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 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 at Bina Nusantara University emphasizes the processes, techniques, and tools that go into developing computer-based systems, with specialities in intelligent systems, software engineering, multimedia technology, database systems and network technology.

Vision

A world class study program by providing excellent educational experiences in Computer Science, which focuses on developing creative technology solutions, fostering and empowering the society in building and serving the nation.

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 developing creative solutions in computer science, to solve real-world problems.
2. Preparing graduates to develop exemplary soft skills & technical skills required as computer science professionals, leaders, and entrepreneurs in global market.
3. Promoting high impact computer science research that contributes to the nation.
4. Fostering BINUSIAN as computer science lifelong learners through self-enrichment.
5. Empowering BINUSIAN to continuously improve society's quality of life through knowledge in computer science.

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.

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 2020 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. Software Engineering: to explore the various methodologies and software engineering equipment.
2. Intelligent Systems: to explore the various techniques of computer intelligence that can be applied to solving problem.
3. Database Technology: to explore the various technologies and database application.
4. Network Technology: to explore computer networking which consists of installation, administration, and computer networking management.
5. Interactive Multimedia: to explore computer interactive multimedia applications, based on computer programming, design tools, and software engine.
6. Internet of Things: to explore the various techniques and implementation of IoT.
7. 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).

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	CHAR6013001	Character Building: Pancasila	2	20
	MATH6025001	Discrete Mathematics	4	
	MATH6030001	Linear Algebra	2	
	COMP6047001	Algorithm and Programming**	4/2	
	COMP6798001	Program Design Methods*	2	
	LANG6027001	Indonesian	2	
	STAT6171001	Basic Statistics	2	

Sem	Code	Course Name	SCU	Total
2	CHAR6014001	Character Building: Kewarganegaraan	2	20
	COMP6048001	Data Structures*&**	4/2	
	MATH6031001	Calculus	4	
	ENTR6509001	Entrepreneurship: Ideation	2	
	COMP6800001	Human and Computer Interaction**	2/1	
	MATH6183001	Scientific Computing	2/1	
3	CHAR6015001	Character Building: Agama	2	23
	COMP6049001	Algorithm Design and Analysis*	4	
	CPEN6247001	Computer Networks	2/1	
	COMP6065001	Artificial Intelligence**	4	
	SCIE6063001	Computational Physics	2/1	
	COMP6799001	Database Technology**	2/1	
	COMP6820001	Object Oriented Programming*&**	2	
	English University Courses			
	ENGL6129001	English Savvy	2	
	ENGL6131001	English for Written Business Communication	2	
4	COMP6696001	Research Methodology in Computer Science*	2	Streaming: 19 Minor / FE: 21
	COMP6100001	Software Engineering**	4	
	SCIE6062001	Computational Biology	2/1	
	Streaming : Software Engineering			
	COMP6106001	Code Reengineering	4	
	COMP6114001	Pattern Software Design	2/2	
	COMP6107001	Agile Software Development*&**	2	
	Streaming : Intelligent System			
	COMP6576001	Natural Language Processing*&**	2	
	COMP6577001	Machine Learning	4	
	COMP6822001	Speech Recognition	2/2	
	Streaming : Interactive Multimedia			
	COMP8129001	User Experience*&**	2/2	
	COMP6823001	Multimedia Systems**	2	
	COMP7094001	Multimedia Programming Foundation*	2/2	
	Streaming : Database Technology			
	COMP6481001	Database Design	2/1	
	COMP6579001	Big Data Processing*&**	2/2	
	COMP6710001	Distributed Cloud Computing	2/1	
	Streaming : Network Technology			
	COMP6824001	Computer Security*	2/2	
	COMP6584001	Network and System Programming*&**	2/2	

