



ASIIN Accreditation Document

Bachelor of Informatics Engineering (BIE)

NOVEMBER 2022

Faculty of Engineering
University of Mataram



**CURRICULUM DOCUMENT
BACHELOR OF INFORMATICS ENGINEERING
(BIE)**



**FACULTY OF ENGINEERING
UNIVERSITY OF MATARAM
INDONESIA**

**MATARAM, LOMBOK, WEST NUSA TENGGARA
NOVEMBER 2022**

PREFACE

Bachelor of Informatics Engineering (BIE), Faculty of Engineering, University of Mataram, is an informatics engineering study program. It is located in Mataram, Lombok, West Nusa Tenggara. This study program has the primary objective of producing graduates who can make a real contribution in the era of rapid technological development. To produce graduates with reliable competencies, BIE needs to develop a structured curriculum according to the needs of various stakeholders, the community, and the government.

This curricular document contains the curriculum foundation, curriculum evaluation mechanism, and other technical aspects related to the BIE curriculum, as material for publication, analysis, and evaluation. All inputs and suggestions regarding this document that the readers would like to convey will be gladly accepted.

Mataram, November 2022.

The Documentation Team

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CHAPTER 1

BIE PROFILE

1.1. BIE Brief Information

Bachelor of Informatics Engineering (BIE) is one of study programs in the Faculty of Engineering, University of Mataram, a public university in Indonesia, established in 1962. BIE was established in 2012 with approximately 100 new students being admitted each year. It is located in Mataram, West Nusa Tenggara, Indonesia. Table 1.1 shows brief information about BIE.

Table 1.1 BIE General Information

1	Name of University	University of Mataram / Universitas Mataram
2	Type of University	Public University
3	Faculty	Engineering
4	Study Program	Informatics Engineering (Bachelor)
5	Number of Lecturers	19
6	Address	Jl. Majapahit 62 Mataram, West Nusa Tenggara, Indonesia
7	Phone	(+62370) 631712
8	Website Address	https://if.unram.ac.id/
9	Graduate Degree	S.Kom. (Bachelor of Computer Science)

1.2. BIE Vision

To produce high-valued graduates, BIE holds the vision of:

"To become a study program to support high quality research and development in the field of information and communication technology at national level and recognised internationally."

1.3. BIE Mission

BIE contrives some missions, which are:

1. Producing graduates who are competitive, professional, proficient, and entrepreneurial with noble character through implementation of standardised outcome-based curriculum.
2. Establishing an excellent, up-to-date, and world-class and cross-sectoral research in the fields of informatics engineering.
3. Providing community services based on research outputs to improve the quality of community.
4. Strengthening cooperation with many institutions in Indonesia and/or overseas.
5. Strengthening human resources and establishing an effective management of the institution.

1.4. BIE Objectives

The objectives of BIE are:

1. Implementing a standardised outcome-based curriculum and providing excellent academic staffs and facilities for a constructive teaching and learning process
2. Producing professional graduates who are innovative, creative, competitive, having noble character, having entrepreneurial spirit, and proficient in the field of information technology.
3. Creating a research centre of excellence in the fields of informatics engineering fields that supports the implementation of cross-sector research.
4. Producing publications, intellectual property rights, and appropriate technology on a national and international scale.
5. Disseminating research that is beneficial for society.
6. Strengthening and increasing cooperation in the three pillars of higher education with national and foreign institutions.

CHAPTER 2

PROGRAM EDUCATION OBJECTIVE AND PROGRAM LEARNING OUTCOMES

BIE Program Education Objectives are stated on the basis of the vision and missions of BIE, the tracer study and stakeholders' feedbacks.

2.1. Program Education Outcome (PEO)

BIE is dedicated to support local genius, strive to produce graduates who are competent in Information Technology (IT) having characteristics of:

- Innovative, creative, strong leadership, good at communication and teamwork, and actively involved in the global technology development;
- Able to analyse and solve IT-related problems and having an entrepreneurial spirit to improve the quality of life of the local community, specifically in West Nusa Tenggara.

BIE defines Qualification Profile (QP) as soft and hard skills covering the following points.

- **Attitude and Leadership.** Having professional ethics and high integrity; good team management and networking; ready for sustainable learning to assure sophisticated qualification.
- **Knowledge and Technology.** Having good basic knowledge of IT as well as being experienced in applying research/projects with advanced technologies supported by communication and leadership skills.

With those two objectives, the graduates can participate in the following working area (Table 2.1). Table 2.1 describes BIE graduates' profile and their description. In Table 2.1, each graduate profile is nicknamed GP which stands for Graduate Profile.

Table 2.1 BIE University of Mataram Graduate Profiles and Their Descriptions

ID	Graduate Profiles (GP)	Description
GP1	Entrepreneurs or IT-related Issue Support	The graduates have good attitude, communication, and leadership skills, able to manage efficient and professional teamwork, establish a collaboration network, initiate and manage their own business, and prepare for sustainable learning to ensure sophisticated qualifications. The IT-related Issue Supports are non-IT-specific professions that gained from their IT skills mastery.
GP2	Software Developer	The graduates have skills to design, develop, maintain, and manage an effective system (stand-alone, web-based, and/or mobile applications) and to keep the system secure, graduates can work in the profit and non-profit institutions such as banks, telecommunication, public services, and IT specialists.
GP3	Academician, Researcher, or Information Technology Professional	The graduates have skills to analyse a system, propose development strategies, and implement integrated IT technologies to find an optimal solution, graduates can work as IT specialists, and infrastructure planners.
GP4	Intelligent System Developer	The graduates have knowledge and skills to mine data (image, speech, video, text, numeric) in a huge size, graduates can develop smart software to analyse and visualise valued information from the available data.
GP5	Network Infrastructure Developer	The graduates have skills to design network architecture and IoT systems; maintain, manage distributed computing and network resources, and ensure that the network and the data within it are secure; graduates can work on a big IT company, and be a network and/or cyber security planner/consultant.

2.2. Program Learning Outcome (PLO)

Program Learning Outcome (PLO) represents capabilities mastered by the graduates. These capabilities describe the teaching-learning process in the study program. These PLOs are basically derived from the Program Education Objectives that must be achieved. Table 2.2 suggests the PLO formulated by BIE. Meanwhile Table 2.3 presents the correlation matrix between PLO and ASIIN SSC (Subject

Specific Criteria) for computer-science-related study program. In this section, Table 2.4 indicates which Program Learning Outcome items that support the Graduate Profiles (GP) of BIE.

In Table 2.2, the numbers inside parentheses at the end of each PLO statements are the subsection heading number in ASIIN SSC. The PLO formulated by BIE is referred to ASIIN Subject-Specific Criteria for the Informatics/Computer Science field. According to curriculum guideline of the Directorate General of Higher Education (DGHE) Ministry of Education, Culture, Research, and Technology, the PLOs are grouped to **A**ttitudes, **S**kills, and **K**nowledge.

Table 2.2 Program Learning Objectives (PLO) of BIE Graduates

Attitude	
PLO1	<i>Humanitarian and Social Awareness.</i> Having ability to solve humanitarian and social issues, open minded, and concerned with academic/ professional ethics. (2.1.5)
PLO2	<i>Professional, Responsibility, and Sustainable Learning</i> Demonstrate professional attitude in boundary conditions; having ability and responsibility to work independently and/or as a team; and be ready for sustainability learning. (2.1.2, 2.1.5)
Skills	
PLO3	<i>Leadership and Communication.</i> Having managerial and communication skills to maintain their subordinates. In addition, the communicative skills (written and oral) will support their role to initiate and expand collaboration networks with their former supervisors, colleagues, and potential partners inside and/or across the institution/ country and manage possible conflicts. (2.1.6)
PLO4	<i>Entrepreneurship Experiences.</i> Having competence to run business with the support of information technology to evaluate its progress by applying data analysis knowledge. (2.1.5)
PLO5	<i>Information Technology Knowledge.</i> Having ability to develop an IT system based on the recent evaluation; then evaluate performance improvement of the updated system. (2.1.2, 2.1.3, 2.1.4)

PLO6	Scientific Logic. Having critical thinking analysis skill to innovate on the basis of their obtained knowledge and technology. In addition, the graduates are also urged to write scientific papers. (2.1.2, 2.1.6)
Knowledge	
PLO7	Fundamental and Engineering Knowledge. Having strong basic knowledge (mathematics, computations, statistics, system computer, and network) and solving complex problems related to informatics engineering. (2.1.1, 2.1.2)
PLO8	Data Engineering Solution. Having knowledge and expertise as a data analyst and/or data engineer; AI system developers; IoT developers; information system developers; system administrators; and database administrators. (2.1.1, 2.1.2, 2.1.3)
PLO9	Knowledge of Contemporary Issues and Local Wisdom. Having full awareness on local-community issues such as physical resources and human resources; being able to solve and evaluate local-community problems using advanced technology. (2.1.6)

