

Computer Engineering

Introduction

The Computer Engineering (CEN) Study Program was established in September 1987 under the Faculty of Computer Studies and it has been under the Faculty of Engineering BINUS UNIVERSITY since 2011. The CEN Study Program is **accredited “UNGGUL” by the National Board of Higher Education (BAN-PT)** and also **accredited internationally by the Engineering Accreditation Commission of ABET and IABEE**. The CEN Study Program has various alumni who have gone on to take part in various domains of the business industry. The CEN Study Program was founded to meet the demand for knowledge about computer systems encompassing computer hardware, software, and computer networks. The Institute of Electrical & Electronic Engineers (IEEE) and the Association for Computing Machinery (ACM), well-established and world-famous organizations, use the following definition: "Computer Engineering embodies the science and the technology of design, construction, implementation and maintenance of the electronics and the software components of modern computing systems and computer-controlled equipment," and its graduates stated: "Computer Engineers are solidly grounded in the theories and principles of computing, mathematics, and engineering; and apply these theoretical principles to design electronic circuits, software, networks, and computerized equipment and instruments to solve problems in diverse application domains."

Hence, graduates of the CEN Study Program will enjoy the knowledge of computer software and intelligent devices. This will allow graduates to contribute to any application wherever computers are used. The development of Information Technology and the need for experienced computer systems professionals are behind the innovative CEN Program. Currently, the CEN Study Program covers expertise in understanding to build completed computer system solution that consists of electronics and software, ranging from communication systems to intelligent embedded systems.

Vision

A world class computer engineering study program that focuses on the development of smart systems and continuously contribute to fostering and empowering society for the benefit of mankind.

Mission

The mission of Computer Engineering Department is to contribute to the global community through the provision of world-class education by:

1. Educating BINUSIAN to meet global standards.
2. Conducting high-impact research to solve nation's problems.
3. Providing a vibrant environment for teaching and research.
4. Fostering BINUSIAN as a lifelong learner in order to adapt to rapid changes.
5. Empowering BINUSIAN to use their knowledge to serve and build the nation.

Program Objectives

The objectives of the program are:

1. Our graduates will excel in methodological and computational skills to solve problems creatively within their professional and communities.
2. Our graduates will lead the team and professionally responsible to benefit the organizations, society, and nation.

3. Our graduates will sustainably update their knowledge by engaging in life-long learning to adapt rapidly changing work environments and to meet evolving global requirements.

Student Outcomes

After completing the study, graduates are:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal context.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Prospective Career of the Graduates

At the career level, computer engineering offers two principle paths – hardware and software engineering – that support industry 4.0 and multiple subspecialties or areas of concentration, such as:

- Embedded & Intelligence System
- Applied Networking
- Communication Technology
- Internet of Things
- Cyber security
- Cloud Technology
- Machine Learning
- Automation



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Curriculum

The Computer Engineering curriculum is developed based on the IEEE-ACM international curriculum as well as the APTIKOM national curriculum. Both are curricula developed by professional engineers and educators in their fields who are members of a professional association. Concerning the two curriculums above, the curriculum used by the Computer Engineering Study Program can produce graduates who can answer local and global challenges.

The curriculum structure of the Computer Engineering Study Program consists of five parts. The first part is mathematics and basic science composed of 31 credits. The second part is engineering courses consisting of 55 credits including 8 credits of streaming or free electives courses and 2 credits of technical electives. The third part is the final project consisting of 6 credits, and the last part is the university courses consisting of 54 credits. 3 + 1 enrichment program is in the university courses part that expects the students to face real computer engineering problems that exist in the area of research, industry, community development, entrepreneurship, micro-credential and fast track.

