementation	8
	CMDV6347004	Community Outreach Project Design	8
	CMDV6030004	Employability and Entrepreneurial Skills	4
		Total SCU	**20**

Enrichment Program II

Group		Course	SCU
MKB	CMDV6031004	Community Development Project Implementation	8
	CMDV6348004	Community Development Project Design	8
	CMDV6033004	Employability and Entrepreneurial Skills	4
		Total SCU	**20**

CERTIFIED STUDY ABROAD TRACK
Enrichment Program I

Group		Course	SCU
Elective courses list for study abroad*			
MKB	GLOB6093004	Elective Course for Study Abroad 1	4
	GLOB6094004	Elective Course for Study Abroad 2	4
	GLOB6095004	Elective Course for Study Abroad 3	4
	GLOB6096004	Elective Course for Study Abroad 4	4
	GLOB6257004	Elective Course for Study Abroad 25	4
	GLOB6258004	Elective Course for Study Abroad 26	2

	GLOB6259004	Elective Course for Study Abroad 27	2
	GLOB6097004	Elective Course for Study Abroad 5	2
	GLOB6098004	Elective Course for Study Abroad 6	2
	GLOB6099004	Elective Course for Study Abroad 7	2
	GLOB6100004	Elective Course for Study Abroad 8	2
	GLOB6101004	Elective Course for Study Abroad 9	2
	GLOB6102004	Elective Course for Study Abroad 10	2
	GLOB6103004	Elective Course for Study Abroad 11	2
	GLOB6104004	Elective Course for Study Abroad 12	2
Total SCU			**20**

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

Enrichment Program II

Group		Course	SCU
Elective courses list for study abroad*			
MKB	GLOB6105004	Elective Course for Study Abroad 13	4
	GLOB6106004	Elective Course for Study Abroad 14	4
	GLOB6107004	Elective Course for Study Abroad 15	4
	GLOB6108004	Elective Course for Study Abroad 16	4
	GLOB6286004	Elective Course for Study Abroad 28	4
	GLOB6287004	Elective Course for Study Abroad 29	2
	GLOB6288004	Elective Course for Study Abroad 30	2
	GLOB6109004	Elective Course for Study Abroad 17	2
	GLOB6110004	Elective Course for Study Abroad 18	2
	GLOB6111004	Elective Course for Study Abroad 19	2
	GLOB6112004	Elective Course for Study Abroad 20	2
	GLOB6113004	Elective Course for Study Abroad 21	2
	GLOB6114004	Elective Course for Study Abroad 22	2
	GLOB6115004	Elective Course for Study Abroad 23	2
	GLOB6116004	Elective Course for Study Abroad 24	2
Total SCU			**20**

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

CERTIFIED SPECIFIC INDEPENDENT STUDY

Group		Course	SCU
Elective courses list for certified specific independent study*			
MKB	MICR6145004	Course Certification I	3
	MICR6146004	Technical Skill Enrichment I	4
	MICR6147004	Industrial Project I	9
	MICR6148004	Soft Skill Enrichment I	4
	MICR6149004	Elective Course for Specific Independent Study 1	8
	MICR6150004	Elective Course for Specific Independent Study 2	8
	MICR6151004	Elective Course for Specific Independent Study 3	6
	MICR6152004	Elective Course for Specific Independent Study 4	6
	MICR6153004	Elective Course for Specific Independent Study 5	6

MICR6154004	Elective Course for Specific Independent Study 6	5
MICR6155004	Elective Course for Specific Independent Study 7	5
MICR6156004	Elective Course for Specific Independent Study 8	5
MICR6157004	Elective Course for Specific Independent Study 9	5
MICR6158004	Elective Course for Specific Independent Study 10	4
MICR6159004	Elective Course for Specific Independent Study 11	4
MICR6160004	Elective Course for Specific Independent Study 12	4
MICR6161004	Elective Course for Specific Independent Study 13	4
MICR6162004	Elective Course for Specific Independent Study 14	4
MICR6163004	Elective Course for Specific Independent Study 15	3
MICR6164004	Elective Course for Specific Independent Study 16	3
MICR6165004	Elective Course for Specific Independent Study 17	3
MICR6166004	Elective Course for Specific Independent Study 18	3
MICR6167004	Elective Course for Specific Independent Study 19	3
MICR6168004	Elective Course for Specific Independent Study 20	3
MICR6169004	Elective Course for Specific Independent Study 21	2
MICR6170004	Elective Course for Specific Independent Study 22	2
MICR6171004	Elective Course for Specific Independent Study 23	2
MICR6172004	Elective Course for Specific Independent Study 24	2
MICR6173004	Elective Course for Specific Independent Study 25	2
MICR6174004	Elective Course for Specific Independent Study 26	2
MICR6175004	Elective Course for Specific Independent Study 27	2
MICR6176004	Elective Course for Specific Independent Study 28	2
MICR6177004	Elective Course for Specific Independent Study 29	1
MICR6178004	Elective Course for Specific Independent Study 30	1
MICR6179004	Elective Course for Specific Independent Study 31	1
MICR6180004	Elective Course for Specific Independent Study 32	1
	Total SCU	**20**

) 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 outside BINUS University. Transferred courses will be transferred based on credit transfer policies on study program with total of 20 credits.

FURTHER STUDY TRACK

Enrichment Program II
Fast track M.MSI

Group		Course	SCU
MKB	ISYS6654003	Service Oriented Analysis and Design	4
	ISYS6655003	Change Management for Enterprise	4
	ISYS6656003	Digital Transformation Management	4
	ISYS6657003	Data Analytics for Research	4
	ISYS6660003	Visualization and Descriptive Analytics	4
		Total SCU	**20**

Fast track M.TI

Group		Course	SCU
MKB	COMP6815001	IT Disaster Recovery	4
	COMP6816001	Wireless and Cloud Computing Technologies	4
	COMP6817001	Internet Tools and Services	4
	COMP6818001	Cyber Risk Management	4
	COMP6819001	Knowledge Engineering	4
		Total SCU	**20**

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

No.	Course Code	Course Name	Minimal Grade
1.	CHAR603004	Character Building: Pancasila	B
2.	ENTR6521002	Entrepreneurship: Market Validation	C
3.	COMP6360004	Algorithm and Programming	C
4.	COMP6362004	Data Structures	C
5.	COMP6840004	Program Design Methods	C
6.	COMP6855004	Software Engineering	C
7.	COMP6852004	Database Technology	C
8.	COMP6716004	Operating System	C