Table 2.3 Correlation Matrix between PLO and ASIIN SSC for Computer Science Study Program

No	ASIIN Subject-Specific-Criteria	PLOs								
		1	2	3	4	5	6	7	8	9
1.	Formal, Algorithmic and Mathematical Competencies	√	√		√					
2.	Analysis, Design, Implementation and Project Management Competencies		√			√	√	√		
3.	Technological Competencies					√			√	
4.	Methodological and Transfer Competencies					√				
5.	Interdisciplinary Competencies	√	√		√					
6.	Social Competencies and Self-Competencies			√			√			√

Table 2.4 Program Learning Outcomes that Support the Graduate Profile (GP)

Program Learning Outcome (PLO)		Graduate Profile (GP)				
		GP1	GP2	GP3	GP4	GP5
Attitude						
PLO1	<i>Humanitarian, Social Awareness,</i>	√	√	√		
PLO2	<i>Professional, Responsibility, and Sustainable Learning</i>	√	√	√	√	√
Skills						
PLO3	<i>Leadership and Communication</i>	√	√	√	√	√
PLO4	<i>Entrepreneurship Experiences</i>	√	√	√		
PLO5	<i>Information Technology Knowledge</i>	√	√	√	√	√
PLO6	<i>Scientific Logic</i>	√	√	√	√	√
Knowledge						
PLO7	<i>Fundamental and Engineering Knowledge</i>	√	√	√	√	√
PLO8	<i>Data Engineering Solution</i>		√	√		
PLO9	<i>Knowledge of Contemporary Issues and Local Wisdom</i>	√	√	√		

* GP stands for Graduate Profile. The BIE Graduate Profile refers to Table 2.1.

CHAPTER 3

CURRICULUM STRUCTURE

Table 3.1 provides the distribution of BIE courses in its curriculum. There are various types of BIE courses: M (Mandatory), CE (Concentration Elective), and FE (Free Elective). To graduate from BIE, a student should at least complete the 144 SKS courses. SKS is Indonesia Credit Unit System. 1 SKS equals 170 minutes x 14 weeks of the class meeting. Considering that 1 ECTS equals 25 hours of study, 144 SKS is equivalent to 228 ECTS. Detail equivalence of SKS to ECTS for each course is presented in Table 3.1. The conversion factor for 1 SKS \approx 1.59 ECTS. BIE distributes courses about \pm 18 SKS per semester. Nevertheless, BIE allows students to take courses with allocated credits up to 24 SKS in a semester to facilitate students with a fast-learning phase. In this case, students must show an excellent academic grade.

Table 3.1 presents the BIE curriculum which also describes the distribution of the BIE courses in each semester. As a recall, BIE has some Program Learning Objectives (PLO) shown in Table 2.2. To help the reader quickly understand the relationship between BIE courses and their PLO, in Table 3.1, columns to formulate the correlation of BIE courses to BIE PLOs are provided and described in Table 2.2.

Table 3.1 Course Distribution of Informatics Engineering Study Program

No	Course ID	Name of Course	Type	Sem	SKS	ECTS	Program Learning Outcome (PLO)								
							Attitude		Skill				Knowledge		
							PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
1	W22K12	Information Technology Introduction	M	1	2	3,2	-	0,1	-		0,2	-	0,4	-	0,3
2	W22K11	Informatic Logic	M	1	3	4,8	-	0,1	-	-	-	0,6	0,3		
3	W22K13	Digital System	M	1	3	4,8	-	0,2	-	-	-	0,2	0,3	0,3	-
4	W22P11	Interpersonal Skill	M	1	2	3,2	0,3	0,3	0,4	-	-	-	-	-	-
5	W22P12	Technopreneurship	M	1	2	3,2	0,2	-	0,3	0,3	-	-	-	-	0,2
6	W22U12	Pancasila	M	1	2	3,2	0,5	0,5	-	-	-	-	-	-	-
7	W22U11	Calculus	M	1	3	4,8	-	-	-	-	0,2	0,2	0,3	0,3	-
8	W22U13	Religion Education	M	1	2	3,2	0,2	0,4	0,4	-	-	-	-	-	-
9	W22B23	Computer Architecture and Organization	M	2	3	4,8	0,2	-	-	-	0,3	-	0,3	0,2	-
10	W22B22	Discrete Mathematic	M	2	3	4,8	-	-	-	-	-	0,3	0,5	0,2	-