Course Structure

Sem	Code	Course Name	SCU	Total	
1	CHAR6013010	Character Building: Pancasila	2	20	
	SCIE6049010	Physics I	4/1		
	MATH6136010	Calculus I	4		
	MATH6197010	Linear Algebra	3		
	MATH6196010	Chemistry	2		
	COMP6875010	Physical Computing & Algorithm*	4		
	Foreign Language Courses				0
2	CHAR6014010	Character Building: Kewarganegaraan	2	20	
	SCIE6050010	Physics II	4/1		
	MATH6139010	Calculus II	4		
	CPEN6219010	Circuit & Electronics*&*	4/1		
	LANG6027010	Indonesian	2		
	ENTR6509001	Entrepreneurship: Ideation	2		
	Foreign Language Courses				0
3	MATH6182010	Discrete Mathematics	4	20	
	CPEN6220010	Computer Networks & Information Security*&*	4/1		
	CPEN6246010	Digital System* ^{***} &*	5/1		
	CPEN6222010	Mobile Application Development for Engineering*&*	2		
	CPEN6083010	Digital Signal Processing*	2/1		
	Foreign Language Courses				0
4	CHAR6015010	Character Building: Agama	2	20	
	STAT6151010	Probability and Statistic	4		
	CPEN6251010	System & Project Engineering*&*	4		
	CPEN6252010	Introduction to Microcontroller* ^{***} &*	5/1		
	CPEN6253010	Linux Operating Systems	2		
	Technical Elective****				
	COMP6842010	Server and Network Administrator	2		
	COMP6646010	Computer Forensic	2		
	COMP6876010	UI/UX Design	2		
	COMP6959010	Database Design	2		
	Foreign Language Courses				0
5	CPEN6254010	IOT Design & Application*&*	4	20	
	CPEN6034010	Computer Organization and Architecture*&*	4		
	ENTR6511001	Entrepreneurship: Market Validation	2		
	Streaming: Communication System				
	CPEN6226010	Wireless Communication System*&*	4		
	CPEN6231010	Optical Fiber Communication System*	4		
	CPEN6225010	Telco Network & Switching System*	2		
	Streaming: Applied Networking				
	CPEN6227010	Advanced Computer Network*&*	4		
	CPEN6228010	Applied Network Security*	4		
	CPEN6232010	Cloud Technology Practice*	2		
	Streaming: Embedded & Intelligence System				

Sem	Code	Course Name	SCU	Total
	CPEN6126010	Cross Platform Application Development*&***	4	
	CPEN6233010	Machine Learning Application in Robotic *	4	
	CPEN6236010	PLC Programming for Industrial Automation*	2	
	Minor Program		10	
	Free Electives		10	
6	Enrichment Program I		20	20
7	Enrichment Program II		20	20
8	CPEN6241010	Pre – Thesis	2	6
	CPEN6242010	Thesis	4	
	CPEN6255010	Thesis	6	
TOTAL CREDIT 146 SCU				

*) This course is delivered in English

***) Entrepreneurship Embedded

***) Global Learning System Course

Streaming/Minor/Free Electives:

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

Appendix Foreign Language Courses

Foreign Language Courses	SCU
ENGL6253021 English for Frontrunners	0
ENGL6254021 English for Independent Users	0
ENGL6255021 English for Professionals	0
JAPN6190021 Basic Japanese Language*	0
CHIN6163021 Basic Chinese Language*	0

*) This course is optional for students

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

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

Minor Scheme

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

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

1. Digital Ecosystem

Fundamental Courses

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

2. 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

3. Interactive & Users Experience Design

Fundamental Courses

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

4. Data Analytics

Fundamental Courses

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

5. 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

6. 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

7. Virtual Services 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

8. Culinary

Fundamental Courses

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

9. Metaverse in Business

Fundamental Courses

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

Appendix: Free Electives (5th Semester)

