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.

The Computer Science Program was founded in September 1987, under STMIK Bina Nusantara; it became one of the programs under the coordination of the Faculty of Computer Science, Bina Nusantara University in December 1998.

Computer Science Program, Bina Nusantara University @Bandung emphasizes the processes, techniques, and tools that go into developing computer-based systems, with specialities in Internet of Things(IoT), intelligent systems, software engineering, data base system, game technology, mobile technology and computer security.

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 and smart technology.

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 focus on smart technology and designpreneur 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 smart technology themes.
4. Fostering BINUSIAN as lifelong learners through self-enrichment.
5. Empowering BINUSIAN to continuously improve and society's quality of life through smart technology and designpreneur 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. Software Engineer/Developer
2. System Analyst/Developer
3. Web Engineer/Developer
4. Computer Network Specialist
5. Database Specialist
6. Artificial Intelligence Specialist
7. Data Scientist
8. IT Support/Consultant
9. Researcher
10. Multimedia Programmer
11. Lecturer/Trainer

Curriculum

The curriculum of the Computer Science 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 Program are expected to be able to face competition at both a national and international level.
Generally, the subjects of the curriculum 2019 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, databases systems, computer graphics, multimedia technology, human and computer interaction, operation systems, computer architecture, and computer network.

Concentration Subject (Stream)

The objective of this group is to give students the opportunity to obtain a deep understanding of a range of disciplines in computer science. The students are expected to develop their skills and master the techniques which will allow them to research both their thesis and/or to continue their studies.

The Concentration subjects (Stream) provide:

1. Internet of Things: to explore the various techniques and implementation of IoT
2. Digital Creative Technology: focuses on competencies' development in smart software application development field based on big data analytics to support business innovation through digital transformation in Industry 4.0 era (Digital Business Innovation and Transformation).
3. Intelligent Systems: to explore the various techniques of computer intelligence that can be applied to solving problem.
4. Database Technology: to explore the various techniques of database technology that can be applied to solving problem.
5. Interactive Multimedia: to explore computer interactive multimedia applications, based on computer programming, design tools, and software engine.
6. Network Technology: to explore computer networking which consists of installation, administration, and computer networking management.
7. Game Technology: to explore development of game applications, based on computer programming, design tools, and software engine.
8. Mobile Technology: to explore development of mobile applications.
9. Data Science: to explore various technology tools, statistics, and machine learning with the goal of discovering hidden patterns from the raw data. It can enhance productivity and create significant value.
10. Cyber Security: to explore specialized computer security related techniques and implementation
11. Software Engineering: to explore the various methodologies and software engineering equipment.

Entrepreneur and Employability Skill (Internship)

The objective of this group of subject is to prepare students with professional experience, work ethics and to experience the working environment. The students are expected to apply and to practice their knowledge in the real working area such as industry, research lab, and also an entrepreneur startup. They are also expected to give reports as the result of the subjects.

