

## Computer Science

### Introduction

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

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

BINUS Computer Science Program @Semarang, is part of the School of Computer Science, which emphasizes the processes and techniques used for the development of computer-based systems. By focus on Mobile Technology, Intelligent Systems, Game Technology, Augmented Reality, Virtual Reality, and Software Engineering. Computer Science BINUS Semarang has streaming Mobile & Game Technology, where students will explore more at Mobile technology, Game Technology, and Artificial intelligence along with the current developments in technology 4.0.

### Vision

A world class study program by providing excellent educational experiences in computer science, which focuses on developing Artificial Intelligence in mobile and game applications, providing entrepreneurial skills, fostering and empowering the society in building and serving the nation.

### Mission

1. Educating students to effectively apply their educational experiences in computer science, especially in the development of Artificial Intelligence in mobile and game applications 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. (PO1) Graduates will become successful professionals in ICT fields
2. (PO2) Graduates will obtain employment in global companies or become entrepreneurs.
3. (PO3) Graduates will obtain professional certification or continue their study to the postgraduate

### Student Outcomes

After completing the study, graduates are:

1. [(SO 1) Able to analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions
2. [(SO 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. [(SO 3) Able to communicate effectively in a variety of professional contexts
4. [(SO 4) Able to recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles
5. [(SO 5) Able to function effectively as a member or leader of a team engaged in activities appropriate to computer science
6. [(SO 6) Able to apply computer science theory and software development fundamentals to produce computing-based solutions

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

1. Analyst
2. Developer
3. Entrepreneur

### Curriculum

The curriculum of the Computer Science 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.

### Course Structure

Sem	Code	Course Name	SCU	Total
1	CHAR6044051	Character Building: Pancasila	2	20
	MATH6198051	Discrete Mathematics	4	
	MATH6199051	Linear Algebra	2	
	COMP6878051	Algorithm and Programming <sup>2</sup> ( <b>AOL</b> )	4/2	
	COMP6791051	Program Design Methods <sup>1</sup> ( <b>AOL</b> )	2	
	LANG6114051	Indonesian	2	
	STAT6202051	Basic Statistics	2	
	<b>Foreign Language Courses</b>			
2	CHAR6045051	Character Building: Kewarganegaraan	2	20
	COMP6879051	Data Structures <sup>1&amp;2</sup> ( <b>AOL</b> )	4/2	
	MATH6200051	Calculus ( <b>AOL</b> )	4	
	ENPR6317051	Creativity and Innovation	2	
	COMP6880051	Human and Computer Interaction <sup>2</sup> ( <b>AOL</b> )	2/1	
	MATH6201051	Scientific Computing ( <b>AOL</b> )	2/1	
	<b>Foreign Language Courses</b>			
3	CHAR6043051	Character Building: Agama	2	21

Sem	Code	Course Name	SCU	Total	
	COMP6891051	Algorithm Design and Analysis <sup>1</sup> (AOL)	4		
	CPEN6256051	Computer Networks (AOL)	2/1		
	COMP6892051	Artificial Intelligence <sup>2</sup> (AOL)	4		
	SCIE6079051	Computational Physics (AOL)	2/1		
	COMP6893051	Database Technology <sup>2</sup> (AOL)	2/1		
	COMP6894051	Object Oriented Programming <sup>1&amp;2</sup>	2		
	<b>Foreign Language Courses</b>				0
4	COMP6895051	Research Methodology in Computer Science <sup>1</sup> (AOL)	2	21	
	COMP6896051	Software Engineering <sup>2</sup> (AOL)	4		
	SCIE6080051	Computational Biology	2/1		
	<b>Streaming: Mobile and Game Technology (MGT)<sup>4</sup></b>				
	COMP6897051	Game Design & Programming	2/2		
	COMP6898051	User Experience <sup>2</sup>	2		
	COMP6899051	Machine Learning	2		
	COMP6900051	Mobile Embedded Systems	4		
	<b>Streaming: Software Engineering (SE)<sup>5</sup></b>				
	COSC6092001	Code Reengineering	2/2		
	COSC6093001	Software Architecture	2/2		
	COSC6094001	Mobile Hybrid Solution <sup>2</sup>	2/2		
	<b>Streaming: Intelligent System (IS)<sup>5</sup></b>				
	COMP6885001	Natural Language Processing <sup>1&amp;2</sup>	2/2		
	COMP6577001	Machine Learning	4		
	COMP7116001	Computer Vision <b>1</b>	2/2		
	<b>Streaming: Interactive Multimedia (IM)<sup>5</sup></b>				
	COMP8129001	User Experience <b>1&amp;2</b>	2/2		
	COSC6095001	Multimedia System and Programming Foundation <b>1&amp;2</b>	2/2		
	COSC6096001	Extended Reality	2		
	COMP7128001	Game Design	2		
	<b>Streaming: Database Technology (DT)<sup>5</sup></b>				
	COSC6097001	Data Engineering	2/1		
	COMP6579001	Big Data Processing <b>1&amp;2</b>	2/2		
	COSC6098001	Data Visualization	2		
	COSC6099001	Data Analytics	2/1		
	<b>Streaming: Network Technology (NT)<sup>5</sup></b>				
COMP6824001	Computer Security <sup>1</sup>	2/2			
COMP6584001	Network and System Programming <b>1&amp;2</b>	2/2			
COSC6100001	Cloud Infrastructure	2/2			