No	Course ID	Name of Course	Type	Sem	SKS	ECTS	Program Learning Outcome (PLO)								
							Attitude		Skill				Knowledge		
							PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
11	W22B21	Linear Algebra	M	2	2	3,2	-	-	-	-	-	0,2	0,4	0,4	-
12	W22K22	Algorithm and Programming	M	2	4	6,4	-	0,25	-	-	-	0,3	0,2	0,25	-
13	W22K21	Probability and Statistic	M	2	3	4,8	-	-	-	-	-	0,3	0,5	0,2	-
14	W22P21	Computer and Society	M	2	2	3,2	-	0,3	-	-	0,5	-	-	-	0,2
15	W22U22	English	M	2	2	3,2	0,3	0,2	0,5	-	-	-	-	-	-
16	W22U21	Citizenship	M	2	2	3,2	0,5	0,5	-	-	-	-	-	-	-
17	W22B31	Algorithm and Data Structure	M	3	3	4,8	-	-	-	-	-	0,2	0,55	0,25	-
18	W22B35	Information System	M	3	3	4,8	0,2	-	-	0,25	0,25	-	-	-	0,3
19	W22B36	Operating System	M	3	3	4,8	-	-	-	-	0,3	0,2	0,5	-	-
20	W22B32	Human Computer Interaction	M	3	2	3,2	-	0,2	-	-	0,4	-	0,4	-	-
21	W22B34	Database System	M	3	3	4,8	-	-	-	-	0,3	0,2	0,2	0,3	-

No	Course ID	Name of Course	Type	Sem	SKS	ECTS	Program Learning Outcome (PLO)								
							Attitude		Skill				Knowledge		
							PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
22	W22B33	Computer Network	M	3	3	4,8	-	-	-	-	0,3	0,2	0,3	0,2	-
23	W22K31	Numerical Method	M	3	3	4,8	-	0,1	-	-	0,2	0,3	0,4	-	-
24	W22B45	File System	M	4	3	4,8	-	-	-	-	0,2	0,4	0,2	0,2	-
25	W22B41	Object Oriented Programming and Analysis	M	4	2	3,2	-	-	-	-	0,3	0,3	0,2	0,2	-
26	W22B44	Software Engineering	M	4	3	4,8	-	-	-	0,2	0,4	-	0,4	-	-
27	W22B43	Digital Image Processing	M	4	3	4,8	-	-	-	-	-	0,3	0,4	0,3	-
28	W22B42	Web Programming	M	4	3	4,8	-	0,2	0,2	-	0,3	-	0,3	-	-
29	W22P41	Parallel Processing	E	4	3	4,8	-	0,2	-	-	0,4	-	0,4	-	-
30	W22U41	Scientific Paper Writing	M	4	2	3,2	0,2	0,2	0,6	-	-	-	-	-	-
31	K22B53	Artificial Intelligence	CE	5	3	4,8	-	-	-	-	0,1	0,3	0,3	0,3	-

No	Course ID	Name of Course	Type	Sem	SKS	ECTS	Program Learning Outcome (PLO)								
							Attitude		Skill				Knowledge		
							PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
32	K22B54	Object Oriented Programming	CE	5	3	4,8	-	0,2	0,2	-	0,3	-	0,3	-	-
33	K22B52	Information Technology Security	CE	5	2	3,2	-	-	-	-	0,2	0,2	0,3	0,3	-
34	K22B56	Research on Information Technology	CE	5	2	3,2	-	0,2	-	-	0,3	0,4	-	-	0,1
35	K22B55	Operational Research	CE	5	2	3,2	-	0,2	-	-	0,2	0,3	0,3	-	-
36	K22B57	Formal Language and Automata Theory	CE	5	3	4,8	-	-	-	-	-	0,3	0,6	0,1	-
37	K22B51	Big Data	CE	5	3	4,8	-	0,2	-	-	0,4	-	0,4	-	-
38	K22U51	Professional Ethic	CE	5	2	3,2	0,2	0,3	0,3	-	-	-	0,2	-	-
39	K22B61	Internet of Things (IoT)	CE	6	2	3,2	-	0,2	-	-	0,4	-	0,4	-	-
40	K22B62	Modelling and Simulation	CE	6	3	4,8	-	-	-	-	0,3	0,3	0,4	-	-