Course Structure

Sem	Code	Course Name	SCU	Total
1	CHAR6034031	Character Building: Pancasila	2	20
	MATH6128031	Discrete Mathematics	4	
	MATH6129031	Linear Algebra	2	
	STAT6190031	Basic Statistics	2	
	COMP6421031	Algorithm and Programming**	4/2	
	COMP6839031	Program Design Methods*	2	
	LANG6097031	Indonesian	2	
2	CHAR6035031	Character Building: Kewarganegaraan	2	20
	COMP6458031	Data Structures*	4/2	
	MATH6135031	Calculus	4	
	MATH6192031	Scientific Computing**	2/1	
	COMP6846031	Human and Computer Interaction**	2/1	
	ENTR6522032	Entrepreneurship: Ideation	2	
3	CHAR6036031	Character Building: Agama	2	23
	COMP6472031	Algorithm Design and Analysis*	4	
	CPEN6249031	Computer Networks**	2/1	
	SCIE6065031	Computational Physics	2/1	
	COMP6847031	Database Technology	2/1	
	COMP6468031	Artificial Intelligence	4	
	COMP6848031	Object Oriented Programming*	2	
	English Courses			
	ENGL6216031	English Savvy	2	
	ENGL6217031	English for Written Business Communication	2	
4	COMP6715031	Research Methodology in Computer Science*	2	IoT, DCT, IS, DT, IM, NT, GT, SE, Minor & Free Electives : 19 MT, DS: 20
	SCIE6066031	Computational Biology	2/1	
	COMP6466031	Software Engineering**	4	
	Streaming: Internet of Things (IoT)* **			
	COMP6849031	Embedded System	2/2	
	COMP6850031	Multimedia & Mixed Reality	2/1	
	MOBI6072031	Mobile Programming	2/1	
	Streaming: Digital Creative Technology (DCT)** **			
	COMP6679004	Web Programming**	4	
	COMP6677004	Multimedia Systems	2/2	
	COMP6856004	Popular Programming Technology*	2	
	Streaming: Intelligent System (IS)* **			
	COMP6576001	Natural Language Processing*&**	2	
	COMP6577001	Machine Learning	4	
	COMP6822001	Speech Recognition	2/2	

Sem	Code	Course Name	SCU	Total
	Streaming: Database Technology (DT)*****			
	COMP6481001	Database Design	2/1	
	COMP6579001	Big Data Processing*&**	2/2	
	COMP6710001	Distributed Cloud Computing	2/1	
	Streaming: Interactive Multimedia (IM)*****			
	COMP8129001	User Experience*&**	2/2	
	COMP6823001	Multimedia System**	2	
	COMP7094001	Multimedia Programming Foundation*	2/2	
	Streaming: Network Technology (NT)*****			
	COMP6824001	Computer Security*	2/2	
	COMP6584001	Network and System Programming*&**	2/2	
	COMP6825001	Introduction to Cloud Infrastructure	2	
	Streaming: Game Technology (GT)*****			
	COMP7094001	Multimedia Programming Foundation*	2/2	
	GAME6069001	Game Programming*&**	4	
	GAME6082001	Game Animation*&**	2	
	Streaming: Mobile Technology (MT)*****			
	MOBI6006001	Mobile Community Solution*&**	2/2	
	MOBI6069001	Wearable Technology*&**	3	
	COMP7094001	Multimedia Programming Foundation*	2/2	
	Streaming: Data Science (DS)*****			
	DTSC6005001	Data Mining and Visualization*&**	2/1	
	DTSC6007001	Deep Learning	2	
	DTSC6003001	Big Data Infrastructure and Technology*	2	
	DTSC6009001	Survey and Sampling Methods	4	
	Streaming: Cyber Security (CS)*****			
	COMP6842001	Server and Network Administration*&**	2	
	COMP6549001	Software Security*&**	2	
	DTSC6003001	Big Data Infrastructure and Technology*	2	
	COMP6844001	Mobile Penetration Testing**	2/2	
	Streaming: Software Engineering (SE)*****			
	COMP6106001	Code Reengineering	4	
	COMP6114001	Pattern Software Design	2/2	
	COMP6107001	Agile Software Development	2	
	Minor Program*,****&******		10	
	Free Electives*****		10	
5	COMP6470031	Compilation Techniques	4	IoT, DCT, IS, DT, IM, NT, GT, SE, Minor
	COMP6716031	Operating System	2	
	ENTR6524032	Entrepreneurship: Market Validation	2	