Sem	Code	Course Name	SCU	Total
	<b>Streaming: Game Application Technology (GAT)<sup>5</sup></b>			
	GAME6069001	Game Programming <sup>1&amp;2</sup>	4	
	GAME6082001	Game Animation <sup>1&amp;2</sup>	2	
	COSC6094001	Mobile Hybrid Solution <sup>2</sup>	2/2	
	<b>Streaming: Data Science (DS)<sup>5</sup></b>			
	DTSC6013001	Data Mining and Visualization <sup>1</sup>	2	
	DTSC6011001	Survey and Sampling Methods	2	
	COMP6577001	Machine Learning	4	
	DTSC6003001	Big Data Infrastructure and Technology <sup>1</sup>	2	
	<b>Streaming: Cyber Security (CS)<sup>5</sup></b>			
	COMP6842001	Server and Network Administration <sup>1&amp;2</sup>	2	
	COMP6549001	Software Security <sup>1&amp;2</sup>	2	
	COMP6844001	Mobile Penetration Testing <sup>2</sup>	2/2	
	LAWS6110001	Cyber Law	2	
	<b>Streaming: Internet of Things (IoT)<sup>6</sup></b>			
	COMP6849031	Embedded System	2/2	
	COMP6850031	Multimedia & Mixed Reality	2/1	
	MOBI6072031	Mobile programming	2/1	
	COMP6655031	Cyber Security in IoT	2	
	<b>Streaming: Cloud Technology (CT)<sup>6</sup></b>			
	COMP6988031	Introduction to Cloud Computing	2/2	
	COMP6989031	Web Based Programming	2/2	
	COMP6990031	Introduction to Cloud security	2	
	<b>Streaming: Digital Creative Technology (DCT)<sup>7</sup></b>			
	COMP6679004	Web Programming <sup>2</sup>	4	
	COMP6856004	Popular Programming Technology <sup>1</sup>	4	
	COSC6001004	User Experience	2	
	<b>STREAMING: Immersive Technology (IT)<sup>7</sup></b>			
	COSC6002004	User Experience for Digital Immersive Technology	2	
	COSC6003004	Multimedia and 3D Modelling	2/2	
	COSC6004004	3D Web Programming	2/2	
	<b>Elective Course BINUS @Malang<sup>7</sup></b>			
	COMP6955004	Database Design	2	
	<b>Foreign Language Courses<sup>3</sup></b>			0
<b>Minor Program<sup>4, 5, 6, 7</sup></b>			12	
<b>Free Electives</b>			12	
5	ENPR6318051	Venture Creation	2	
	COMP6901051	Compilation Techniques	4	

Sem	Code	Course Name	SCU	Total
	COMP6902051	Operating System ( <i>AOL</i> )	2	
	<b>General Courses for Stream Mobile and Game Technology (MGT)<sup>4</sup></b>			
	COMP6923051	Hybrid Application Development	2	
	<b>Streaming: Mobile and Game Technology (MGT)<sup>4</sup></b>			
	COMP6903051	Computer Vision	2/2	
	COMP6905051	Mobile and Game Development Capstone Project	4	
	<b>Streaming: Software Engineering (SE)<sup>5</sup></b>			
	COMP6122001	Framework Layer Architecture	2/2	
	COMP6115001	Object Oriented Analysis & Design <sup>1</sup>	2/2	
	<b>Streaming: Intelligent System (IS)<sup>5</sup></b>			
	COMP6822001	Speech Recognition	2/2	
	COMP6826001	Deep Learning	2/2	
	<b>Streaming: Interactive Multimedia (IM)<sup>5</sup></b>			
	COMP6583001	Computer Graphics	2/2	
	COMP7139001	Game Programming <sup>1</sup>	4	
	<b>Streaming: Database Technology (DT)<sup>5</sup></b>			
	COMP6590001	Geographical Information System <sup>1</sup>	2/2	
	COMP6140001	Data Mining	2/2	
	<b>Streaming: Network Technology (NT)<sup>5</sup></b>			
	COSC6104001	Cloud Interfacing with Virtualization	2/2	
	COSC6105001	Cloud Native Applications	2/2	
	<b>Streaming: Game Application Technology (GAT)<sup>5</sup></b>			
	GAME6093001	Serious Game & Gamification	2	
	GAME6084001	Game Development Capstone Project <sup>1&amp;2</sup>	4	
	GAME6071001	3D Modeling for Games <sup>1&amp;2</sup>	2	
	GAME6092001	Fundamental in Game Balancing	2	
	GAME6091001	Advanced Game Development	2	
	<b>Streaming: Data Science (DS)<sup>5</sup></b>			
	DTSC6010001	Bayesian Data Analysis	2	
	COMP6826001	Deep Learning	2/2	
	DTSC6002001	Data Management and Organization <sup>1</sup>	2	
	DTSC6008001	Text Mining	2	
	DTSC6004001	Data Security	2	
	<b>Streaming: Cyber Security (CS)<sup>5</sup></b>			
	COMP6544001	Network Penetration Testing <sup>2</sup>	2/2	
	COMP6695001	Secure Programming <sup>1,2</sup>	2	
	COMP6843001	Reverse Engineering and Binary Exploitation	2	
	COMP6646001	Computer Forensic <sup>1,2</sup>	2	

