

# CURRICULUM B2027

BUSINESS ENGINEERING  
BINUS-ASO SCHOOL OF ENGINEERING



Prof. Dr. Eng. Fergyanto E. Gunawan



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Excellence



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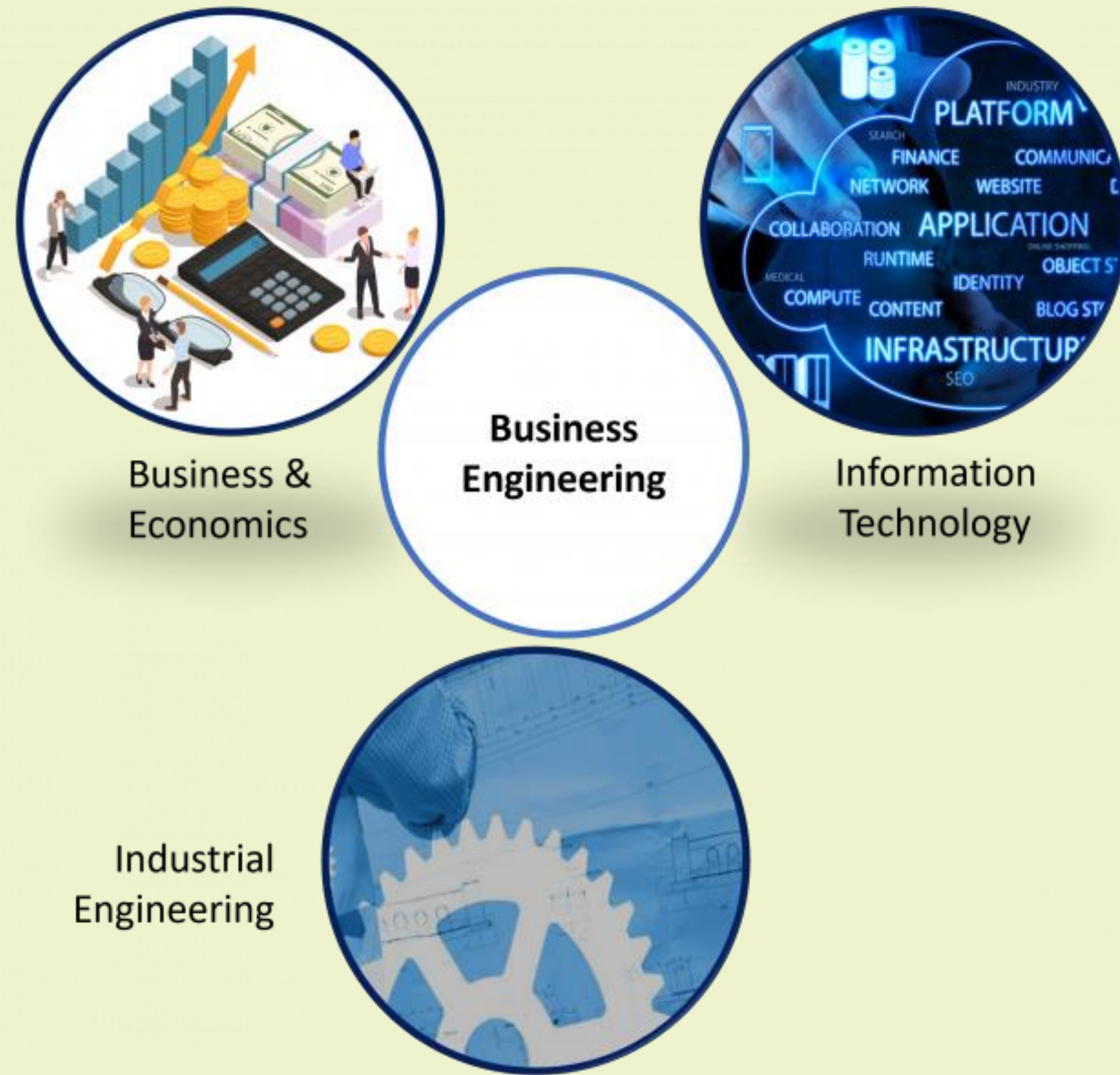
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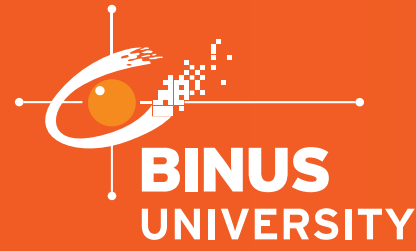