Sem	Code	Course Name	SCU	Total
	Streaming: Internet Of Things (IoT)**			& Free Electives : 18 MT, DS: 17
	COMP6757031	Computer vision in IoT	2/2	
	COMP6882031	IoT Development and Architecture	2/2	
	COMP6655031	Cyber Security in IoT	2	
	Streaming: Digital Creative Technology (DCT)****			
	COMP6678004	Big Data Analytics for Business	4	
	MOBI6063004	Mobile Application Programming**	4	
	COMP6680004	Data Visualization*	2	
	Streaming: Intelligent System (IS)***			
	COMP7116001	Computer Vision*	2/2	
	COMP6826001	Deep Learning	2/2	
	Elective Course		2	
	Streaming: Database Technology (DT)*****			
	COMP6590001	Geographical Information System*	2/2	
	COMP6140001	Data Mining	2/2	
	Elective Course		2	
	Streaming: Interactive Multimedia (IM)*****			
	COMP6583001	Computer Graphics	2/2	
	COMP6589001	Game Design Programming*	4	
	Elective Course		2	
	Streaming: Network Technology (NT)*****			
	COMP6827001	Linux System Administration and Security	2/2	
	COMP7142001	Popular Network Technology	2/2	
	Elective Course		2	
	Streaming: Games Technology (GT)*****			
	GAME6092001	Fundamental in Game Balancing	2	
	GAME6081001	2D Game Art	2	
	GAME6084001	Game Development Capstone Project*&**	4	
	GAME6071001	3D Modeling for Games*&**	2	
	Streaming: Mobile Technology (MT)*****			
	MOBI6070001	Embedded System and Internet of Things*&**	3	
	MOBI6009001	Mobile Multimedia Solution**	2/2	
	MOBI6068001	Web Design*&**	2	
	Streaming: Data Science (DS)*****			
	DTSC6006001	Machine Learning*&**	2/1	
	DTSC6002001	Data Management and Organization*	2	
	DTSC6008001	Text Mining	2	
	DTSC6004001	Data Security**	2	
	Streaming: Cyber Security (CS)*****			

Sem	Code	Course Name	SCU	Total
	COMP6646001	Computer Forensic*&**	2	
	COMP6544001	Network Penetration Testing**	2/2	
	COMP6695001	Secure Programming*&**	2	
	LAWS6110001	Cyber Law	2	
	Streaming: Software Engineering (SE)*****			
	COMP6122001	Framework Layer Architecture	2/2	
	COMP6115001	Object Oriented Analysis & Design	2/2	
	Elective Course		2	
	List of Elective Courses for for Database Technology, Interactive Multimedia, Network Technology, Software Engineering			
	MOBI6059001	Mobile Programming	2	
	COMP6586001	Embedded Systems	2	
	COMP6226001	Competitive Programming*	2	
	COMP6681001	Web Programming	2	
	Minor Program*,****&********		10	
	Free Electives******		10	
6	**Enrichment Program I**		20	20
7	**Enrichment Program II**		20	20
8	COMP6760031	Pre-Thesis	2	6
	COMP6761031	Thesis	4	
	COMP6501031	Thesis	6	
				Total Credits 146 SCU

**) This course is delivered in English*
***) Global Learning System course*
****) Will be conducted in BINUS Bandung*
*****) Will be conducted in BINUS Malang*
******) Will be conducted in BINUS Jakarta*

Streaming/Minor/Free Electives:
Students are required to choose Streaming or Minor Program or Free Electives. For Free Electives, students are required to choose from the list of Free Electives in Appendix.

English University Courses:
-) *For 1st Semester: English University Courses I, students with Binus University English Proficiency Test score less than 500 will take English in Focus, and student with test score greater than or equal to 500 will take English for Business Presentation.*
-) *For 2nd Semester: English University Courses II, students with Binus University English Proficiency Test score less than 500 will take English Savvy, and students with test score greater than or equal to 500 will take English for Written Business Communication.*

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 4	Semester 5
Minor @ Binus Kemanggisan		
Digital Ecosystem	-	-
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
Minor @ Binus Alam Sutera		
Digital Transformation	V	V
Minor @ Binus Bekasi		
Virtual Service Experience	-	-
Culinary	V	V
Minor @ Binus Malang		
Digital Technopreneur	V	V
Minor @ Binus Bandung		
DesignPreneur	V	V