Sem	Code	Course Name	SCU	Total
	COMP6873001	Blockchain Fundamental	2	
	<b>Streaming: Internet of Things (IoT)<sup>6</sup></b>			
	COMP6757031	Computer Vision in Internet of Things	2/2	
	COMP6882031	Portable Operating System Interface	2/2	
	<b>Elective Course BINUS @Bandung (IoT)<sup>6&amp;8</sup></b>			
	COMP6921031	Web Development	2	
	COMP6922031	Cloud Computing	2	
	<b>Streaming: Cloud Technology (CT)<sup>6</sup></b>			
	COMP6991031	Cloud Services	2/2	
	COMP6993031	Application Development in Cloud	2/2	
	COMP6992031	Software Development Operations in Cloud Environments	2	
	<b>Elective Course BINUS @Bandung (CT)<sup>6&amp;9</sup></b>			
	COSC6009031	Mobile Programming	2	
	COSC6010031	Embedded Systems	2	
	<b>Streaming: Digital Creative Technology (DCT)<sup>7</sup></b>			
	COMP6678004	Big Data Analytics for Business	4	
	MOBI6063004	Mobile Application Programming <sup>2</sup>	4	
	COSC6005004	Agile Software Development	2	
	<b>Streaming: Immersive Technology (IT)<sup>7</sup></b>			
	COSC6006004	Augmented Reality Application Programming	2/2	
	COSC6007004	Virtual Reality Application Programming	2/2	
	COSC6008004	Immersive Technology Capstone Project	2	
	<b>Elective Course BINUS @Jakarta<sup>10</sup></b>			
	COSC6108001	Mobile Programming	2	
	COMP6586001	Embedded Systems	2	
	COMP6226001	Competitive Programming <sup>1</sup>	2	
	COMP6681001	Web Programming	2	
	COSC6065001	Network Security Fundamental	2	
	COSC6101001	Mobile Professional Solution	2	
	<b>Minor Program<sup>4, 5, 6</sup></b>		8	
	<b>Free Electives</b>		8	
	<b>Cross Streaming</b>		8	
	<b>Total SCU Streaming IoT, CT, DCT, SE, IS, IM, DT, NT, MGT</b>			<b>18</b>
	<b>Total SCU Streaming GAT, CS, DS</b>			<b>20</b>
	<b>Cumulative SCU of Streaming/Minor/Cross Streaming</b>			<b>100</b>
6	<b>Enrichment Program I</b>		20	20
7	<b>Enrichment Program II</b>		20	20
8	COMP6906051	Pre-Thesis	2	6

Sem	Code	Course Name	SCU	Total
	COMP6907051	Thesis	4	
	COMP6908051	Thesis	6	
<b>TOTAL CREDITS 146 Credits</b>				

- 1) This course is delivered in English
- 2) Global Learning System course
- 3) Students will take foreign language courses according to BINUS University English proficiency test results. See foreign language courses appendix for the detail.
- 4) Conducted for student mobility program in BINUS @Semarang
- 5) Conducted for student mobility program in BINUS @Jakarta
- 6) Conducted for student mobility program in BINUS @Bandung
- 7) Conducted for student mobility program in BINUS @Malang
- 8) Students must choose 1 course (2 credits) from the list of elective courses for Streaming IoT.
- 9) Students must choose 1 course (2 credits) from the list of elective courses for Streaming Cloud Technology.
- 10) Students must choose 1 course (2 credits) from the list of elective courses for Streaming SE, IS, IM, DT, NT.

#### Enrichment Program:

-) For 6<sup>th</sup> Semester: Student will take one of enrichment program tracks (off campus). See enrichment appendix for the tracks detail.

-) For 7<sup>th</sup> Semester: Student will take one of enrichment program tracks (off campus). See enrichment appendix for the tracks detail.

#### Foreign Language Courses:

Students will take foreign language courses according to Beelingua Placement Test results. See foreign language courses appendix for the details. Students must pass with a minimum Grade of C.