No	Course ID	Name of Course	Type	Sem	SKS	ECTS	Program Learning Outcome (PLO)								
							Attitude		Skill				Knowledge		
							PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
41	K22B63	Visual Programming	CE	6	3	4,8	-	-	-	-	0,3	0,4	0,3	-	-
42	W22B61	Practical Work	M	6	2	3,2	-	0,1	0,2	0,2	0,2	0,2	-	-	0,1
43	K22B64	Distributed System	CE	6	3	4,8	-	-	-	-	0,2	0,2	0,3	0,3	-
44	K22P61	Fuzzy Logic	CE	6	2	3,2	-	-	-	-	-	0,3	0,3	0,4	-
45	K22P62	Mobile Programming	CE	6	2	3,2	-	-	-	-	0,4	0,1	0,3	0,2	-
46	P22B08	Mobile Ad Hoc Network	FE	7	2	3,2	-	-	-	-	0,2	0,3	0,3	0,2	-
47	P22C09	Advanced Web Programming	FE	7	2	3,2	-	-	-	-	0,3	0,4	0,3	-	-
48	P22C03	Engineering Economy	FE	7	2	3,2	-	0,2	0,25	0,25	-	-	-	-	0,3
49	P22C12	Enterprise Information System	FE	7	2	3,2	-	0,2	-	0,2	0,3	-	-	-	0,3
50	P22C15	IT Governance	FE	7	2	3,2	0,1	0,1	-	0,25	0,25	-	-	-	0,3
51	P22B10	Database Technology	FE	7	2	3,2	-	-	-	-	0,4	-	0,3	0,3	-

No	Course ID	Name of Course	Type	Sem	SKS	ECTS	Program Learning Outcome (PLO)								
							Attitude		Skill				Knowledge		
							PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
52	K22B71	Internet Programming	CE	7	3	4,8	-	-	-	-	0,2	0,3	0,2	0,3	-
53	W22B71	Final Project I	M	7	2	3,2	-	0,1	0,1	-	0,2	0,2	0,1	0,2	0,1
54	W22L71	Field Study Service	M	7	4	6,4	0,2	0,2	0,2	0,3	-	-	-	-	0,1
55	K22P71	Artificial Neural Network	CE	7	2	3,2	-	0,1	-	-	-	0,2	0,3	0,4	-
56	K22U71	Software Development Project	CE	7	2	3,2	-	0,3	0,3	-	0,3	-	0,1	-	-
57	P22A10	Geospatial Information System	FE	7	2	3,2	-	-	-	-	0,3	0,3	-	-	0,4
58	P22C05	Industrial Management	FE	8	2	3,2	-	0,2	0,2	0,3	-	-	-	-	0,3
59	P22A09	Pattern Recognition	FE	8	2	3,2	-	-	-	-	-	0,2	0,3	0,4	0,1
60	P22A11	Steganography and Watermarking	FE	8	2	3,2	-	-	-	-	-	0,3	0,4	0,3	-

No	Course ID	Name of Course	Type	Sem	SKS	ECTS	Program Learning Outcome (PLO)								
							Attitude		Skill				Knowledge		
							PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
61	P22B01	Network Analysis and Planning	FE	8	2	3,2	-	-	-	-	0,2	0,3	0,2	0,3	-
62	P22C01	3D Animation	FE	8	2	3,2	-	-	-	-	0,3	-	0,3	0,4	-
63	P22B06	Advanced Computer Network	FE	8	2	3,2	-	-	-	-	0,3	0,2	0,2	0,3	-
64	P22C06	Software Management	FE	8	2	3,2	-	-	-	-	0,3	0,3	0,2	0,2	-
65	P22C07	Mobile Game	FE	8	2	3,2	-	-	-	-	0,4	0,3	0,2	-	0,1
66	P22B09	Mobile Security	FE	8	2	3,2	-	-	-	-	0,3	0,3	0,1	0,3	-
67	P22A05	Machine Learning	FE	8	2	3,2	-	-	-	-	-	0,3	0,3	0,4	-
68	M22K07	Independent Platform Programming	MB	8	2	3,2	-	-	-	-	0,4	0,3	0,2	-	0,1
69	P22A01	Artificial Intelligence Application	FE	8	2	3,2	-	-	-	-	-	0,2	0,3	0,4	0,1
70	W22B81	Final Project II	M	8	4	6,4	-	0,1	0,1	-	0,2	0,2	0,1	0,2	0,1

