

## Courses

This table aims to give detailed information related to the subjects the students need to take every semester

### Semester 1

No	Subject	Credit	Status (Compulsory/Elective)	Prerequisite
1	Islamic Religion Education	2	Compulsory	
2	Pancasila Education	2	Compulsory	
3	Design Thinking	4	Compulsory	
4	Fundamentals of Mathematics	6	Compulsory	
5	Fundamentals of Informatics	3	Compulsory	
6	Programming Logic	3	Compulsory	

### Semester 2

No	Subject	Credit	Status (Compulsory/Elective)	Prerequisite
1	Advanced Mathematics	6	Compulsory	
2	Fundamentals of Application Development	6	Compulsory	
3	Data Structures and Algorithms	5	Compulsory	
4	Software Engineering	3	Compulsory	

### Semester 3

No	Subject	Credit	Status (Compulsory/Elective)	Prerequisite
1	Civics Education	2	Compulsory	
2	Computer Systems and Network	6	Compulsory	
3	Web-based Application Development	6	Compulsory	
4	Information Technology Development Management	6	Compulsory	

**Semester 4**

No	Subject	Credit	Status (Compulsory/Elective)	Prerequisite
1	English for Information Technology	3	Compulsory	
2	Information Systems Development	6	Compulsory	
3	Intelligent and Decision Support Systems	4	Compulsory	
4	Fundamentals of Data Science	4	Compulsory	
5	Graphics and Multimedia	3	Compulsory	

**Semester 5**

No	Subject	Credit	Status (Compulsory/Elective)	Prerequisite
1	Islam Ulul Albab	3	Compulsory	
2	Quranic Arabic	2	Compulsory	
3	Bahasa Indonesia for Scientific Communication	3	Compulsory	60 credits
4	Mobile Application Development	4	Compulsory	60 credits
5	Medical Informatics Application Development	4	Compulsory	60 credits
6	Game Development	4	Compulsory	60 credits

**Semester 6**

No	Subject	Credit	Status (Compulsory/Elective)	Prerequisite
1	Islam Rahmatan lil 'Alamin	3	Compulsory	
2	Sharia Entrepreneurship	2	Compulsory	
3	Professional Ethics	2	Compulsory	
4	Elective Course 1	3	Compulsory	

5	Elective Course 2	3	Compulsory	
6	Elective Course 3	3	Compulsory	
7	Elective Course 4	3	Compulsory	

### Semester 7

No	Subject	Credit	Status (Compulsory/Elective)	Prerequisite
1	Community Services	2	Compulsory	100 credits
2	*The subjects depend on the chosen path	10	Compulsory	100 credits

### Semester 8

No	Subject	Credit	Status (Compulsory/Elective)	Prerequisite
1	Final Project	8	Compulsory	120 credits
2	Scientific Work	5	Compulsory	120 credits

In the fourth year (semester 7 and semester 8), students can choose one of the five paths available:

1. Research
2. Community Development
3. Business Start-up
4. Study Abroad
5. Internship

There are 23 credits for each path, which will be divided into five subjects (except the study abroad path) with different outputs.

No.	Path	Semester	Subjects	Output	Credits
1	Research	7	Research Methodology	Research proposal	3
			Literature Review	Subjects evaluation results	3
			Research	Mid-report	4

		8	Final Project	Research report	8
			Scientific Publication	Scientific paper <sup>1</sup>	5
2	Community Development <sup>6</sup>	7	Community Services Methodology	Community development proposal	3
			Situational Study	Situational study result	3
			Community Services	Mid-report	4
		8	Final Project	Final report	8
			Scientific Publication	Scientific paper <sup>1</sup>	5
3	Business Start-up <sup>2</sup>	7	Business Start-up Methodology	Business proposal	3
			Business Opportunities Study	Business opportunities study result	3
			Business Start-up	Mid-report	4
		8	Final Project	Final report	8
			Scientific Publication	Scientific paper <sup>3</sup>	5
4	Internship	7	Self Management	Self-evaluation documents	3
			Internship	Mid-report	4
			Dissemination of Internship Lessons	Public presentation <sup>5</sup>	3

		8	Final Project	Final report	8
			Scientific Publication	Scientific paper <sup>3</sup>	5
5	Study Abroad <sup>4</sup>	5	Flexible		39
		6	Flexible		
		7	Flexible		25
		8	Flexible		

<sup>1</sup>Scientific papers presented at national conferences or published in national journals

<sup>2</sup>Business start-up must be in the realm of IT

<sup>3</sup>For Business Startup and Internship pathways, scientific papers are in the form of reflective reports that contain lessons learned during building the business or doing the internship program

<sup>4</sup>In various programs in partner universities, with credit transfer or dual degree scheme

<sup>5</sup>Conducted in public at a forum organized by Department of Informatics

<sup>6</sup>Community service activities must be related to the field of information technology and can be packaged as action research.

### Elective Courses

Only several elective courses will be offered in each semester. There is a fast-track scheme that enables students to finish their study in 7 semesters.

No	Subject	Credit	Status (Compulsory/Elective)	Prerequisite
1	Special Topics in Medical Informatics	3	Elective	80 credits
2	Expert Systems	3	Elective	80 credits
3	Soft Computing	3	Elective	80 credits
4	Natural Language Processing	3	Elective	80 credits
5	Serious Game	3	Elective	80 credits
6	Digital Image Processing	3	Elective	80 credits

7	Software Architecture	3	Elective	80 credits
8	Software Testing	3	Elective	80 credits
9	Big Data	3	Elective	80 credits
10	Deep Learning	3	Elective	80 credits
11	Business Intelligence	3	Elective	80 credits
12	Enterprise System	3	Elective	80 credits
13	Cyber and Information Security	3	Elective	80 credits
14	Digital Forensics	3	Elective	80 credits
15	Internet of Things	3	Elective	80 credits
16	Blockchain Technology	3	Elective	80 credits
17	Management of Information Technology	3	Elective	80 credits
18	Information and Communication Technologies for Development	3	Elective	80 credits