Module Description

Module name	Basic Mathematics I
Module level, if applicable	Bachelor of Informatics
Code, if applicable	18Y02110203
Subtitle, if applicable	-
Course, if applicable	**-**
Semester(s) in which the module is taught	1st
Person responsible for the module	Basic Mathematics I Course Teaching Team
Lecturer	Basic Mathematics I Course Teaching Team
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a compulsory course and offered in the 1st semester.
Type of teaching, contact hours	Teaching methods: [problem-based learning]. Teaching forms: [lecture], [tutoria] CH : 08.00 - 16.00
Workload	For this course, students are required to meet a minimum of 136.00 hours in one semester, which consist of: - 40.00 hours for lecture, - 48.00 hours for structured assignments, - 48.00 hours for private study
Credit points	3 credit points (equivalent with 5.1 ECTS)
Requirements according to the examination	Students have participated in at least 80% of the learning activities (Academic Regulations, Chapter VII)

regulations	
Recommended prerequisites	-
Module objectives/intended learning outcomes	After completing the course, Students are able: **Intended Learning Outcomes (ILO):** **ILO 1 :** Have the knowledge of fundamental in Computing Science that includes basic theory and concepts of computer science, Mathematics and Statistics, Programming Algorithm, Software Engineering, Information Management and Digital Resilience, also the advance topics of either Artificial Intelligence, Data Science, Computer Network, Cloud Computing or Internet of Things. [ILO1] - K **Course Learning Objective (CLO):** After attending Basic Mathematics 1 Course, students are expected to have the ability to analyze the basic concepts of calculus and algebra in the real number system, functions, limit functions, derivatives and integrals, geometric and numerical interpretation of the real number system, functions, limit functions, derivatives and integrals, simple problems in other fields with using the concepts of derivatives and integrals. **Sub CLO :** ILO 1 => CLO 1 : Students are able to explain the basic concepts of calculus and algebra in the real number system, functions, limit functions, derivatives and integrals, provide geometric and numerical interpretations of real number systems, functions, limit functions, derivatives and integrals, and solve simple problems in other fields using derivative and integral concepts.
Content	Students will learn about : 1. Real Number System 2. Real Function 3. Limits and Continuity of Functions 4. Derivatives and Functional Derivative Applications 5. Integral 6. The Matrix and Basic Operations of the Matrix 7. Determinant and Inverse Matrix 8. System of Linear Equations
Forms of	Assessment techniques: [participation], [written test]

Assessment	Assessment forms: [quiz], [midterm exam], [final term exam], [assignment] CLO 1 --> ILO 1 Midterm Exam (written test) : 25% Final Term Exam (written test) : 25% Quizzes (written test): 25% Assignment (participation): 25%
Study and examination requirements and forms of examination	**Study and examination requirements:** - Students must attend 15 minutes before the class starts. - Students must switch off all electronic devices. - Students must inform the lecturer if they will not attend the class due to sickness, etc. - Students must submit all class assignments before the deadline. - Students must attend the exam to get a final grade. **Form of examination:** