

# Computer Science

## Introduction

The Computer Science Program teaches basic knowledge of computer science include algorithms, methods of application development and database technology with knowledge and understanding of mathematical concepts. Curriculum designed based on international curricula ACM (Association for Computing Machinery) and input from business and industry. The graduate expected from this program can compete internationally and provide creative and innovative solutions in place of work.

## Vision

A online learning program of choice in Computer Science which focuses on developing creative software solutions for industry, is recognized internationally, champions innovation and delivers graduates with international qualifications.

## Mission

The mission of Computer Science Study Program is to contribute to the global community through the provision of world-class education by:

1. Educating students with fundamental and advance knowledge, skill and practice in software development, specialized in database technology, intelligence system, networking or multimedia and game development by providing an excellent learning environment and promoting research and collaboration with global industry.
2. Providing IT professional services with emphasis in application of knowledge in terms of society development.
3. Sharing application of knowledge related to computer science for Indonesian and international community quality of life improvement.
4. Promoting students & lecturers to be creative and value-adding talents in computer science by creating suitable environment in order to be able to compete in international level.
5. Preparing students for becoming smart and good ICT professionals, leaders and entrepreneurs in global market or for continuing in advanced studies.

## Program Objective

The objectives of the program:

1. To provide students with a solid foundation of mathematical, algorithm principles, computer science knowledge and ethical that will be needed in IT practice.
2. To provide students with skills to apply design and development principles in the construction of software system applied in database technology, intelligence system, networking and multimedia development.
3. To prepare students with abilities to keep up-to-date with the latest Information Technology trends, developments and industries.
4. To prepare students with abilities in problem solving and good communication skills to be able to work as an individual or in a team in an IT environment.

### Student Outcomes

After completing the study, graduates are:

1. Able to create software application design by applying database system principles design to solve structured and semi-structured problems.
2. Able to design software application solution based on problem analysis which can be solved with structured approach in informatics area.
3. Able to assess information and communication technology trend to deliver alternative solution of software development.
4. Able to implement a network computing based application.
5. Able to design a process to evaluate the utility of management information system.
6. Able to create conceptual software for analyzing human-computer interaction: affordance, conceptual model, and feedback.

### Prospective Career of the Graduates

1. Software Engineer/Developer
2. System Analyst/Developer
3. Web Engineer/Developer
4. Computer Network Specialist
5. Database Specialist
6. IT Support/Consultant
7. Lecturer/Trainer

### Curriculum

The curriculum 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), local and foreign universities, and market trend. Therefore, the graduates are expected to be able to face the competition at both national and international level.

### Course Structure

Sem	Code	Course Name	SCU	
1	MATH6077	Discrete Mathematics	4	20
	COMP6112	Algorithm and Programming	4/2	
	ENGL6163	English Professional	4	
	COMP6124	Program Design Methods	4	
	CHAR6019	Character Building: Pancasila	2	
2	CHAR6020	Character Building: Kewarganegaraan	2	20
	COMP6118	Data Structures	4/2	
	MATH6078	Linear Algebra	2	
	COMP6123	Object Oriented Programming	2/4	
	COMP6149	Human and Computer Interaction	2/2	

Sem	Code	Course Name	SCU	Total
3	COMP6125	Advanced Object Oriented Programming	2/4	22
	MATH6079	Calculus	4	
	COMP6127	Algorithm Design and Analysis	4	
	COMP6199	Software Engineering	6	
	COMP6148	Programming Language Concepts	2	
4	CHAR6021	Character Building: Agama	2	22
	COMP6274	Multimedia Systems	2/1	
	ISYS6213	Database Systems	4/2	
	COMP6275	Artificial Intelligence	4	
	CPEN6097	Computer Networks	2/2	
	ISYS6218	Database Design	2/1	
5	ISYS6238	Database Administration	2/2	19
	COMP6276	Compilation Techniques	4	
	COMP6282	Web Programming	2/1	
	COMP6278	Object Oriented Analysis and Design	2/2	
	COMP6285	Operating System	2/2	
6	ENTR6081	Entrepreneurship	4	20
	COMP6283	Object-Oriented Database	2/2	
	COMP6277	Geographic Information System	2/2	
	COMP6287	Framework Layer Architecture	2/2	
	COMP6284	Code Reengineering	4	
7	ISYS6219	Data Warehouse	2/1	15
	RSCH6003	Research Methodology	2	
	LANG6031	Indonesian	2	
	COMP6299	Pattern Software Design	2/2	
	ISYS6281	Data Mining	2/2	
8	COMP6334	Probability and Statistics	2	8
	COMP6288	Thesis	6	
<b>Total Credit 146 SCU</b>				

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

No	Code	Subject	Grade Minimal
1	CHAR6019	Character Building: Pancasila	B
2	ENTR6081	Entrepreneurship	C
3	COMP6112	Algorithm and Programming	C
4	COMP6124	Program Design Methods	C
5	COMP6118	Data Structures	C
6	COMP6199	Software Engineering	C
7	ISYS6213	Database Systems	C
8	ISYS6218	Database Design	C