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 intelligent and embedded systems to network infrastructure.

Vision

A world class Computer Engineering study program that focuses on the development of smart systems and continuously contributes 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 excel in methodological and computational skills to solve problems creatively within their professional and communities.
2. Our graduates can lead the team and be professionally responsible to benefit the organizations, society, and nation.
3. Our graduates sustainably update their knowledge by engaging in life-long learning to adapt to 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 multiple subspecialties or areas of concentration, such as:

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

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 10 credits of streaming or free electives courses or minor programs 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	Course		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[1&2]	4	
	Foreign Language Courses		0	
2	CHAR6014010	Character Building: Kewarganegaraan	2	20
	SCIE6050010	Physics II ***(AOL)***	4/1	
	MATH6139010	Calculus II ***(AOL)***	4	
	CPEN6219010	Circuit & Electronics[1&2] ***(AOL)***	4/1	
	COSC6090010	Object Oriented Programming	2	
	COSC6011010	Foundations of Artificial Intelligence	2	
	Foreign Language Courses		0	
3	MATH6182010	Discrete Mathematics	4	20
	STAT6151010	Probability and Statistic	4	
	CPEN6260010	Computer Organization and Architecture[1&2]	2	
	CPEN6265010	Digital System[1&2] ***(AOL)***	4/1	
	CPEN6261010	Microcontroller[1&2] ***(AOL)*** ***(AIE)***	2/1	
	LANG6027010	Indonesian	2	
	Foreign Language Courses		0	
4	CHAR6015010	Character Building: Agama	2	19
	CPEN6254010	IOT Design & Application[1&2] ***(AOL)***	4	
	CPEN6220010	Computer Networks & Information Security[1&2]	4/1	
	CPEN6222010	Mobile Application Development for Engineering[1&2] ***(AOL)*** ***(AIE)***	2	
	CPEN6253010	Linux Operating Systems	2	
	ENPR6311001	Creativity and Innovation	2	
	Technical Elective3			
	COMP6876010	UI/UX Design	2	
	COMP6959010	Database Design	2	
	Foreign Language Courses		0	
5	CPEN6251010	System & Project Engineering[1&2] ***(AOL)***	4	21
	CPEN6083010	Digital Signal Processing[1]	2/1	
	CPEN6262010	Parallel Processing	2	
	ENPR6312001	Venture Creation	2	
	Stream: Intelligent Autonomous System			
	CPEN6236010	PLC Programming for Industrial Automation[1&2]	2	
	COSC6091010	Machine Learning	4	
	CPEN6263010	Intelligent Robotics	4	

Sem	Course		SCU	Total
	Stream: Applied Networking			
	CPEN6227010	Advanced Computer Network[1&2]	4	
	CPEN6228010	Applied Network Security[1]	4	
	CPEN6232010	Cloud Technology Practice[1]	2	
	Stream: Embedded System			
	CPEN6126010	Cross Platform Application Development[1&2]	4	
	CPEN6264010	Advanced Logic Design	2	
	COSC6091010	Machine Learning	4	
	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 Credits 146 SCU

[1)] This course is delivered in English
[2)] Global Learning System course
[3)] Students should choose 2 credits from the list of technical electives
*-) **AOL** - Assurance of Learning Process System*
*-) **AIE** - Artificial Intelligence Embedded Course*

Streaming/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.

Foreign Language Courses:

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

The following are the provisions of the courses that must be taken by students:

Foreign Language Courses		SCU
ENGL6253010	English for Frontrunners	0
ENGL6254010	English for Independent Users	0
ENGL6255010	English for Professionals	0
JAPN6190010	Basic Japanese Language	0
CHIN6163010	Basic Chinese Language	0

*) This course is optional for students

1. Students with Beelingua Placement Test score less than 60 are required to take English for Frontrunners and English for Independent Users.
2. Students with Beelingua Placement Test score between 60 and 99 are required to take English for Independent Users and English for Professionals.
3. Students with Beelingua Placement Test score greater than 99 are required to take English for Professionals. Additionally, students may choose to take either Basic Japanese Language or Basic Chinese Language.
4. Students are required to pass the foreign language courses before they take enrichment.
5. Students can see the requirements to pass the foreign language courses at BINUSMAYA – Beelingua.

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

Minor Scheme

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

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

1. Minor Program: Creative Digital Storytelling

Introduction

Digital storytelling, by definition, is the process of telling a story using video, images, audio, music, geospatial applications, and any other digital media. Thus, this minor introduces the concept and skills in producing and communicating videos, images, and texts through English. It is interdisciplinary in its nature and relies heavily on critical and analytical thinking. It also aims to familiarize students with the technology/ tools needed to adapt a

literary work to another form or vice versa. It is the minor that blend perspectives of arts with humanities to facilitate new interpretation of literary works.

Career Options

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

Course Distribution

Fundamental Courses

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

Additional Information

None

2. Minor Program: Cross Cultural Communication

Introduction

This minor program equips students with the ability to communicate using languages and understanding cultures of foreign parties. In addition, this minor program enables students to apply intercultural awareness through both Indonesian and foreign languages and cultures.