1. Minor Program: Human Capital in Digital Workplace

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**

2. Minor Program: Sustainable Development

Course		SCU
ARCH6119014	Introduction to Sustainable Development	2
DSGN6835008	Engineering Material	4
ISYE6154011	Sustainable Design and Manufacture	4
ISYE6155011	Occupational, Health, Safety, and Administration in Engineering	2
CPEN6217010	Digital for Sustainable Development	4
CIVL6118013	Engineering Economic	4
	Total SCU	**20**

3. Minor Program: Cross Cultural Communication

Course		SCU
CHIN6133026	Chinese Conversation in Daily Works	2
CHIN6132026	Chinese Conversation in Daily Activities	4
CHIN6134026	Chinese Conversation in Business Communication	4

Course		SCU
COMM6502019	Communication in Diversity	2
INTR6135029	Comparative Politics	4
BUSS6170025	Asian Business Ethics	4
	Total SCU	**20**

4. Minor Program: Interactive & Users Experience Design

Course		SCU
PSYC6176027	Psychology and User Experience	4
ISYS6553003	User-Centered Research and Evaluation	4
DSGN6836007	Fundamental of Interface Design	4
ISYS6554003	Core Principles: Interactive Design	4
DSGN6837007	Digital Design Production	4
	Total SCU	**20**

5. Minor Program: Data Analytics

Course		SCU
ISYS6680003	Introduction to data Analytics	2
ISYS6681003	Data Management & Descriptive Analytics	4
STAT6198049	Statistical for Decision Making	4
ISYS6682003	Application of Predictive Analytics to Business Data	4
ISYS6683003	Prescriptive Analytics and Optimization	4
MKTG6312005	Digitalization of Markets and Consumption	2
	Total SCU	**20**

6. Minor Program: Robotic Process Automation

Course		SCU
COMP6857001	Basic Programming for Automation	2
COMP6858001	RPA Concept & Design	2
ISYS6684003	RPA Developer Fundamental	4
ISYS6685003	RPA Developer Advance	4
ISYS6686003	RPA Business Analytics Fundamental	4
ISYS6687003	Business Process Improvement	2
COMP6859001	Intelligence Automation	2
	Total SCU	**20**

7. Minor Program: Digital Transformation

Course		SCU
ISYS6559003	Business Models and Technology Innovation	4
ISYS6557003	Business Data Management	4
ISYS6695003	Digital Marketing Analysis	4
STAT6200049	Practical Statistics for Digital Business	4
MGMT6352005	Digital Strategy	4
	Total SCU	**20**

8. Minor Program: Culinary

Course		SCU
HTMN6078021	Advanced in Pastry and Bakery	4
HTMN6050021	Culinary Business Event	2/2
HTMN6048021	Western and French Cuisine	2/4
HTMN6046021	Authentic Indonesian Cuisine	2/4
	Total SCU	**20**

9. Minor Program: Digital Technopreneur

Course		SCU
ENTR6528002	The Entrepreneurial Innovator	4
COMP6686004	Popular Technology	4
ENTR6529002	Market Intelligence	4
DSGN6839006	Interactive Design	4
DSGN6844023	Prototyping Digital Future	4
	Total SCU	**20**

10. Minor Program: Designpreneur

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**

Appendix: Free Electives (4th Semester & 5th Semester)

No	Course Owner Department	Course Code	Course Name	SCU	Semester
1	Business Creation	ENTR6580005	Digital Business Transformation	2	4
2	Business Creation	ENTR6494005	Managing Growing Business	2	5
3	Business Management	MGMT6401005	Digital Supply Chain Management	2	4
4	Business Management	MKTG6298005	Service Marketing Management	2	4
5	Business Management	MGMT6365005	Current Issue in Service Business and Technology	2	5
6	International Business Management	BUSS6162005	Market Entry Strategy	2	4
7	International Business Management	MGMT6370005	E-Business for International Business	2	5