Sem	Code	Course Name	SCU	Total
	COMP6825001	Introduction to Cloud Infrastructure	2	
	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*****			
	COMP6679004	Web Programming**	4	
	COMP6677004	Multimedia Systems	2/2	
	COMP6856004	Popular Programming Technology**	2	
	Streaming: Mobile and Game Technology******			
	COMP6897051	Game Design & Programming	2/2	
	COMP6899051	Machine Learning	2	
	COMP6900051	Mobile Embedded Systems	4	
	Minor Program		12	
	Free Elective		12	
5	COMP6062001	Compilation Techniques	4	Streaming: 18 Minor / FE: 16
	COMP6697001	Operating System	2	
	ENTR6511001	Entrepreneurship: Market Validation	2	
	Elective Courses***			
	MOBI6059001	Mobile Programming	2	
	COMP6586001	Embedded Systems	2	
	COMP6226001	Competitive Programming*	2	
	COMP6821001	Web Programming	2	
	Streaming : Software Engineering			
	COMP6122001	Framework Layer Architecture	2/2	
	COMP6115001	Object Oriented Analysis & Design*	2/2	
	Streaming : Intelligent System			
	COMP7116001	Computer Vision*	2/2	
	COMP6826001	Deep Learning	2/2	
	Streaming : Interactive Multimedia			
	COMP6583001	Computer Graphics	2/2	
	COMP6589001	Game Design Programming*	4	
	Streaming : Database Technology			
	COMP6590001	Geographical Information System*	2/2	
	COMP6140001	Data Mining	2/2	
	Streaming : Network Technology			
	COMP6827001	Linux System Administration and Security	2/2	
	COMP7142001	Popular Network Technology	2/2	

Sem	Code	Course Name	SCU	Total
	Streaming : Internet of Things (IoT)****			
	COMP6757031	Computer Vision in Internet of Things	2/2	
	COMP6882031	IoT Development and Architecture	2/2	
	COMP6655031	Cyber Security in Internet of Things	2	
	Streaming : Digital Creative Technology*****			
	COMP6678004	Big Data Analytics for Business	4	
	MOBI6063004	Mobile Application Programming**	4	
	COMP6680004	Data Visualization*	2	
	Streaming: Mobile and Game Technology******			
	COMP6903051	Computer Vision	2/2	
	COMP6905051	Mobile and Game Development Capstone Project	4	
	COMP6898051	User Experience**	2	
	Minor Program		8	
	Free Elective		8	
6	**Enrichment Program I**		20	20
7	**Enrichment Program II**		20	20
8	COMP6747001	Pre-Thesis	2	6
	COMP6748001	Thesis	4	
	COMP6861001	Thesis	6	
			TOTAL CREDITS 146 Credits	

*) This course is delivered in English
**) Global Learning System Course
***) Elective Courses: Student will choose 1 course (2 credits) from the list of elective course on 5th semester. This elective course available only for student who choose streaming program
****) Conducted for student mobility program in BINUS @Bandung
*****) Conducted for student mobility program in BINUS @Malang
******) Conducted for student mobility program in BINUS @Semarang

Streaming/Minor/Free Electives:
-) For 4th Semester: 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.
-) For 5th Semester: Students are required to choose Streaming or Minor Program same with previous semester. For Free Electives, students are required to choose from the list of Free Electives in Appendix.

English University Courses:
-) For English University Courses, students with Binus University English Proficiency Test scores less than 500 will take English Savvy, and students with test scores greater than or equal to 500 will take English for Written Business Communication.
-) Students must pass English Savvy with a minimum Grade of C.