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# BUSINESS ENGINEERING IN A NUTSHELL





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# VISION, MISSION, AND PROGRAM OBJECTIVES



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# VISION, MISSION, AND PROGRAM OBJECTIVES

## VISION

A world-class Business Engineering Program by fostering and empowering society in building and serving the nation

» World-class

» Fostering and empowering society

» Serving the nation



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# VISION, MISSION, AND PROGRAM OBJECTIVES

## MISSION

The missions of Business Engineering Program are to:

1. Developing exemplary characters of Business Engineering through a holistic approach that meets global standards
2. Resolving the nation's issues in Business Engineering field study through high-impact research
3. Fostering BINUSIAN as lifelong learners through self-enrichment to align with Business Engineering
4. Empowering BINUSIAN to continuously improve society's quality of life with innovative business engineering.
5. Being the main driver to enrich the BINUS Higher Education system by applying Business Engineering knowledge and skills

» Exemplary Characters

» High-impact Research

» Lifelong Learners

» Continuous Improvement

» Main Driver





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## VISION, MISSION, AND PROGRAM OBJECTIVES

### PROGRAM OBJECTIVES

The objectives of the program are:

1. Utilize appropriate business engineering methods and tools for the benefit of the communities
2. Possess effective teamwork, leadership skills, and commitment to the highest standard of the profession and ethical practice
3. Continuously develop oneself to meet the evolving demands and increasing responsibilities for successful career for the benefit of the organization and society

» Business Engineering Methods

» Teamwork & Leaderships

» Continuous Effort



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## STUDENT OUTCOMES (SO)

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 conclusion.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

» Complex Engineering Problems

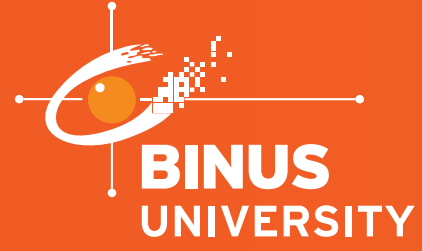
» Engineering Design

» Communication

» Ethical

» Teamwork





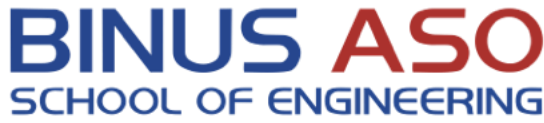
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# ALIGNMENTS



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# STUDENT OUTCOMES VS PROGRAM OBJECTIVES

Program Objectives	Student Outcomes (SO)						
	SO-1	SO-2	SO-3	SO-4	SO-5	SO-6	SO-7
OBJ-1	●	●	●	●	●	●	●
OBJ-2	●	●	●	●	●	●	●
OBJ-3	●	●	●	●	●	●	●

OBJ-1	Business Engineering Methods
OBJ-2	Teamwork & Leaderships
OBJ-3	Continuous Effort

SO-1	Complex Engineering Problems
SO-2	Engineering Design
SO-3	Communication
SO-4	Ethical
SO-5	Teamwork
SO-6	Engineering Judgement
SO-7	Acquire New Knowledge



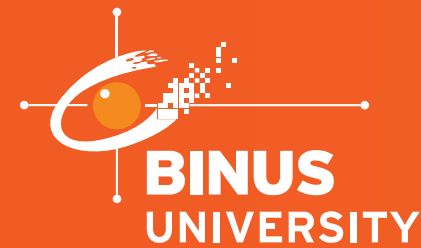
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SO-1	Complex Engineering Problems
SO-2	Engineering Design
SO-3	Communication
SO-4	Ethical
SO-5	Teamwork
SO-6	Engineering Judgement
SO-7	Acquire New Knowledge

STUDENT OUTCOMES VS GRADUATE PROFILES

Program Objectives	Student Outcomes (SO)						
	SO-1	SO-2	SO-3	SO-4	SO-5	SO-6	SO-7
BE Specialist	●	●	●	●	●		●
System Analyst	●	●	●	●		●	●
Business Consultant	●	●	●		●		●
Management Analyst	●		●	●	●		●
Business Development Manager	●	●	●	●	●		●
Project Manager	●	●	●	●	●		●
Supply Chain Management	●	●	●	●	●	●	●
IT Consultant	●	●	●				●
Financial Analyst	●	●	●	●		●	●
Operations Manager	●	●	●	●	●		●