No	Course ID	Name of Course	Type	Sem	SKS	ECTS	Program Learning Outcome (PLO)								
							Attitude		Skill				Knowledge		
							PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
71	P22B07	Wireless Network	FE	8	2	3,2	-	-	-	-	0,4	0,3	0,2	-	0,1
72	Closed	Compression Method	FE	8	2	3,2	-	-	-	-	-	0,3	0,3	0,4	-
73	P22C08	Game Programming	FE	8	2	3,2	-	-	-	-	0,4	0,3	0,2	-	0,1
74	P22C11	Interaction Engineering	FE	8	2	3,2	-	-	-	-	0,3	0,3	0,4	-	-
75	P22C13	Multimedia System	FE	8	2	3,2	-	-	-	-	0,4	-	0,2	0,3	0,1
76	P22C14	Smart City System	FE	8	2	3,2	-	-	-	-	0,3	0,3	0,2	-	0,2
77	P22A06	Text Processing	FE	8	2	3,2	-	-	-	-	-	0,2	0,3	0,5	-
78	P22A03	Feature Extraction	FE	8	2	3,2	-	-	-	-	-	0,4	0,3	0,3	-
79	P22A02	Bioinformatics	FE	8	2	3,2	-	-	-	-	-	0,3	0,3	0,4	-
80	P22A08	Audio Processing	FE	8	2	3,2	-	-	-	-	-	0,3	0,3	0,4	-
81	P22C02	E-Business	FE	8	2	3,2	-	0,2	0,1	0,2	-	0,25	-	-	0,25

No	Course ID	Name of Course	Type	Sem	SKS	ECTS	Program Learning Outcome (PLO)								
							Attitude		Skill				Knowledge		
							PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
82	P22B02	Internet of Things Application	FE	8	2	3,2	-	0,2	-	-	0,4	-	-	0,4	-
83	P22B05	Data Mining	FE	8	2	3,2	-	0,2	-	-	-	0,4	-	0,4	-
84	P22A07	Digital Signal Processing	FE	8	2	3,2	-	-	-	-	-	0,3	0,3	0,4	-
85	M22K04	Work Ethic and Culture	MB	8	2	3,2	0,2	0,3	0,3	-	-	-	-	-	0,2
86	M22K09	Future Science Technology	MB	8	2	3,2	-	-	-	-	0,2	0,2	0,2	-	0,4
87	M22K03	Advanced Engineering Economics	MB	8	3	4,8	-	0,3	-	0,4	-	-	-	-	0,3
88	M22K06	Advanced Technopreneurship	MB	8	3	4,8	0,2	0,2	0,2	0,2	-	-	-	-	0,2
89	M22K05	Advanced Interpersonal Skill	MB	8	2	3,2	0,3	0,3	0,3	-	-	-	-	-	0,1
90	M22K02	International Language	MB	8	4	6,4	0,3	0,3	0,4	-	-	-	-	-	-

No	Course ID	Name of Course	Type	Sem	SKS	ECTS	Program Learning Outcome (PLO)								
							Attitude		Skill				Knowledge		
							PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
91	M22K08	Advanced IT Governance	MB	8	4	6,4	-	0,3	0,3	0,3	-	-	-	-	0,1
92	M22K10	ICT for Education	MB	8	4	6,4	-	0,3	0,3	-	0,3	-	-	-	0,1
93	M22K11	Applied ICT	MB	8	4	6,4	-	0,3	0,3	-	0,3	-	-	-	0,1
94	M22K15	Intelligent System Special Issue	MB	8	4	6,4	-	-	-	-	0,3	0,3	-	0,3	0,1
95	M22K12	Cloud Computing and IoT Special Issue	MB	8	4	6,4	-	-	-	-	0,3	0,3	0,3	-	0,1
96	M22K13	Computer Network and Security Special Issue	MB	8	4	6,4	-	-	-	-	0,2	0,2	0,3	0,3	-
97	M22K16	Information System Special Issue	MB	8	4	6,4	-	-	-	0,2	0,2	-	-	0,3	0,3
98	M22K14	Mobile Application Special Issue	MB	8	4	6,4	-	-	-	-	0,3	-	0,3	0,3	0,1

No	Course ID	Name of Course	Type	Sem	SKS	ECTS	Program Learning Outcome (PLO)								
							Attitude		Skill				Knowledge		
							PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
99	M22K01	Office Computer Application	MB	8	2	3,2	-	0,3	-	-	0,3	-	0,4	-	-
100	P22C04	Intro to Smart City Global Convergence	FE	7	2	3,2	-	0,2	0,1	0,2	-	0,25	-	-	0,25

* Abbreviations:

- Type of Course: M = Mandatory, CE = Concentration Elective, FE = Free Elective
- Special Type of Course: MB (MBKM) = Independent Learning-Independent Campus (Special course to support Indonesian Government Policy). It is relatively similar with elective course type.
- Sem = Semester
- SKS = *Satuan Kredit Semester* (Study Credit Unit of Indonesia)
- ECTS = European Credit Transfer and Accumulation System
- PLO = Program Learning Outcome

CHAPTER 4
PROGRAM LEARNING OUTCOME ASSESSMENT AND EVALUATION

BIE provides some measurement and evaluation criteria for each PLO provided on the curriculum. Table 4.1 provides the measurement and evaluation parameters for each PLO. The list of PLO comes from Table 2.2.