#### Appendix Foreign Language Courses

Foreign Language Courses		SCU
ENGL6253053	English for Frontrunners	0
ENGL6254053	English for Independent Users	0
ENGL6255053	English for Professionals	0
JAPN6190053	Basic Japanese Language	0
CHIN6163053	Basic Chinese Language	0

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

## Minor Scheme

Minor Program	Semester 4	Semester 5
<b>Minor @ Binus Kemanggisian</b>		
Human Capital in Digital Workplace	v	v
Sustainable Development	v	v
Cross Cultural Communication	v	v
Interactive & Users Experience Design	v	v
Data Analytics	v	v
Robotic Process Automation	v	v
Event Business and Entertainment	v	v
Creative Digital Storytelling	v	v
Digital Banking	v	v
Blockchain Technology and Business	v	v
<b>Minor @ Binus Alam Sutera</b>		
Digital Transformation	v	v
<b>Minor @ Binus Bekasi</b>		
Culinary	v	v
<b>Minor @ Binus Malang</b>		
Digital Technopreneur	v	v
<b>Minor @ Binus Bandung</b>		
DesignPreneur	v	v
<b>Minor @ Binus Semarang</b>		
Metaverse in Business	v	v
Content Creation	v	v

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

### 1. Minor Program: Human Capital In Digital Workplace

#### Introduction

HCDW focuses on the human aspect of improving performance and developing human resources in the Industrial 4.0 era, which utilizes a significant number of digital and mobile workspaces.

#### Career Options

Human resource consultant, human resource manager, HR application developer (HRIS developer), HR development consultant

#### Course Distribution

##### Fundamental Courses

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

### Additional Information

None

## 2. Minor Program: Sustainable Development

### Introduction

The minor program on the topic of Sustainable Development prepares students from other disciplines for careers in engineering-related fields. Students will receive enrichment in the fields of Architecture, Industrial Engineering, Civil Engineering, Computer Engineering, and Food Technology. Students also gain knowledge of the development and application of the latest technology in the engineering field, which supports sustainable development and the industrial revolution 4.0.

### Career Options

Construction Manager; Property Manager; Building Manager; Civil Engineer; Project Manager; Pre Sales and Marketing Engineer, Product Specialist, Product Development, Business Development.

### Course Distribution

#### Fundamental Courses

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
<b>Total SCU</b>	<b>20</b>

### Additional Information

None

## 3. 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
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
<b>Total SCU</b>		20

### Additional Information

None

## 4. 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 evaluation and improvement 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 8 (eight) subjects that can be selected.

### Career Options

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

### Course Distribution

#### Fundamental Courses

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
<b>Total SCU</b>		20

### Additional Information

None

## 5. 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
ISYS6682003	Application of Predictive Analytics to Business Data	4
ISYS6683003	Prescriptive Analytics and Optimization	4
MKTG6312005	Digitalization of Markets and Consumption	2
<b>Total SCU</b>		<b>20</b>

### Additional Information

None

## 6. 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
ISYS6685003	RPA Developer Advance	4
ISYS6686003	RPA Business Analytics Fundamental	4
ISYS76687003	Business Process Improvement	2
COMP6859001	Intelligence Automation	2
<b>Total SCU</b>		<b>20</b>

### Additional Information

None

## 7. 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) events, sport events, 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
TRSM6233022 Event Sponsorship and Funding	2
TRSM6234022 Sport and Entertainment Event Management	4
TRSM6235022 Festival & Cultural Event	4
<b>Total SCU</b>	<b>20</b>

### Additional Information

None

## 8. 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
ENGL6276024	Cultures, Language, and Arts Production	4
JAPN6212025	Anime and Manga as Storytelling	2
ENGL6277024	Music as Medium for Storytelling	4
<b>Total SCU</b>		20

### Additional Information

None

## 9. Minor Program: Digital Banking

### Introduction

A set of elective courses students can take from selected study programs at Binus University. This set aims to;

- Comprehensive understanding of various concepts and practices in digital banking.
- Critically Evaluate the implementation of digital banking for business optimization.
- Apply relevant techniques of digital banking for business.
- Develop solutions for various problems in digital banking.

### Career Options

This minor would substantially contribute to the banking profession in Indonesia and its ecosystem (regulators, IT-Business Consultant, Financial Analysts, and other Finance Professions).

## Course Distribution

### Fundamental Courses

Course		SCU
ISYS6824003	Technology Innovation in Banking	2
FINC6217020	Bank Risk Management in the Digital Era	4
FINC6218020	Digital Finance and The Role of Central Bank	4
MGMT6510005	Script Development & Pitching	4
ISYS6825003	Cultures, Language, and Arts Production	4
MGMT6511005	Anime and Manga as Storytelling	2
<b>Total SCU</b>		20

### Additional Information

None

## 10. Minor Program: Blockchain Technology and Business

### Introduction

Blockchain is currently one of the fastest-growing industries in the technology sector. Also, based on Gemini's 2022 outlook, Indonesia is the most crypto-adopting country in Asia. The blockchain minor program initiative at BINUS could facilitate the students to learn and explore the technology. The Blockchain minor program explores the concept and development of blockchain from the technology and business perspectives. Beyond the blockchain concept, students will learn how to develop smart contracts and understand the architectural needs of a blockchain-based application. Finally, students will apply their knowledge in a project-oriented capstone course, during which they will design and develop a practical application of blockchain technology.