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# UNIVERSITY COURSES



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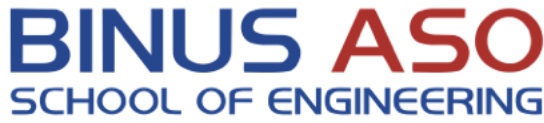
# UNIVERSITY COURSES

Description	Related University Courses
Have faith in God and able to demonstrate religious manner;	Character Building: Agama
Uphold humanity values in carrying out task based on religion, moral, and ethics;	Character Building: Agama
Contribute in the development of quality life in social, national, and civilization advancement based on Pancasila;	Character Building: Pancasila
Take part as a proud citizen who has national pride, nationalism, and responsibility for the country;	Character Building: Kewarganegaraan; Indonesian
Respect diversity of culture, view, religion, beliefs, opinion or other people’s finding;	Character Building: Kewarganegaraan
Work together, have social awareness, and care for society and environment;	Character Building: Kewarganegaraan, Entrepreneurship: Ideation, Entrepreneurship: Prototyping, Entrepreneurship: Market Validation
Obey the law and discipline in social and national life;	Character Building: Kewarganegaraan
Internalize academic values, norms and ethics;	Character Building: Kewarganegaraan, Character Building: Pancasila: Indonesian, English for Frontrunners, English for Independent Users, English for Professionals, Basic Japanese Language, Basic Chinese Language
Demonstrate responsibility for work in the field independently; and	Entrepreneurship: Ideation, Entrepreneurship: Prototyping, Entrepreneurship: Market Validation: Indonesian, English for Frontrunners, English for Independent Users, English for Professionals, Basic Japanese Language, Basic Chinese Language
Internalize self-autonomy, perseverance, and entrepreneurship.	Entrepreneurship: Ideation, Entrepreneurship: Prototyping, Entrepreneurship: Market Validation



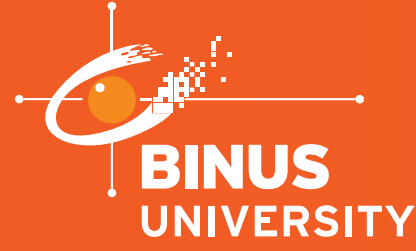


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# BINUS GRADUATE ATTRIBUTES

	Character Building Courses	Entrepreneurship Courses
Social Awareness	●	●
Growth mindset	●	●
Adaptability	●	●
Critical and creative thinking	●	●
Collaboration	●	●
Initiative		●



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# DISTRIBUTION OF COURSES



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# DISTRIBUTION OF COURSES

## SEMESTER 1

Group	Code	Course	SCU
MPK	CHAR6016011	Character Building: Pancasila	2
MKK	SCIE6031011	Physics I	4
	SCIE6037011	Biology	2
	MATH6098011	Calculus I	4
MKB	ECON6103011	Introduction to Economics	2
	PSYC6212011	General Psychology	2
	MGMT6452011	Marketing Management	2
	COMP6871011	Introduction to Programming	2
Total SCU			20
Cumulative SCU			20



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# DISTRIBUTION OF COURSES

## SEMESTER 2

Group	Code	Course	SCU
MPK	CHAR6017011	Character Building: Kewarganegaraan	2
MKK	MATH6100011	Calculus II	4
	MATH6175011	Chemistry	3
	SCIE6060011	Physics II	4/1
MKB	ISYS6711011	Management Information Systems	2
	ISYS6712011	Database Management Systems	2
	LANG6120011	Indonesian	2
Total SCU			20
Cumulative SCU			40



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## DISTRIBUTION OF COURSES

### SEMESTER 3

Group	Code	Course	SCU
MKK	MATH6108011	Linear and Discrete Mathematics	4
	STAT6108011	Probability Theory	2
	MATH6107011	Calculus III	4
	ISYE6197011	Human-Integrated Systems	2/1
MKB	ISYE6110011	Engineering Economy	2
	BSEN6001011	Data Visualization	2
	ENTR6589011	Entrepreneurship: Ideation	2
Total SCU			19
Cumulative SCU			59