Table 4.1 Assessment and Evaluation Parameter for the PLO

Type	PLO	PLO Description	Assessment and Evaluation	
			Indicator	Method
Attitude	PLO1	<u><i>Humanitarian and Social Awareness</i></u> Having ability to solve humanitarian and social issues, open minded, and concerned with academic/ professional ethics. (2.1.5)	<ul style="list-style-type: none"> • Student involvement in community activities 	<ul style="list-style-type: none"> • Project • Report • Case Study • Presentation
	PLO2	<u><i>Professional, Responsibility, and Sustainable Learning</i></u> Demonstrate professional attitude in boundary conditions; having ability and responsibility to work independently and/or as a team; and be ready for sustainability learning. (2.1.2, 2.1.5)	<ul style="list-style-type: none"> • Punctuation on task submission • Ability and Responsibility on teamwork • Skill on solving given problems 	<ul style="list-style-type: none"> • Written test • Presentation • Project

Type	PLO	PLO Description	Assessment and Evaluation	
			Indicator	Method
Skill	PLO3	<p><u><i>Leadership and Communication</i></u></p> <p>Having managerial and communication skills to maintain their subordinates. In addition, the communicative skills (written and oral) will support their role to initiate and expand collaboration networks with their former supervisors, colleagues, and potential partners inside and/or across the institution/ country and manage possible conflicts. (2.1.6)</p>	<ul style="list-style-type: none"> • Ability to deliver ideas on public • Ability to work as a team on handling a task 	<ul style="list-style-type: none"> • Presentation • Project
	PLO4	<p><u><i>Entrepreneurship Experiences</i></u></p> <p>Having competence to run business with the support of information technology to evaluate its progress by applying data analysis knowledge. (2.1.5)</p>	<ul style="list-style-type: none"> • Ability to design a business idea based on given criteria 	<ul style="list-style-type: none"> • Presentation • Project • Portfolio • Poster
	PLO5	<p><u><i>Information Technology Knowledge.</i></u></p> <p>Having ability to develop an IT system based on the recent evaluation; then</p>	<ul style="list-style-type: none"> • Solution design quality for a problem given by lectures related to the IT field. Students' scores would increase when their design fits criteria on a given problem 	<ul style="list-style-type: none"> • Written test • Project • Case Study

Type	PLO	PLO Description	Assessment and Evaluation	
			Indicator	Method
		evaluate performance improvement of the updated system. (2.1.2, 2.1.3, 2.1.4)	<ul style="list-style-type: none"> How significant is the impact of the application to solve the problem 	
	PLO6	<p><u>Scientific Logic</u></p> <p>Having critical thinking analysis skill to innovate on the basis of their obtained knowledge and technology. In addition, the graduates are also urged to write scientific papers. (2.1.2, 2.1.6)</p>	<ul style="list-style-type: none"> The effectiveness of the program code written by students Students' presentation and writing skills in a course that discusses logic in the field of science 	<ul style="list-style-type: none"> Written test Project Presentation
Knowledge	PLO7	<p><u>Fundamental and Engineering Knowledge</u></p> <p>Having strong basic knowledge (mathematics, computations, statistics, system computer, and network) and solving complex problems related to informatics engineering. (2.1.1, 2.1.2)</p>	<ul style="list-style-type: none"> Students' competence in solving related problem 	<ul style="list-style-type: none"> Written test Journal
	PLO8	<p><u>Data Engineering Solution</u></p>	<ul style="list-style-type: none"> Students' presentation skills to provide ideas on solving a given problem 	<ul style="list-style-type: none"> Presentation Project Case Study

Type	PLO	PLO Description	Assessment and Evaluation	
			Indicator	Method
		Having knowledge and expertise as a data analyst and/or data engineer; AI system developers; IoT developers; information system developers; system administrators; and database administrators. (2.1.1, 2.1.2, 2.1.3)		
	PLO9	<p><u><i>Knowledge of Contemporary Issues and Local Wisdom</i></u></p> <p>Having full awareness on local-community issues such as physical resources and human resources; being able to solve and evaluate local-community problems using advanced technology. (2.1.6)</p>	<ul style="list-style-type: none"> • Students' ability to contribute both ideas and real actions in the community 	<ul style="list-style-type: none"> • Presentation • Project • Case Study • Poster