No	Course Owner Department	Course Code	Course Name	SCU	Semester
1	Business Management	MGMT6400005	Supply Chain Strategy	2	5
2	Business Management	MGMT6459005	Retail Management	4	5
3	Business Management	MGMT6460005	Retail Supply Chain Management	2	5
4	Business Management	MKTG6324005	Retail Marketing Management	2	5
5	Business Management	MGMT6461005	Category Management	2	5
6	Management	MGMT6297005	Operations Management	4	5
7	Management	FINC6001005	Financial Management	4	5
8	Global Business Marketing	MKTG6321005	Marketing Data Analytics	4	5
9	Global Business Marketing	MKTG6322005	Sales and Customer Relationship Management	4	5
10	Global Business Marketing	MKTG6237005	Global Strategic Marketing : Asia Pasific Perspective	4	5
11	Global Business Marketing	MKTG6270005	Retail and Omni Channel	2	5
12	Global Business Marketing	MKTG6272005	Marketing Research	2/2	5
13	Global Business Marketing	MGMT6358005	Managing Business Information	2/2	5
14	International Business Management	MGMT6357005	Multinational Corporation Management	4	5
15	International Business Management	BUSS6223005	Trade in Asia	2	5
16	International Business Management	BUSS6224005	Special Topics in International Business	4	5
17	Civil Engineering	CIVL6080013	Construction Methods & Heavy Equipment	2	5
18	Civil Engineering	COMP6046013	Computer Applications in Construction Management	2	5
19	Civil Engineering	CIVL6030013	Environmental Engineering	2	5
20	Civil Engineering	CIVL6002013	Case Study in Civil Engineering	2	5
21	Computer Engineering	CPEN6098010	Computer Networks	2/2	5
22	Computer Engineering	CPEN6126010	Cross Platform Application Development	4	5
23	Computer Engineering	CPEN6225010	Telco Network & Switching System	2	5
24	Computer Engineering	CPEN6232010	Cloud Technology Practice	2	5
25	Industrial Engineering	ISYE6067011	Global Supply Chain	2	5
26	Industrial Engineering	ISYE6165011	Supply Chain Risk & Negotiation	2	5
27	Industrial Engineering	ISYE6115011	Transportation Modeling	2	5

No	Course Owner Department	Course Code	Course Name	SCU	Semester
28	Industrial Engineering	MKTG6128011	Market Research	2	5
29	Industrial Engineering	ISYE6167011	Decision Support System	2	5
30	Industrial Engineering	ISYE6168011	Financial Engineering	2	5
31	Industrial Engineering	ISYE6130011	Project Management	2	5
32	Industrial Engineering	ISYE6169011	Maintenance Management Systems	2	5
33	Industrial Engineering	ISYE6170011	Sustainable Engineering Systems	2	5
34	Industrial Engineering	ISYE6113011	Leadership & Organizational Behavior	2	5
35	Food Technology	FOOD6092015	Molecular Gastronomy	2	5
36	Food Technology	FOOD6074015	Food Processing Technology II	2	5
37	Food Technology	FOOD6076015	Food Fermentation Technology	2	5
38	Food Technology	FOOD6073015	Current Issues in Food Technology	2	5
39	Food Technology	CPEN6235015	IoT in Food Industry	2	5
40	Food Technology	FOOD6094015	Nutrition & Health	4	5
41	Architecture	ARCH6144014	Digital Construction	4	5
42	Architecture	ARCH6076014	Project Management	2	5
43	Architecture	ARCH6144014	Property Assessment	2	5
44	Architecture	ARCH6146014	Interior Architecture	4	5
45	Architecture	ARCH6128014	Multimedia in Design Presentation	4	5
46	Architecture	ARCH6129014	Urban Housing	4	5
47	Architecture	ARCH6147014	Behavior in Architecture	4	5
48	Architecture	ARCH6131014	Architectural Conservation	4	5
49	Architecture	ARCH6136014	Tropical Architecture	4	5
50	Computer Science	COMP6144001	Web Programming	2	5
51	Computer Science	COMP6590001	Geographical Information System	2/2	5
52	Computer Science	ISYS6197001	Business Application Development	2/2	5
53	Game Application and Technology	GAME6085001	Object Oriented Game Programming	2	5
54	Marketing Communication	COMM6637019	Brand Activation	2/2	5
55	Marketing Communication	COMM6638019	Social Media Planning & Engagement	2/2	5
56	Tourism	TRSM6218022	Adventure Tourism Management	4	5
57	Tourism	BUSS6137022	Tourism E-Business	4	5
58	Tourism	TRSM6224022	Environmental Health and Safety in Tourism	2	5
59	Hotel Management	HTMN6027021	Service Management	4	5
60	Hotel Management	HTMN6001021	Introduction to Hospitality	4	5
61	Hotel Management	HTMN6108021	Food and Beverage Management	2	5
62	Hotel Management	HTMN6131021	Catering Management	2	5
63	Data Science	DTSC6006001	Machine Learning	2/1	5
64	Mobile Application & Technology	MOBI6068001	Web Design	2	5
65	Mobile Application & Technology	MOBI6070001	Embedded System and Internet of Things	3	5
66	Mobile Application & Technology	MOBI6059001	Mobile Programming	2	5
67	Statistics	STAT6157049	Data Mining and Visualization	2	5
68	Information Systems	ISYS6196003	Business Analytics	2	5
69	Information Systems	ISYS6199003	Data & Text Mining	4	5