### Career Options

Blockchain Consultant, Blockchain Architect, Blockchain Security Auditor, Token Economy Consultant, Smart Contract Developer, Web3 Entrepreneur.

### Course Distribution

#### Fundamental Courses

Course	SCU
ISYS6826003 Introduction to Blockchain Technology	4
ISYS6827003 Blockchain Economy & Business	4
DTSC6016001 Basic Blockchain Programming	2
ISYS6828003 Blockchain Architecture Design and Implementation	4
DTSC6017001 Advanced Blockchain Programming	2
<b>Total SCU</b>	<b>20</b>

### Additional Information

None

## 11. 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

Course	SCU
ISYS6695003 Digital Marketing Analysis	4
STAT6200049 Practical Statistics for Digital Business	4
MGMT6352005 Digital Strategy	4
<b>Total SCU</b>	<b>20</b>

#### Additional Information

None

## 12. Minor Program: Culinary

### Introduction

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

### Career Options

Entrepreneur in the field of Culinary (Resto, Café, Catering Business), Chef, Restaurant Owner/Manager, Food Supplier. Food distributor, Food & Beverage Specialist.

### Course Distribution

#### Fundamental Courses

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
<b>Total SCU</b>	<b>20</b>

#### Additional Information

None

## 13. Minor Program: Digital Technopreneur

### Introduction

Digital Technopreneur is a Business Potential Digitalization Development Program that combines Technical Competence with Entrepreneurial Skills, Creativity, and Innovative Ideas to produce Business Models and Prototypes supported by the Use of Digital Technology.

### Career Options

Entrepreneur, Digital-preneur, Techno-preneur, Creative-preneur, Design-preneur.

### Course Distribution

#### Fundamental Courses

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

#### Additional Information

None

### 14. Minor Program: Designpreneur

#### Introduction

The Designpreneur Minor program give students the ability to be able to produce innovative work in the form of products or services based on creativity and design that can be utilized in running or developing a business.

#### Career Options

Design journalist, product designer, packaging designer, service system designer, service process analyst, creative director, sociopreneur.

#### Course Distribution

##### Fundamental Courses

Course		SCU
ENTR6525032	Fundamental of Designpreneur	4
COMP6688031	UI/UX Development	4
DSGN6797034	Surface Packaging Design	4
ENTR6526032	Hospitality and Service Design	4
DSGN6843033	Project Design	4
<b>Total SCU</b>		<b>20</b>

#### 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
ISYS6778052 Data Analytics	2
DSGN6981053 Design Thinking	4
DSGN6980053 Interface Design	4
<b>Total SCU</b>	<b>20</b>

### Additional Information

None

## 16. Minor Program: Content Creator

### 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. As consumer behavior shifts from traditional to digital ways, brands today need content creators to attract consumers' attention through creative and not monotonous marketing content.

### Career Options

Content Creator, Influencer, Social media Specialist.

## Course Distribution

### Fundamental Courses

Course	SCU
FILM6105009 Filmmaking Fundamental	4
MKTG6392055 Digital marketing	4
DSIN6042053 Photography for Creators	2
DSGN6990053 Creative Storytelling	4
DSIN6043053 Strategic Influence	2
DSIN6041053 Introduction to Visual Communication Design	4
<b>Total SCU</b>	<b>20</b>