KEMENTERIAN PENDIDIKAN, KEBUDAYAAN,
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SALINAN

KEPUTUSAN REKTOR UNIVERSITAS MATARAM
NOMOR 15163/UN18/HK/2022

TENTANG

PENETAPAN KURIKULUM PROGRAM STUDI TEKNIK INFORMATIKA
FAKULTAS TEKNIK

REKTOR UNIVERSITAS MATARAM,

- Menimbang : a. bahwa sehubungan dengan hasil rapat senat Fakultas Teknik dan review oleh Lembaga Penjaminan Mutu dan Pengembangan Pendidikan (LPMPP) tentang Penyusunan Perubahan Kurikulum Tahun 2022, maka perlu ditetapkan melalui Keputusan Rektor;
- b. bahwa berdasarkan Surat Wakil Rektor Bidang Akademik Nomor 14903/UN18.1/EP/2022 tanggal 8 November 2022, perihal mohon diterbitkannya Surat Keputusan Rektor tentang Penetapan Kurikulum Program Studi Teknik Informatika Fakultas Teknik;
- c. bahwa berdasarkan pertimbangan sebagaimana dimaksud dalam huruf a dan b, perlu menetapkan Keputusan Rektor tentang Penetapan kurikulum Program Studi Teknik Informatika Fakultas Teknik;
- Mengingat : 1. Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 tentang Sistem Pendidikan Nasional (Lembaran Negara Republik Indonesia Tahun 2003 Nomor 78, Tambahan Lembaran Negara Republik Indonesia Nomor 4301);
2. Undang-Undang Republik Indonesia Nomor 12 Tahun 2012 tentang Pendidikan Tinggi (Lembaran Negara Republik Indonesia tahun 2012 Nomor 158, Tambahan Lembaran Negara Republik Indonesia Nomor 5336);
3. Peraturan Pemerintah Republik Indonesia Nomor 4 Tahun 2014 tentang Penyelenggaraan Pendidikan Tinggi dan Pengelolaan Perguruan Tinggi (Lembaran Negara Republik Indonesia tahun 2014 Nomor 16, Tambahan Lembaran Negara Republik Indonesia Nomor 5500);
4. Keputusan Presiden Republik Indonesia Nomor 257 Tahun 1963 tentang Pendirian Universitas Negeri di Mataram;
5. Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor 116 Tahun 2014 tentang Organisasi dan Tata Kerja Universitas Mataram (Berita Negara Republik Indonesia Tahun 2014 Nomor 1549);
6. Peraturan Menteri Riset, Teknologi dan Pendidikan Tinggi Republik Indonesia Nomor 45 Tahun 2017 tentang Statuta Universitas Mataram (Berita Negara Republik Indonesia Tahun 2017 Nomor 1215);
7. Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor 3 Tahun 2020 tentang Standar Nasional Pendidikan Tinggi (Berita Negara Republik Indonesia Tahun 2020 Nomor 47);
8. Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor 25 Tahun 2020 tentang Standar Satuan Biaya Operasional Perguruan Tinggi pada Perguruan Tinggi Negeri di Lingkungan Kementerian Pendidikan dan Kebudayaan;

9. Keputusan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia Nomor 11686/MPK.A/KP.07.00/2022 Tahun 2022 tentang Pengangkatan Rektor Universitas Mataram Periode 2022-2026;

MEMUTUSKAN:

Menetapkan : KEPUTUSAN REKTOR TENTANG PENETAPAN KURIKULUM PROGRAM STUDI TEKNIK INFORMATIKA FAKULTAS TEKNIK.

KESATU : Menetapkan kurikulum Program Studi Teknik Informatika Fakultas Teknik.

KEDUA : Keputusan Rektor ini mulai berlaku pada tanggal ditetapkan.

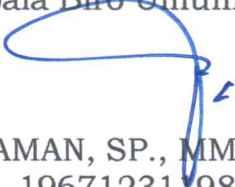
Ditetapkan di Mataram
pada tanggal 11 November 2022

REKTOR UNIVERSITAS MATARAM,

TTD.

BAMBANG HARI KUSUMO

Salinan sesuai dengan aslinya
UNIVERSITAS MATARAM
Kepala Biro Umum Keuangan


H. AMAN, SP., MM.
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