No	Course Owner Department	Course Code	Course Name	SCU	Semester
70	Information Systems	ISYS6202003	Social Informatics	4	5
71	Information Systems	ISYS6289003	Collaborative Computing	4	5
72	Information Systems	ISYS6402003	Business Analytics	2/2	5
73	Information Systems	ISYS8066003	Business Process Management	4	5
74	Business Information Technology	ISYS6579003	Knowledge-Based AI: Cognitive Systems	4	5
75	Animation	DSGN6689007	Concept Art & Production Design	2	5
76	Animation	DSGN6690007	Animation Storytelling	2	5
77	Creative Advertising	DSGN6661007	Photography	4	5
78	Film	FILM6059009	Global Cinema	4	5
79	New Media	DSGN6743007	Digital Graphic Reproduction	4	5
80	Interior Design	DSGN6612008	Design Trend	2	5
81	Chinese Literature	CHIN6157026	Chinese Business for Etiquette (Beginner)	4	5
82	Chinese Literature	CHIN6158026	Chinese Business in Daily Communication	4	5
83	English Literature	SOCS6021024	Social and Digital Media Writing	2	5
84	English Literature	ENGL6169024	English for Professionals	2	5
85	English Literature	ENGL6244024	Social Media Broadcasting	4	5
86	Business Law	LAWS6017028	Intellectual Property Rights	4	5
87	Business Law	LAWS6110028	Cyber Law	2	5
88	Business Law	LAWS6159028	Legal Aspect in Business	2	5
89	Business Law	LAWS6170028	Investment Law	2	5
90	Business Law	LAWS6171028	Business Competition & Consumer Protection Law	2	5
91	Psychology	PSYC6130027	Human Performance Technology	4	5
92	Psychology	PSYC6191027	E-Learning Psychology	4	5
93	Primary Teacher Education	EDUC6073030	ICT for Distance Learning	4	5
94	Primary Teacher Education	EDUC8004030	School Based Management	2	5
95	Japanese Literature	JAPN6111025	Introductory Japanese I	4	5
96	Japanese Literature	JAPN6145025	Japanese Grammar I (Bunpou I)	4	5
97	Japanese Literature	JAPN6056025	Practical Japanese Culture (Nihon Bunka Taiken)	2	5
98	Japanese Literature	JAPN6210025	Japanese Management (Nihon no Keiei)	2	5
99	Japanese Literature	JAPN6104025	Japanese Industry and Technology	2	5

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

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

Enrichment Track Scheme

Track	Semester 6							Semester 7							
	IN	RS	EN	CD	SA	IS	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			
20			v										v		
21			v											v	
22				v				v							
23				v					v						
24				v						v					
25				v							v				
26				v								v			
27				v									v		
28				v										v	
29					v			v							
30					v				v						
31					v					v					
32					v						v				
33					v							v			
34					v								v		
35					v									v	
36						v		v							
37						v			v						
38						v				v					
39						v					v				
40						v						v			
41						v								v	