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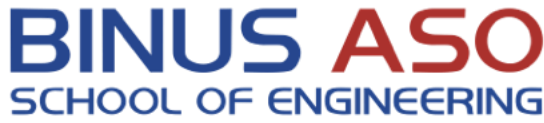
# DISTRIBUTION OF COURSES

## SEMESTER 4

Group	Code	Course	SCU
MPK	CHAR6018011	Character Building: Agama	2
MKK	STAT6184011	Stochastic Processes	2
	STAT6183011	Applied Statistics	2
MKB	ISYE6198011	Deterministic Optimization	3
	ISYE6201011	Quality Engineering	3
	ISYE6105011	Leadership and Organizational Behavior	2
	ISYE6199011	System Engineering & Analysis	2
	ISYE6243011	Financial Engineering	2/1
	ENTR6590011	Entrepreneurship: Market Validation	2
Total SCU			21
Cumulative SCU			80



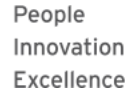
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# DISTRIBUTION OF COURSES

## SEMESTER 5

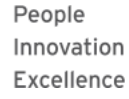
Group	Code	Course	SCU
MKB	ISYE6313011	Facility Planning and Safety Engineering	4
	ISYE6203011	Production & Operations Analysis	3/1
	ISYE6204011	Systems Simulation	3
	ISYE6242011	Decision Making Under Uncertainty	2/1
	ISYE6244011	Network Flow in Transportation and Logistics	3
	BSEN6002011	Data Mining & Analysis	2/1
Total SCU			20
Cumulative SCU			100



## DISTRIBUTION OF COURSES

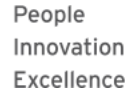
### SEMESTER 6

Group	Code	Course	SCU
MKB		Enrichment Program I	20
		Total SCU	20
		Cumulative SCU	120



## DISTRIBUTION OF COURSES SEMESTER 7

Group	Code	Course	SCU
MPB		Enrichment Program II	20
		Total SCU	20
		Cumulative SCU	140

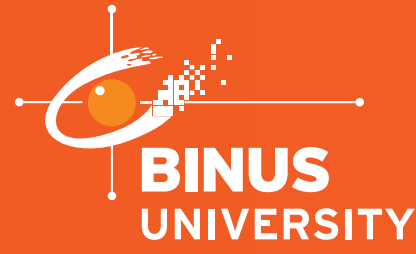


## DISTRIBUTION OF COURSES

### SEMESTER 8

Group	Code	Course	SCU
MKB	BSEN6003011	Final Project	6
		Total SCU	6
		Cumulative SCU	146





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# ENRICHMENT: APPENDIX



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## ENRICHMENT: APPENDIX

Semester	Code	Course	SCU
1	JAPN6213011	Japanese Language I	2
2	JAPN6178011	Japanese Language II	2
3	JAPN6179011	Japanese Language III	2
4	JAPN6131011	Japanese Language IV	2
5	JAPN6132011	Japanese Language V	2
8	BSEN6037011	Science and Technology Commercialization*	4
8	BSEN6038011	Engineering, Ethics and Society*	4

Total SCU 18

\*Summer course in Fukuoka, Japan



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## ENRICHMENT: ENRICHMENT TRACK SCHEME

Enrichment Program I (Semester 6) and Enrichment Program II (Semester 7)

1. Certified Internship (IN)
2. Certified Research (RS)
3. Certified Entrepreneurship (EN)
4. Certified Community Development (CD)
5. Certified Study Abroad (SA)
6. Certified Specific Independent Study (IS)



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## **ENRICHMENT: STUDY ABROAD**

### **INDONESIA INTERNATIONAL STUDENT MOBILITY AWARD (IISMA)**

University of Strathclyde, 2021, D DANANG KARUNA HARJANTO

Korea University, 2022, STEPHANIE BOESMAN

Hanyang University, 2022, KLEMENS RAPHAEL DRAGON

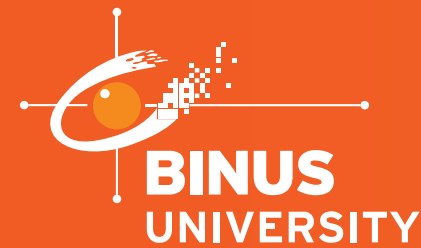
Nanyang Technological University, 2022, LAURENSIUS ALLEN CHRISTIE