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

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
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**

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.*

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
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

No	Course Owner Department	Course Code	Course Name	SCU	Semester
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 Communicaton	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 Behavior	2	4
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

No	Course Owner Department	Course Code	Course Name	SCU	Semester
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
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

No	Course Owner Department	Course Code	Course Name	SCU	Semester
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
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				
9					v							v			
10						v		v							
11						v					v				
12						v						v			

Track	Semester 6							Semester 7							
	IN	RS	EN	CD	SA	IS	etc	IN	RS	EN	CD	SA	IS	FS	etc
13	v													v	
14		v												v	
15						v		v							
16						v					v				
17						v						v			

Note:

IN	: Internship		SA	: Study Abroad
RS	: Research		FS	: Further Study
EN	: Entrepreneurship		IS	: Certified Specific Independent Study
CD	: 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 Certified Internship, Certified Research, Certified Community Development, and Certified Study Abroad track on Enrichment Program II, can retake with the same track or change into another track. However students who take **Certified Entrepreneurship** track on Enrichment Program II, should **retake with another track**.

Certified Internship Track

Code	Course Name	SCU	Total
Enrichment Program I			
COMP6426001	Industrial Experience in Information Technology	8	20
COMP6762001	Information Technology Practice in Industrial Experience	8	
COMP6514001	EES in Information Technology Industry	4	
Enrichment Program II			
COMP6429001	Professional Experience in Information Technology	8	20
COMP6763001	Information Technology Practice in Professional Experience	8	
COMP6430001	Professional Development in Information Technology Industry	4	

Certified Entrepreneurship Track

Code	Course Name	SCU	Total
Enrichment Program I			
ENTR6943001	New Venture Initiation in Computer Science	8	20
ENTR6945001	Computer Science Product Development Process	8	
ENTR6947001	EES in New Computer Science Business I	4	
Enrichment Program II			
ENTR6944001	Computer Science Product Launching	8	20
ENTR6946001	Computer Science Business Development	8	
ENTR6948001	EES in New Computer Science Business II	4	

Certified Research Track

Code	Course Name	SCU	Total
Enrichment Program I			
RSCH6565001	Research Experience I in Computer Science	8	20
RSCH6567001	Scientific Writing I in Computer Science	8	
RSCH6569001	Global EES I (Team Work, Communication, Problem Solving & Decision Making) in Computer Science	4	
Enrichment Program II			
RSCH6566001	Research Experience II in Computer Science	8	20
RSCH6568001	Scientific Writing II in Computer Science	8	
RSCH6570001	Global EES II (Self-Management, Planning & Organizing, Initiative & Enterprise)	4	

Certified Community Development Track

Code	Course Name	SCU	Total
Enrichment Program I			
CMDV6159001	Community Outreach Project Implementation	8	20
CMDV6343001	Community Outreach IT Project Design	8	
CMDV6208001	Employability and Entrepreneurial Skills in Computer Science Community	4	
Enrichment Program II			
CMDV6184001	Community Development Project Implementation	8	20
CMDV6344001	Community Development IT Project Design	8	
CMDV6193001	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*			
Enrichment Program I			
GLOB6005001	Elective Course for Study Abroad 1	4	20
GLOB6006001	Elective Course for Study Abroad 2	4	
GLOB6007001	Elective Course for Study Abroad 3	4	
GLOB6008001	Elective Course for Study Abroad 4	4	
GLOB6009001	Elective Course for Study Abroad 5	2	
GLOB6010001	Elective Course for Study Abroad 6	2	
GLOB6011001	Elective Course for Study Abroad 7	2	
GLOB6012001	Elective Course for Study Abroad 8	2	
GLOB6013001	Elective Course for Study Abroad 9	2	
GLOB6014001	Elective Course for Study Abroad 10	2	
GLOB6015001	Elective Course for Study Abroad 11	2	
GLOB6016001	Elective Course for Study Abroad 12	2	
GLOB6251001	Elective Course for Study Abroad 29	4	
Enrichment Program II			
GLOB6017001	Elective Course for Study Abroad 13	4	20
GLOB6018001	Elective Course for Study Abroad 14	4	