Note:

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

Description:

Student will take one of enrichment program tracks

Certified Internship Track

Code	Course Name	SCU	Total
Enrichment Program I			
CPEN6129010	Computer Engineering Practical Experience I : For Industry Practice	8	20
CPEN6243010	Computer Engineering Technical Analysis I : For Industry Practice	8	
CPEN6245010	Computer Engineering EES Experience I : For Industry Practice	4	
Enrichment Program II			
CPEN6133010	Computer Engineering Practical Experience II : For Industry Practice	8	20
CPEN6244010	Computer Engineering Technical Analysis II : For Industry Practice	8	
CPEN6136010	Computer Engineering EES Experience II : For Industry Practice	4	

Certified Entrepreneurship Track

Code	Course Name	SCU	Total
Enrichment Program I			
ENTR6670010	Computer Engineering Practical Experience I : For Entrepreneurship - New Venture Initiation	8	20
ENTR6671010	Computer Engineering Technical Analysis I : For Entrepreneurship - Product Development Process	8	
ENTR6672010	Computer Engineering EES Experience I: For Entrepreneurship - EES in New Business I	4	
Enrichment Program II			
ENTR6673010	Computer Engineering Practical Experience I : For Entrepreneurship - Product Launching	8	20
ENTR6674010	Computer Engineering Technical Analysis I : For Entrepreneurship - Business Development	8	
ENTR6675010	Computer Engineering EES Experience I: For Entrepreneurship - EES in New Business II	4	

Certified Research Track

Code	Course Name	SCU	Total
Enrichment Program I			
RSCH6139010	Computer Engineering Practical Experience I : For Research Practice	8	20
RSCH6537010	Computer Engineering Technical Analysis I : For Research Practice	8	
RSCH6539010	Computer Engineering EES Experience I : For Research Practice	4	
Enrichment Program II			
RSCH6142010	Computer Engineering Practical Experience II : For Research Practice	8	20
RSCH6538010	Computer Engineering Technical Analysis II : For Research Practice	8	
RSCH6144010	Computer Engineering EES Experience II : For Research Practice	4	

Certified Community Development Track

Code	Course Name	SCU	Total
Enrichment Program I			
CMDV6059010	Computer Engineering Practical Experience I : For Community Development Project	8	20
CMDV6316010	Computer Engineering Technical Analysis I : For Community Development Project	8	
CMDV6318010	Computer Engineering EES Experience I: For Community Development Project	4	
Enrichment Program II			
CMDV6062010	Computer Engineering Practical Experience II : For Community Development Project	8	20
CMDV6317010	Computer Engineering Technical Analysis II : For Community Development Project	8	
CMDV6064010	Computer Engineering EES Experience II: For Community Development Project	4	

Certified Study Abroad Track

Code	Course Name	SCU	Total
Elective courses list for study abroad*			
Enrichment Program I			
GLOB6005010	Elective Course for Study Abroad 1	4	20
GLOB6006010	Elective Course for Study Abroad 2	4	
GLOB6007010	Elective Course for Study Abroad 3	4	
GLOB6008010	Elective Course for Study Abroad 4	4	
GLOB6009010	Elective Course for Study Abroad 5	2	
GLOB6010010	Elective Course for Study Abroad 6	2	
GLOB6011010	Elective Course for Study Abroad 7	2	
GLOB6012010	Elective Course for Study Abroad 8	2	
GLOB6013010	Elective Course for Study Abroad 9	2	
GLOB6014010	Elective Course for Study Abroad 10	2	
GLOB6015010	Elective Course for Study Abroad 11	2	
GLOB6016010	Elective Course for Study Abroad 12	2	
GLOB6249010	Elective Course for Study Abroad 27	3	
GLOB6250010	Elective Course for Study Abroad 28	3	
GLOB6251010	Elective Course for Study Abroad 29	4	
Enrichment Program II			
GLOB6017010	Elective Course for Study Abroad 13	4	20
GLOB6018010	Elective Course for Study Abroad 14	4	
GLOB6019010	Elective Course for Study Abroad 15	4	
GLOB6020010	Elective Course for Study Abroad 16	4	
GLOB6021010	Elective Course for Study Abroad 17	2	
GLOB6022010	Elective Course for Study Abroad 18	2	
GLOB6023010	Elective Course for Study Abroad 19	2	
GLOB6024010	Elective Course for Study Abroad 20	2	
GLOB6025010	Elective Course for Study Abroad 21	2	