Korea University, 2022, NATASHA ANGELINE HANSEN

Universiti Teknologi Malaysia, 2022, RONALDO BENITO

Singapore Management University, 2023, CHINDRA EVANDY TIVANIUS

Hanyang University, 2023, EDGAR CAESAR LIEWARNATA



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# COURSE PREREQUISITES





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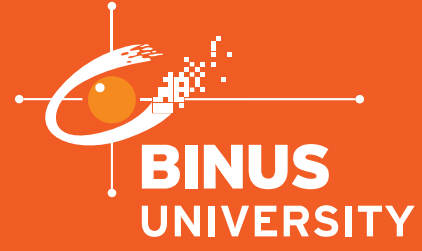


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## COURSE PREREQUISITES

Code	Course	SCU	Sem	Prerequisite Course
BSEN6003011	Final Project	6	8	Seluruh Mata Kuliah Inti Teknik Industri dan Mata Kuliah Program Business Engineering



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# QUALITY CONTROL COURSES

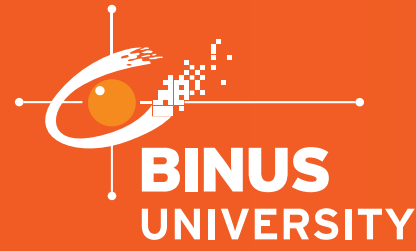


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# QUALITY CONTROL COURSE

Code	Course	Minimal Grade	Semester
CHAR6016011	Character Building: Pancasila	B	1



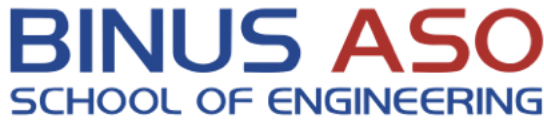
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# MINIMUM PASSING GRADE

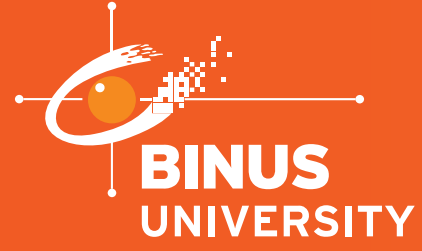


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# MINIMUM PASSING GRADE

Code	Course	Minimal Grade	Semester
CHAR6016011	Character Building: Pancasila	B	1
BSEN6003011	Final Project	C	8
	Others	D	



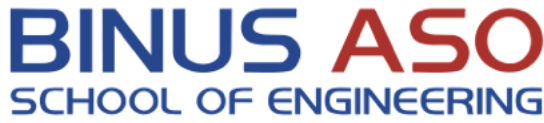
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# GRADING SYSTEM



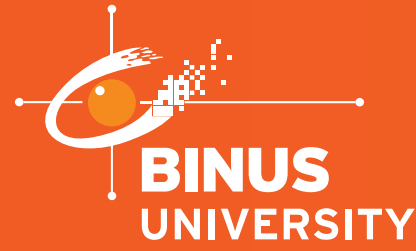
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## GRADING SYSTEM

Grade	Score	Weight
A	90 – 100	4.00
A-	85 – 89	3.67
B+	80 – 84	3.33
B	75 – 79	3.00
B-	70 – 74	2.50
C	65 – 69	2.00
D	50 – 64	1.00
E	0 – 49	0.00





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# BINUS-ASO ORGANIZATIONAL STRUCTURE