No	Course Owner Department	Course Code	Course Name	SCU	Semester
8	Management	BUSS6088005	Current Issue in Business and Technology	2	4
9	Management	BUSS6109005	Business Development	4	4
10	Management	BUSS6173005	Managing Innovation and Knowledge	4	4
11	Management	ISYS6079005	E-Business System	4	4
12	Management	MGMT6276005	Leadership & Managing Human Capital in Organization	4	4
13	Management	MGMT6374005	Analysis on E-Business Investment	4	4
14	Management	ISYS8175005	E-Business Strategy and Implementation	4	5
15	Management	MGMT6029005	Knowledge Management	2	5
16	Management	MGMT6063005	Strategic Management	2	5
17	Management	MGMT6297005	Operations Management	4	5
18	Management	MGMT6341005	Strategic Management	4	5
19	Accounting	ACCT6358020	Management Audit	4	4
20	Accounting Bekasi	ACCT6382020	Business Process Analysis and Solution	2	4
21	Accounting Bekasi	ACCT6389020	Big Data Analytics in Accounting & Finance	2	5
22	Marketing Communication	COMM6541019	Digital Corporate Communication	2/2	5
23	Marketing Communication	COMM6543019	Digital Brand Communication	2/2	5
24	Tourism	TRSM6208022	Tourism Innovation and Product Development	4	5
25	Civil Engineering	CIVL6025013	Hydrology	2	5
26	Civil Engineering	CIVL6035013	Airport Engineering	2	5
27	Civil Engineering	CIVL6037013	Railway Engineering	2	5
28	Civil Engineering	CIVL6080013	Construction Methods & Heavy Equipment	2	5
29	Civil Engineering	COMP6046013	Computer Applications in Construction Management	2	5
30	Computer Engineering	CPEN6126010	Cross Platform Application Development	4	5
31	Computer Engineering	CPEN6225010	Telco Network & Switching System	2	5
32	Computer Engineering	CPEN6232010	Cloud Technology Practice	2	5
33	Food Technology	FOOD6073015	Current Issues in Food Technology	2	4
34	Industrial Engineering	ISYE6041011	Engineering Economy	2	4
35	Industrial Engineering	ISYE6113011	Leadership & Organizational Behaviour	2	4

No	Course Owner Department	Course Code	Course Name	SCU	Semester
36	Industrial Engineering	ISYE6181011	System Engineering & Analysis	2	4
37	Computer Science	COMP6586001	Embedded Systems	2	5
38	Computer Science	COMP6226001	Competitive Programming	2	5
39	Computer Science	MOBI6059001	Mobile Programming	2	5
40	Computer Science	COMP7116001	Computer Vision	2/2	5
41	Computer Science	COMP6821001	Web Programming	2	5
42	Computer Science	COMP6590001	Geographical Information System	2/2	5
43	Game Application and Technology	GAME6082001	Game Animation	2	4
44	Game Application and Technology	GAME6085001	Object Oriented Game Programming	2	5
45	Animation	DSGN6693007	Motion Graphic	4	4
46	Animation	DSGN6694007	Visual Effect (VFX)	4	4
47	Animation	DSGN6695007	Asset Creation	4	4
48	Animation	DSGN6689007	Concept Art & Production Design	2	5
49	Creative Advertising	DSGN6671007	Creative Writing for Commercials	4	4
50	Film	FILM6026009	History of Indonesian Cinema	2	4
51	New Media	DSGN6743007	Digital Graphic Reproduction	4	4
52	Interior Design	DSGN6611008	Business in Interior Design	2	4
53	Business Information Technology	ISYS6574003	Information Retrieval	4	4
54	Business Information Technology	ISYS6577003	Machine Learning & Foundations	2	4
55	Business Information Technology	ISYS6606003	Smart Application	2	4
56	Business Information Technology	ISYS6579003	Knowledge-Based AI: Cognitive Systems	4	5
57	Information Systems	BUSS6043003	Introduction to E-Business	4	4
58	Information Systems	ISYS6016003	Social Media Fundamental	2	4
59	Information Systems	ISYS6203003	Mobile Application Development	2/2	4