Code	Course Name	SCU	Total
GLOB6026010	Elective Course for Study Abroad 22	2	
GLOB6027010	Elective Course for Study Abroad 23	2	
GLOB6028010	Elective Course for Study Abroad 24	2	
GLOB6041010	Elective Course for Study Abroad 25	3	
GLOB6252010	Elective Course for Study Abroad 30	3	
GLOB6253010	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/II			
CSIS6001010	Course Certification	3	
CSIS6002010	Technical Skill Enrichment	4	
CSIS6003010	Industrial Project	9	
CSIS6004010	Soft Skill Enrichment	4	
CSIS6005010	Elective Course for Specific Independent Study 1	8	
CSIS6006010	Elective Course for Specific Independent Study 2	8	
CSIS6007010	Elective Course for Specific Independent Study 3	6	
CSIS6008010	Elective Course for Specific Independent Study 4	6	
CSIS6009010	Elective Course for Specific Independent Study 5	6	
CSIS6010010	Elective Course for Specific Independent Study 6	5	
CSIS6011010	Elective Course for Specific Independent Study 7	5	
CSIS6012010	Elective Course for Specific Independent Study 8	5	
CSIS6013010	Elective Course for Specific Independent Study 9	5	
CSIS6014010	Elective Course for Specific Independent Study 10	4	
CSIS6015010	Elective Course for Specific Independent Study 11	4	
CSIS6016010	Elective Course for Specific Independent Study 12	4	
CSIS6017010	Elective Course for Specific Independent Study 13	4	
CSIS6018010	Elective Course for Specific Independent Study 14	4	
CSIS6019010	Elective Course for Specific Independent Study 15	3	
CSIS6020010	Elective Course for Specific Independent Study 16	3	
CSIS6021010	Elective Course for Specific Independent Study 17	3	
CSIS6022010	Elective Course for Specific Independent Study 18	3	
CSIS6023010	Elective Course for Specific Independent Study 19	3	
CSIS6024010	Elective Course for Specific Independent Study 20	3	
CSIS6025010	Elective Course for Specific Independent Study 21	2	
CSIS6026010	Elective Course for Specific Independent Study 22	2	
CSIS6027010	Elective Course for Specific Independent Study 23	2	
CSIS6028010	Elective Course for Specific Independent Study 24	2	
CSIS6029010	Elective Course for Specific Independent Study 25	2	
CSIS6030010	Elective Course for Specific Independent Study 26	2	

Code	Course Name	SCU	Total
CSIS6031010	Elective Course for Specific Independent Study 27	2	
CSIS6032010	Elective Course for Specific Independent Study 28	2	
CSIS6033010	Elective Course for Specific Independent Study 29	1	
CSIS6034010	Elective Course for Specific Independent Study 30	1	
CSIS6035010	Elective Course for Specific Independent Study 31	1	
CSIS6036010	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.*

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

No.	Course Code	Course Name	Minimal Grade
1.	CHAR6013010	Character Building: Pancasila	B
2.	COMP6875010	Physical Computing & Algorithm	C
3.	CPEN6219010	Circuit & Electronics*	C
4.	MATH6182010	Discrete Mathematics	C
5.	CPEN6220010	Computer Network & Information Security	C
6.	CPEN6222010	Mobile Application Development for Engineering*	C
7.	CPEN6252010	Introduction to Microcontroller*	C
8.	CPEN6254010	IOT Design & Application	C
9.	ENTR6511001	Entrepreneurship: Market Validation	C

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