### Additional Information

None

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

No	Course Owner Department	Course Code	Course Name	SCU	Semester
<b>BINUS @ SEMARANG</b>					
1	Information Systems	ISYS6721052	Introduction to Database Systems	2	4
2	Information Systems	ISYS6723052	Enterprise System	4	4
3	Information Systems	ISYS6750052	Information Systems Project Management	4	5
4	Visual Communication Design	DSGN6988053	Digital Creative Thinking	4	4
5	Industrial Engineering	ISYE6254054	Data Analysis & Visualization	2	4
6	Industrial Engineering	ISYE6257054	Industrial 4.0 & Implementation	2	4
7	Industrial Engineering	ISYE6265054	Digital Transformation strategy	4	5
8	Industrial Engineering	ISYE6269054	Sustainable Supply Chain Engineering	2	5
9	Industrial Engineering	ISYE6271054	Sustainable Service Engineering	2	5
<b>BINUS GREATER JAKARTA</b>					
10	Business Management	MGMT6401005	Digital Supply Chain Management	2	4
11	Business Management	MGMT6460005	Retail Supply Chain Management	2	5
12	Management	MGMT6462005	Leadership Agility	4	4
13	Management	MGMT6196005	Project Management	4	4
14	Management	MGMT6033005	Advanced Topics in Business and Organization	2	4
15	Management	ISYS6079005	E-Business System	4	4
16	Management	ISYS6744005	E-Business Strategy and Implementation	4	4
17	Management	ISYS6085005	Advanced Topics in E- Business	2	4
18	Global Business Marketing	MKTG6270005	Retail and Omni Channel	2	5
19	Civil Engineering	CIVL6080013	Construction Methods & Heavy Equipment	2	5
20	Civil Engineering	COMP6046013	Computer Applications in Construction Management	2	5
21	Civil Engineering	CIVL6030013	Environmental Engineering	2	5
22	Civil Engineering	CIVL6002013	Case Study in Civil Engineering	2	5
23	Computer Engineering	CPEN6098010	Computer Networks	2/2	5
24	Computer Engineering	CPEN6126010	Cross Platform Application Development	4	5
25	Computer Engineering	CPEN6225010	Telco Network & Switching System	2	5

26	Computer Engineering	CPEN6232010	Cloud Technology Practice	2	5
27	Computer Engineering	CPEN6220010	Computer Networks & Information Security	4/1	5
28	Industrial Engineering	ISYE6181011	System Engineering & Analysis	2	4
29	Industrial Engineering	ISYE6041011	Engineering Economy	2	4
30	Industrial Engineering	ISYE6067011	Global Supply Chain	2	5
31	Industrial Engineering	ISYE6165011	Supply Chain Risk & Negotiation	2	5
32	Industrial Engineering	ISYE6115011	Transportation Modeling	2	5
33	Industrial Engineering	MKTG6128011	Market Research	2	5
34	Industrial Engineering	ISYE6167011	Decision Support System	2	5
35					
36	Industrial Engineering	ISYE6168011	Financial Engineering	2	5
37	Industrial Engineering	ISYE6130011	Project Management	2	5
38	Industrial Engineering	ISYE6169011	Maintenance Management Systems	2	5
39	Industrial Engineering	ISYE6170011	Sustainable Engineering Systems	2	5
	Industrial Engineering	ISYE6113011	Leadership & Organizational Behavior	2	5
40	Food Technology	CPEN6235015	IoT in Food Industry	2	5
41	Architecture	ARCH6xxx014	Digital Construction	4	5
42	Architecture	ARCH6128014	Multimedia in Design Presentation	4	5
43	Computer Science	COMP6823001	Multimedia Systems	2	4
44					
45	Computer Science	ISYS6211001	Web Based Application Development	2/2	4
46	Computer Science	COMP7128001	Game Design	2	4
47	Computer Science	COMP6586001	Embedded Systems	2	5
48	Computer Science	COMP6590001	Geographical Information System	2/2	5
49	Computer Science	ISYS6197001	Business Application Development	2/2	5
50	Game Application and Technology	GAME6085001	Object Oriented Game Programming	2	5
51	Tourism	BUSS6137022	Tourism E-Business	4	4
52	Hotel Management	HTMN6001021	Introduction to Hospitality	4	4
53	Finance	FINC6189020	Introduction to Financial Market and Fin-Tech	2	5
54	Cyber Security	COMP6549001	Software Security	2	4
55	Cyber Security	COMP6542001	Computer Security Fundamental	2	5
56	Data Science	DTSC6005001	Data Mining and Visualization	2/1	4
57	Data Science	DTSC6006001	Machine Learning	2/1	5
58	Mobile Application & Technology	MOBI6068001	Web Design	2	5
59	Mobile Application & Technology	MOBI6070001	Embedded System and Internet of Things	3	5