No	Course Owner Department	Course Code	Course Name	SCU	Semester
60	Information Systems	ISYS6210003	Data Visualization	2	4
61	Information Systems	ISYS6285003	Digital and New Media	2	4
62	Information Systems	ISYS6594003	Coding for Finance	2	4
63	Information Systems	ISYS6196003	Business Analytics	2	5
64	Information Systems	ISYS6199003	Data & Text Mining	4	5
65	Information Systems	ISYS6202003	Social Informatics	4	5
66	Information Systems	ISYS6289003	Collaborative Computing	4	5
67	Information Systems	ISYS6402003	Business Analytics	2/2	5
68	Information Systems	ISYS8066003	Business Process Management	4	5
69	Information Systems Accounting & Auditing	ISYS6608003	IT Service & Risk Management	2	5
70	Data Science	DTSC6007001	Deep Learning	2	4
71	Data Science	DTSC6008001	Text Mining	2	5
72	Cyber Security	COMP6646001	Computer Forensic	2	5
73	Mobile Application & Technology	MOBI6068001	Web Design	2	5
74	International Relations	INTR8043029	International Media and State Role	4	4
75	International Relations	INTR6162029	Multiculturalism and Digital Society	2	5
76	Business Law	LAWS6017028	Intellectual Property Rights	4	4
77	Business Law	LAWS6110028	Cyber Law	2	4
78	Business Law	LAWS6171028	Business Competition & Consumer Protection Law	2	4
79	Business Law	LAWS6052028	Bankruptcy Law	2	5
80	Business Law	LAWS6167028	Legal Philosophy & Professional Ethics	2	5
81	Business Law	LAWS6176028	Tax Law	2	5
82	Chinese Literature	CHIN6157026	Chinese Business for Etiquette (Beginner)	4	4
83	Chinese Literature	CHIN6157026	Chinese Business for Etiquette (Beginner)	4	5
84	English Literature	ENGL6169024	English for Professionals	2	4
85	English Literature	SOCS6021024	Social and Digital Media Writing	2	4

No	Course Owner Department	Course Code	Course Name	SCU	Semester
86	English Literature	ENGL6244024	Social Media Broadcasting	4	5
87	Primary Teacher Education	EDUC6018030	Micro Teaching	4	4
88	Primary Teacher Education	EDUC6041030	Current Issues in Primary Education	2	4
89	Primary Teacher Education	EDUC6062030	International and National Curriculum	2	4
90	Primary Teacher Education	EDUC6033030	Physical Education	2	5
91	Primary Teacher Education	EDUC6061030	ICT for Distance Learning	2	5
92	Psychology	PSYC6124027	Psychology of Early Childhood Education	4	4
93	Psychology	PSYC6125027	Psychology of Special Needs Education	4	4
94	Psychology	PSYC6130027	Human Performance Technology	4	4
95	Business Creation	ENTR6580005	Digital Business Transformation	2	4
96	Business Creation	ENTR6494005	Managing Growing Business	2	5
97	Business Management	MGMT6401005	Digital Supply Chain Management	2	4
98	Business Management	MKTG6298005	Service Marketing Management	2	4
99	Business Management	MGMT6365005	Current Issue in Service Business and Technology	2	5
100	International Business Management	BUSS6162005	Market Entry Strategy	2	4

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	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			

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

Note:

IN : Internship
RS : Research
EN : Entrepreneurship
CD : Community Development
SA : Study Abroad
FS : Further Study
IS : Certified Specific Independent Study
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

Code	Course Name	SCU	Total
Enrichment Program I			20
COMP6777031	Industrial Experience in Information Technology	8	
COMP6778031	Information Technology Practice in Industrial Experience	4	
COMP6779031	EES in Information Technology Industry	4	
Enrichment Program II			20
COMP6780031	Professional Experience in Information Technology	8	
COMP6781031	Information Technology Practice in Professional Experience	8	
COMP6782031	Professional Development in Information Technology Industry	4	