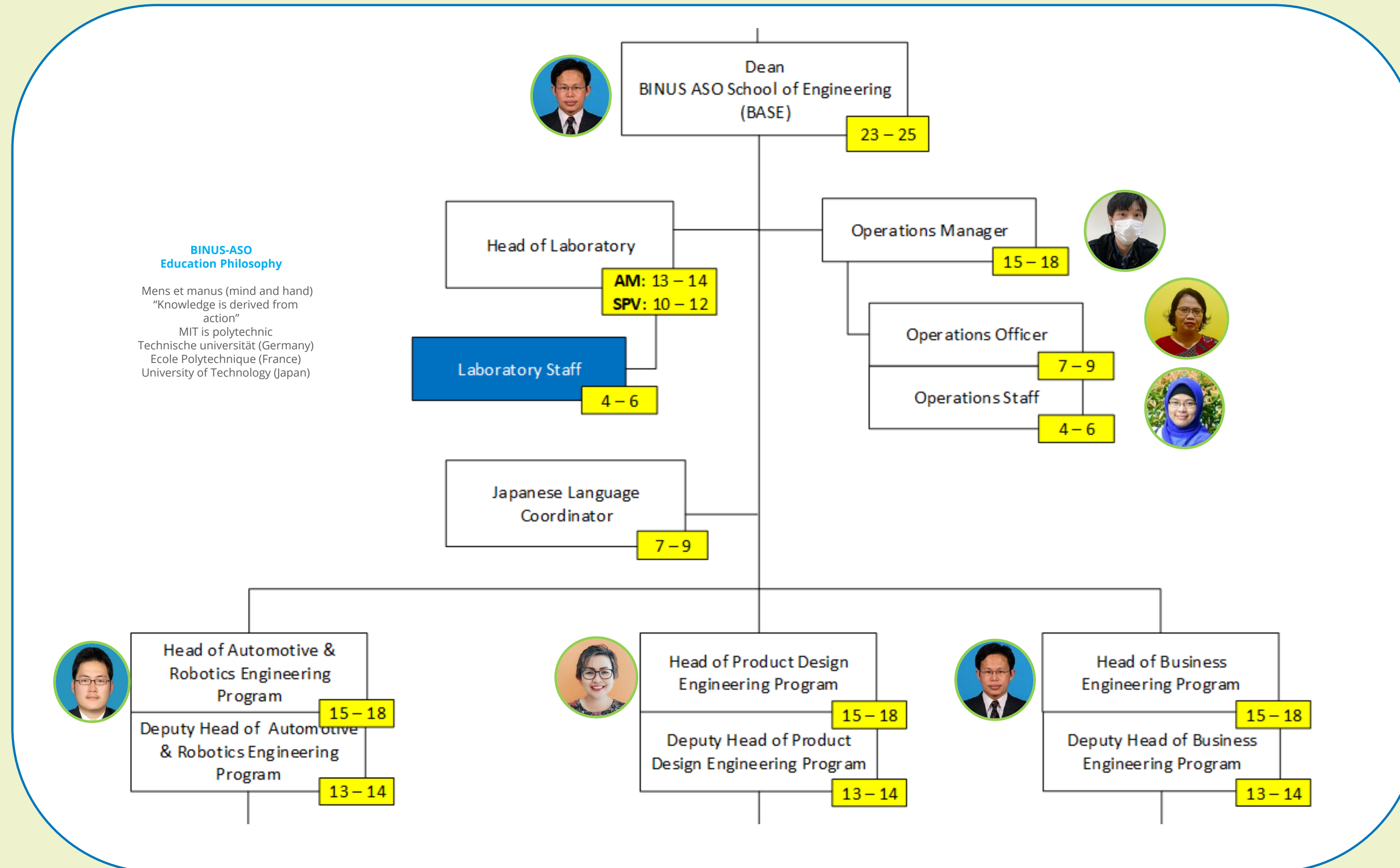
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## ABOUT ME

**FERGYANTO E. GUNAWAN** [ fgunawan@binus.edu • 0812-8360-5556 ]



### Education

Doctor of Engineering (Rompaku Program),  
Structural and System Engineering, Toyohashi  
University of Technology, Toyohashi, Japan

Master of Engineering, Mechanical Engineering,  
Bandung Institute of Technology, Bandung,  
Indonesia

Bachelor of Engineering, Aeronautics and  
Aerospace Engineering, Bandung Institute of  
Technology, Bandung, Indonesia

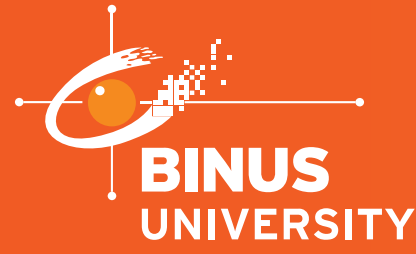
### Employment

Professor (2021 – Present) (GB 850). Associate  
Professor (2017 – 2021) (LK 550), Assistant  
Professor (2012 – 2017) (L 200), BINUS Graduate  
Program, Bina Nusantara University, Jakarta,  
Indonesia

Research Associate (2009 – 2010). School of Civil  
and Environmental Engineering. Western  
Australia University, Perth, Western Australia

Scientific Coworker (March – December 2009).  
Institute of Solid Mechanics, Technical  
Universtaet of Braunschweig, Germany

Assistant Professor (1998 – 2009), Department  
of Mechanical Engineering, Toyohashi University  
of Technology, Japan



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