60	Mobile Application & Technology	MOBI6059001	Mobile Programming	2	5
61	Statistics	STAT6157049	Data Mining and Visualization	2	5
62	Information Systems	BUSS6043003	Introduction to E-Business	4	4
63	Information Systems	ISYS6016003	Social Media Fundamental	2	4
64	Information Systems	ISYS6084003	Database	2/2	4
65	Information Systems	ISYS6169003	Database Systems	4/2	4
66	Information Systems	ISYS6210003	Data Visualization	2	4
67	Information Systems	ISYS6280003	Database Systems	4/2	4
68	Information Systems	ISYS6284003	Analytical Information System	4	4
69	Information Systems	ISYS6285003	Digital and New Media	2	4
70	Information Systems	ISYS6478003	Research Methods in Information Systems	2	4
71	Information Systems	ISYS6594003	Coding for Finance	2	4
72	Information Systems	ISYS6196003	Business Analytics	2	5
73	Information Systems	ISYS6199003	Data & Text Mining	4	5
74	Information Systems	ISYS6202003	Social Informatics	4	5
75	Information Systems	ISYS6289003	Collaborative Computing	4	5
76	Information Systems	ISYS6402003	Business Analytics	2/2	5
77	Information Systems	ISYS8066003	Business Process Management	4	5
78	Business Information Technology	ISYS6574003	Information Retrieval	4	4
79	Business Information Technology	ISYS6577003	Machine Learning & Foundations	2	4
80	Business Information Technology	ISYS6606003	Smart Application	2	4
81	Business Information Technology	ISYS6579003	Knowledge-Based AI: Cognitive Systems	4	5
82	Animation	DSGN6689007	Concept Art & Production Design	2	5
83	Animation	DSGN6690007	Animation Storytelling	2	5
84	Creative Advertising	DSGN6671007	Creative Writing for Commercials	4	4
85	Creative Advertising	DSGN6651007	Photography	4	4
86	Creative Advertising	DSGN6661007	Photography	4	5
87	Creative Advertising	DSGN6732007	Photography	4	5
88	Film	FILM6026009	History of Indonesian Cinema	2	4
89	Film	FILM6082009	Alternative Distribution and Film Festival	2	4
90	Film	FILM6080009	Southeast Asian Cinema & Popular Culture	4	4
91	Film	FILM6059009	Global Cinema	4	5
92	New Media	DSGN6743007	Digital Graphic Reproduction	4	5
93	Chinese Literature	CHIN6158026	Chinese Business in Daily Communication	4	4
94	Chinese Literature	CHIN6159026	Chinese Character Writing	2	4

95	Chinese Literature	CHIN6157026	Chinese Business for Etiquette (Beginner)	4	5
96	Chinese Literature	CHIN6158026	Chinese Business in Daily Communication	4	5
97	English Literature	SOCS6021024	Social and Digital Media Writing	2	5
98	English Literature	ENGL6169024	English for Professionals	2	5
99	English Literature	ENGL6244024	Social Media Broadcasting	4	5
100	Business Law	LAWS6017028	Intellectual Property Rights	4	5
101	Business Law	LAWS6110028	Cyber Law	2	5
102	Psychology	PSYC6130027	Human Performance Technology	4	5
103	Psychology	PSYC6191027	E-Learning Psychology	4	5
104	Primary Teacher Education	EDUC6073030	ICT for Distance Learning	4	4
105	Japanese Literature	JAPN6162025	Japanese Literary Criticism (Nihon Bungaku Hyouron)	2	4
106	Japanese Literature	JAPN6111025	Introductory Japanese I	4	4
107	Japanese Literature	JAPN6145025	Japanese Grammar I (Bunpou I)	4	4
108	Japanese Literature	JAPN6148025	Japanese Letter I (Kanji I)	2	4
109	Japanese Literature	JAPN6149025	Reading Comprehension I (Dokkai I)	2	4
110	Japanese Literature	JAPN6104025	Japanese Industry and Technology	2	4

### Enrichment Track Scheme

#### Enrichment Program I (6<sup>th</sup> Semester) & Enrichment Program II (7<sup>th</sup> Semester):

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

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



**Certified Entrepreneurship Track**

Code	Course Name	SCU	Total
<b>Enrichment Program I</b>			
ENPR6124051	New Venture Initiation in Computer Science	8	20
ENPR6125051	Computer Science Product Development Process	8	
ENPR6126051	EES in New Computer Science Business I	4	
<b>Enrichment Program II</b>			
ENPR6127051	Computer Science Product Launching	8	20
ENPR6128051	Computer Science Business Development	8	
ENPR6129051	EES in New Computer Science Business II	4	

**Certified Community Development Track**

Code	Course Name	SCU	Total
<b>Enrichment Program I</b>			
CMDV6407051	Community Outreach Project Implementation	8	20
CMDV6408051	Community Outreach IT Project Design	8	
CMDV6409051	Employability and Entrepreneurial Skills in Computer Science Community	4	
<b>Enrichment Program II</b>			
CMDV6410051	Community Development Project Implementation	8	20
CMDV6411051	Community Development IT Project Design	8	
CMDV6412051	Employability and Entrepreneurial Skills in Computer Science Community Development	4	

**Certified Study Abroad Track**

Code	Course Name	SCU	Total
<b>Elective courses list for study abroad*</b>			
<b>Enrichment Program I</b>			
GLOB6455051	Elective Course for Study Abroad 1		4
GLOB6456051	Elective Course for Study Abroad 2		4
GLOB6457051	Elective Course for Study Abroad 3		4
GLOB6458051	Elective Course for Study Abroad 4		4
GLOB6459051	Elective Course for Study Abroad 5		4
GLOB6460051	Elective Course for Study Abroad 6		2
GLOB6461051	Elective Course for Study Abroad 7		2
GLOB6462051	Elective Course for Study Abroad 8		2
GLOB6463051	Elective Course for Study Abroad 9		2
GLOB6464051	Elective Course for Study Abroad 10		2
GLOB6465051	Elective Course for Study Abroad 11		2
GLOB6466051	Elective Course for Study Abroad 12		2
GLOB6467051	Elective Course for Study Abroad 13		2
<b>Enrichment Program II</b>			
GLOB6468051	Elective Course for Study Abroad 14		4