Certified Entrepreneurship Track

Code	Course Name	SCU	Total
Enrichment Program I			20
ENPR6001031	New Venture Initiation in Computer Science	8	
ENPR6002031	Computer Science Product Development Process	8	
ENTR6455031	EES in New Computer Science Business	4	
Enrichment Program II			20
ENPR6003031	Computer Science Product Launching	8	

Code	Course Name	SCU	Total
ENPR6004031	Computer Science Business Development	8	
ENTR6451031	EES in Computer Science Business Experience	4	

Certified Research Track

Code	Course Name	SCU	Total
Enrichment Program I			20
RSCH6389031	Research Experience I	8	
RSCH6599031	Scientific Writing I in Computer Science	8	
RSCH6391031	Global EES I (Team Work, Communication, Problem Solving & Decision Making) in Computer Science	4	
Enrichment Program II			20
RSCH6392031	Research Experience II in Computer Science	8	
RSCH6600031	Scientific Writing II in Computer Science	8	
RSCH6394031	Global EES II (Self-Management, Planning & Organizing, Initiative & Enterprise)	4	

Certified Community Development Track

Code	Course Name	SCU	Total
Enrichment Program I			20
CMDV6232031	Community Outreach Project Implementation	8	
CMDV6374031	Community Outreach IT Project Design	8	
CMDV6234031	Employability and Entrepreneurial Skills in Computer Science Community	4	
Enrichment Program II			20
CMDV6235031	Community Development Project Implementation	8	
CMDV6375031	Community Development IT Project Design	8	
CMDV6237031	Employability and Entrepreneurial Skills in Computer Science Community Development	4	

Certified Study Abroad Track

Code	Course Name	SCU	Total
Elective courses list for study abroad*			20
Enrichment Program I			
GLOB6208031	Elective Course for Study Abroad 1	4	
GLOB6209031	Elective Course for Study Abroad 2	4	
GLOB6210031	Elective Course for Study Abroad 3	4	
GLOB6211031	Elective Course for Study Abroad 4	4	
GLOB6268031	Elective Course for Study Abroad 25	4	
GLOB6212031	Elective Course for Study Abroad 5	2	
GLOB6213031	Elective Course for Study Abroad 6	2	
GLOB6214031	Elective Course for Study Abroad 7	2	

Code	Course Name	SCU	Total
GLOB6215031	Elective Course for Study Abroad 8	2	
GLOB6216031	Elective Course for Study Abroad 9	2	
GLOB6217031	Elective Course for Study Abroad 10	2	
GLOB6218031	Elective Course for Study Abroad 11	2	
GLOB6219031	Elective Course for Study Abroad 12	2	
GLOB6269031	Elective Course for Study Abroad 26	2	
GLOB6289031	Elective Course for Study Abroad 29	2	
Enrichment Program II			20
GLOB6220031	Elective Course for Study Abroad 13	4	
GLOB6221031	Elective Course for Study Abroad 14	4	
GLOB6222031	Elective Course for Study Abroad 15	4	
GLOB6223031	Elective Course for Study Abroad 16	4	
GLOB6270031	Elective Course for Study Abroad 27	4	
GLOB6224031	Elective Course for Study Abroad 17	2	
GLOB6225031	Elective Course for Study Abroad 18	2	
GLOB6226031	Elective Course for Study Abroad 19	2	
GLOB6227031	Elective Course for Study Abroad 20	2	
GLOB6228031	Elective Course for Study Abroad 21	2	
GLOB6229031	Elective Course for Study Abroad 22	2	
GLOB6230031	Elective Course for Study Abroad 23	2	
GLOB6231031	Elective Course for Study Abroad 24	2	
GLOB6271031	Elective Course for Study Abroad 28	2	
GLOB6290031	Elective Course for Study Abroad 30	2	