Career Options

Language specialist, language localization specialist, translator, interpreter, mobility consultant/staff.

Course Distribution

Fundamental Courses

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

Additional Information

None

3. Minor Program: Data Analytics

Introduction

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

Career Options

Data Analyst, Marketing Analyst.

Course Distribution

Fundamental Courses

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

Additional Information

None

4. Minor Program: Digital Ecosystem

Introduction

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

Career Options

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

Course Distribution

Fundamental Courses

Course		SCU
COSC6196001	Immersive Technology	2
GAME6002001	Game Design	2
ISYS6549003	Digital Innovation	4
COMP6937001	Current Trends in Technology	2
	Total SCU	**10**

Additional Information

None

5. Minor Program: English for Business Professionals

Introduction

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

Career Options

Manager, Business practitioner, Entrepreneur, Professional employee.

Course Distribution

Fundamental Courses

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

Additional Information

None

6. Minor Program: Event Business and Entertainment

Introduction

This minor program provides practical and managerial skills, as well as knowledge of business in MICE (Meeting, Incentive, Convention, Exhibition) event, sport event, and festival, enabling students to plan and conduct a successful event.

Career Options

Professional event organizer, Professional Conference Organizer, Even Coordinator, Convention Services Supervisor, Venue Supervisor, Entertainment Supervisor, Event Promotor, Events Planner, Sporting Event Organizer, Catering Coordinator.

Course Distribution

Fundamental Courses

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

Additional Information

None

7. Minor Program: Interactive & Users Experience Design

Introduction

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

Career Options

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

Course Distribution

Fundamental Courses

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

Additional Information

None

8. Minor Program: Digital Transformation

Introduction

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

Career Options

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

Course Distribution

Fundamental Courses

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

Additional Information

None

9. Minor Program: Culinary

Introduction

The Culinary Minor Program provides learning that focuses on Culinary, Pastry & Bakery field. The curriculum design is more of practicums, which aim to make students have the competencies required in the fields of Food Production, Pastry & Bakery and Authentic Indonesian Cuisine.

Career Options

Entrepreneur in the field of Culinary (Resto, Café, Catering Business), Chef, Restaurant Owner/Manager.

Course Distribution

Fundamental Courses

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

SCU for HTMN6008021, HTMN6128021 are practical

Additional Information

None

10. Minor Program: Korean Culture and Creativity

Introduction

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

Career Options

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

Course Distribution

Fundamental Courses

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

Additional Information

None

11. Minor Program: Robotic Process Automation

Introduction

The Robotic Process Automation minor program provides an understanding of the concept of Robotic Process Automation (RPA) in automating repetitive processes, as well as providing an understanding of how the RPA development process involving the concept of Artificial Intelligence.

Career Options

RPA Developer, RPA Architect, RPA Business Analyst, System Analyst, Corporate Information Systems Designer, Technopreneur, IS Project Manager, IT/IS Consultant.

Course Distribution

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**

Additional Information

None

12. Minor Program: Chinese for Career Pathways

Introduction

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

Career Options

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

Course Distribution

Fundamental Courses

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

Additional Information

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

13. Minor Program: Content Creation

Introduction

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

Career Options

Content Creator, Influencer, Social media Specialist.

Course Distribution

Fundamental Courses

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

Additional Information

None

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

Introduction

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

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

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

Career Options

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


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Course Distribution

Fundamental Courses

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

Additional Information

None

15. Minor Program: Metaverse in Business

Introduction

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

Career Options

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

Course Distribution

Fundamental Courses

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

Additional Information

None

16. Minor Program: Global Business

Introduction

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

Career Options

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

Course Distribution

Fundamental Courses

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

Additional Information

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

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		

Note:

IN	: Company Internship	SA	: Study Abroad
RS	: Research Fellowship	IS	: Specific Independent Study
EN	: Entrepreneurship	FS	: Fast Track
CD	: Community Impact Internship	etc	: Study Program Special Purposes

Description:
Student will take one of enrichment program tracks

Company 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	

Research Fellowship 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	

Entrepreneurship Track

Code	Course Name	SCU	Total
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	

Community Impact Internship Track

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

Study Abroad Track

Code	Course Name	SCU	Total
Elective courses list for study abroad*			
Enrichment Program II			20
GLOB6017010	Elective Course for Study Abroad 13	4	
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	
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*.

Specific Independent Study Track

Code	Course Name	SCU	Total
Elective courses list for specific independent study*			
Enrichment Program II			20
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	

Code	Course Name	SCU	Total
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	
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 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	Code	Course Name	Minimum Passing Grade
1	CHAR6013001	Character Building: Pancasila	B
2	COMP6875010	Physical Computing & Algorithm	C
3	CPEN6219010	Circuit & Electronics*	C
4	CPEN6265010	Digital System	C
5	CPEN6261010	Microcontroller*	C
6	CPEN6220010	Computer Networks & Information Security	C
7	CPEN6222010	Mobile Application Development for Engineering*	C

8	CPEN6254010	IOT Design & Application	C
9	ENPR6312001	Venture Creation	C

*) Tutorial