Code	Course Name	SCU	Total
GLOB6019001	Elective Course for Study Abroad 15	4	
GLOB6020001	Elective Course for Study Abroad 16	4	
GLOB6021001	Elective Course for Study Abroad 17	2	
GLOB6022001	Elective Course for Study Abroad 18	2	
GLOB6023001	Elective Course for Study Abroad 19	2	
GLOB6024001	Elective Course for Study Abroad 20	2	
GLOB6025001	Elective Course for Study Abroad 21	2	
GLOB6026001	Elective Course for Study Abroad 22	2	
GLOB6027001	Elective Course for Study Abroad 23	2	
GLOB6028001	Elective Course for Study Abroad 24	2	
GLOB6253001	Elective Course for Study Abroad 31	4	

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

Certified Specific Independent Study

Code	Course Name	SCU	Total
Elective courses list for certified specific independent study*			
Enrichment Program I			
MICR6033001	Course Certification I	3	
MICR6034001	Technical Skill Enrichment I	4	
MICR6035001	Industrial Project I	9	
MICR6036001	Soft Skill Enrichment I	4	
MICR6001001	Elective Course for Specific Independent Study 1	8	
MICR6002001	Elective Course for Specific Independent Study 2	8	
MICR6003001	Elective Course for Specific Independent Study 3	6	
MICR6004001	Elective Course for Specific Independent Study 4	6	
MICR6005001	Elective Course for Specific Independent Study 5	6	
MICR6006001	Elective Course for Specific Independent Study 6	5	
MICR6007001	Elective Course for Specific Independent Study 7	5	
MICR6008001	Elective Course for Specific Independent Study 8	5	20
MICR6009001	Elective Course for Specific Independent Study 9	5	
MICR6010001	Elective Course for Specific Independent Study 10	4	
MICR6011001	Elective Course for Specific Independent Study 11	4	
MICR6012001	Elective Course for Specific Independent Study 12	4	
MICR6013001	Elective Course for Specific Independent Study 13	4	
MICR6014001	Elective Course for Specific Independent Study 14	4	
MICR6015001	Elective Course for Specific Independent Study 15	3	
MICR6016001	Elective Course for Specific Independent Study 16	3	
MICR6017001	Elective Course for Specific Independent Study 17	3	
MICR6018001	Elective Course for Specific Independent Study 18	3	
MICR6019001	Elective Course for Specific Independent Study 19	3	
MICR6020001	Elective Course for Specific Independent Study 20	3	
MICR6021001	Elective Course for Specific Independent Study 21	2	

Code	Course Name	SCU	Total
MICR6022001	Elective Course for Specific Independent Study 22	2	
MICR6023001	Elective Course for Specific Independent Study 23	2	
MICR6024001	Elective Course for Specific Independent Study 24	2	
MICR6025001	Elective Course for Specific Independent Study 25	2	
MICR6026001	Elective Course for Specific Independent Study 26	2	
MICR6027001	Elective Course for Specific Independent Study 27	2	
MICR6028001	Elective Course for Specific Independent Study 28	2	
MICR6029001	Elective Course for Specific Independent Study 29	1	
MICR6030001	Elective Course for Specific Independent Study 30	1	
MICR6031001	Elective Course for Specific Independent Study 31	1	
MICR6032001	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 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			
COMP6815001	IT Disaster Recovery	4	
COMP6816001	Wireless and Cloud Computing Technologies	4	20
COMP6817001	Internet Tools and Services	4	
COMP6818001	Cyber Risk Management	4	
COMP6819001	Knowledge Engineering	4	

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

No.	Course Code	Course Name	Minimal Grade
1.	CHAR6013001	Character Building: Pancasila	B
2.	ENTR6511001	Entrepreneurship: Market Validation	C
3.	COMP6047001	Algorithm and Programming*	C
4.	COMP6048001	Data Structures*	C
5.	COMP6798001	Program Design Methods*	C
6.	COMP6100001	Software Engineering*	C
7.	COMP6799001	Database Technology	C
8.	COMP6697001	Operating System	C

*) Tutorial & Multipaper