*) *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 certified specific independent study*			20
Enrichment Program I/II			
MICR6073031	Course Certification I	3	
MICR6074031	Technical Skill Enrichment I	4	
MICR6075031	Industrial Project I	9	
MICR6076031	Soft Skill Enrichment I	4	
MICR6077031	Elec Course for Specific Independent Study 1	8	
MICR6078031	Elec Course for Specific Independent Study 2	8	
MICR6079031	Elec Course for Specific Independent Study 3	6	
MICR6080031	Elec Course for Specific Independent Study 4	6	
MICR6081031	Elec Course for Specific Independent Study 5	6	
MICR6082031	Elec Course for Specific Independent Study 6	5	

Code	Course Name	SCU	Total
MICR6083031	Elec Course for Specific Independent Study 7	5	
MICR6084031	Elec Course for Specific Independent Study 8	5	
MICR6085031	Elec Course for Specific Independent Study 9	5	
MICR6086031	Elec Course for Specific Independent Study 10	4	
MICR6087031	Elec Course for Specific Independent Study 11	4	
MICR6088031	Elec Course for Specific Independent Study 12	4	
MICR6089031	Elec Course for Specific Independent Study 13	4	
MICR6090031	Elec Course for Specific Independent Study 14	4	
MICR6091031	Elec Course for Specific Independent Study 15	3	
MICR6092031	Elec Course for Specific Independent Study 16	3	
MICR6093031	Elec Course for Specific Independent Study 17	3	
MICR6094031	Elec Course for Specific Independent Study 18	3	
MICR6095031	Elec Course for Specific Independent Study 19	3	
MICR6096031	Elec Course for Specific Independent Study 20	3	
MICR6097031	Elec Course for Specific Independent Study 21	2	
MICR6098031	Elec Course for Specific Independent Study 22	2	
MICR6099031	Elec Course for Specific Independent Study 23	2	
MICR6100031	Elec Course for Specific Independent Study 24	2	
MICR6101031	Elec Course for Specific Independent Study 25	2	
MICR6102031	Elec Course for Specific Independent Study 26	2	
MICR6103031	Elec Course for Specific Independent Study 27	2	
MICR6104031	Elec Course for Specific Independent Study 28	2	
MICR6105031	Elec Course for Specific Independent Study 29	1	
MICR6106031	Elec Course for Specific Independent Study 30	1	
MICR6107031	Elec Course for Specific Independent Study 31	1	
MICR6108031	Elec 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 outside BINUS University. Transferred courses will be transferred based on credit transfer policies on study program with total of 20 credits.*

Further Study Track

Code	Course Name	SCU	Total
Enrichment Program II			20
Fast Track M.MSI			
ISYS6654031	Service Oriented Analysis and Design	4	
ISYS6655031	Change Management for Enterprise	4	
ISYS6656031	Digital Transformation Management	4	
ISYS6657031	Data Analytics for Research	4	
ISYS6660031	Visualization and Descriptive Analytics	4	

Code	Course Name	SCU	Total
Fast Track M.TI			20
COMP6815031	IT Disaster Recovery	4	
COMP6816031	Wireless and Cloud Computing Technologies	4	
COMP6817031	Internet Tools and Services	4	
COMP6818031	Cyber Risk Management	4	
COMP6819031	Knowledge Engineering	4	

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

No.	Course Code	Course Name	Minimal Grade
1.	CHAR6034031	Character Building: Pancasila	B
2.	ENTR6524032	Entrepreneurship: Market Validation	C
3.	COMP6421031	Algorithm and Programming	C
4.	COMP6458031	Data Structures	C
5.	COMP6839031	Program Design Methods	C
6.	COMP6466031	Software Engineering	C
7.	COMP6847031	Database Technology	C
8.	COMP6716031	Operating System	C

*) Tutorial & Multipaper