Code	Course Name	SCU	Total
GLOB6469051	Elective Course for Study Abroad 15		4
GLOB6470051	Elective Course for Study Abroad 16		4
GLOB6471051	Elective Course for Study Abroad 17		4
GLOB6472051	Elective Course for Study Abroad 18		4
GLOB6473051	Elective Course for Study Abroad 19		2
GLOB6474051	Elective Course for Study Abroad 20		2
GLOB6475051	Elective Course for Study Abroad 21		2
GLOB6476051	Elective Course for Study Abroad 22		2
GLOB6477051	Elective Course for Study Abroad 23		2
GLOB6478051	Elective Course for Study Abroad 24		2
GLOB6479051	Elective Course for Study Abroad 25		2
GLOB6480051	Elective Course for Study Abroad 26		2

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

### Certified Specific Independent Study Track

Code	Course Name	SCU	Total
<b>Elective courses list for certified specific independent study*</b>			
CSIS6061051	Course Certification	3	20
CSIS6062051	Technical Skill Enrichment	4	
CSIS6063051	Industrial Project	9	
CSIS6064051	Soft Skill Enrichment	4	
CSIS6065051	Elective Course for Specific Independent Study 1	8	
CSIS6066051	Elective Course for Specific Independent Study 2	8	
CSIS6067051	Elective Course for Specific Independent Study 3	6	
CSIS6068051	Elective Course for Specific Independent Study 4	6	
CSIS6069051	Elective Course for Specific Independent Study 5	6	
CSIS6070051	Elective Course for Specific Independent Study 6	5	
CSIS6071051	Elective Course for Specific Independent Study 7	5	
CSIS6072051	Elective Course for Specific Independent Study 8	5	
CSIS6073051	Elective Course for Specific Independent Study 9	5	
CSIS6074051	Elective Course for Specific Independent Study 10	4	
CSIS6075051	Elective Course for Specific Independent Study 11	4	
CSIS6076051	Elective Course for Specific Independent Study 12	4	
CSIS6077051	Elective Course for Specific Independent Study 13	4	
CSIS6078051	Elective Course for Specific Independent Study 14	4	
CSIS6079051	Elective Course for Specific Independent Study 15	3	
CSIS6080051	Elective Course for Specific Independent Study 16	3	
CSIS6081051	Elective Course for Specific Independent Study 17	3	
CSIS6082051	Elective Course for Specific Independent Study 18	3	
CSIS6083051	Elective Course for Specific Independent Study 19	3	

Code	Course Name	SCU	Total
CSIS6084051	Elective Course for Specific Independent Study 20	3	
CSIS6085051	Elective Course for Specific Independent Study 21	2	
CSIS6086051	Elective Course for Specific Independent Study 22	2	
CSIS6087051	Elective Course for Specific Independent Study 23	2	
CSIS6088051	Elective Course for Specific Independent Study 24	2	
CSIS6089051	Elective Course for Specific Independent Study 25	2	
CSIS6090051	Elective Course for Specific Independent Study 26	2	
CSIS6091051	Elective Course for Specific Independent Study 27	2	
CSIS6092051	Elective Course for Specific Independent Study 28	2	
CSIS6093051	Elective Course for Specific Independent Study 29	1	
CSIS6094051	Elective Course for Specific Independent Study 30	1	
CSIS6095051	Elective Course for Specific Independent Study 31	1	
CSIS6096051	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.

### Certified Further Study Track

Code	Course Name	SCU
<b>Enrichment Program II Fast track M.MSI</b>		
ISYS6654031	Service Oriented Analysis and Design	4
ISYS6655031	Change Management for Enterprise	4
ISYS6656031	Digital Transformation Management	4
ISYS6657031	Data Analytics for Research	4
ISYS6660031	Visualization and Descriptive Analytics	4
<b>Total SCU</b>		20
<b>Enrichment Program II Fast track M.TI</b>		
COMP6815031	IT Disaster Recovery	4
COMP6816031	Wireless and Cloud Computing Technologies	4
COMP6817031	Internet Tools and Services	4
COMP6818031	Cyber Risk Management	4
COMP6819031	Knowledge Engineering	4
<b>Total SCU</b>		20

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

No	Code	Course Name	Minimum Passing Grade
1	CHAR6044051	Character Building: Pancasila	B
2	COMP6791051	Program Design Methods	C
3	COMP6878051	Algorithm and Programming	C
4	COMP6879051	Data Structures	C
5	COMP6893051	Database Technology	C
6	COMP6896051	Software Engineering	C
7	ENPR6100051	Entrepreneurship: Market Validation	C
8	COMP6902051	Operating System	C

\*) Tutorial and Multipaper

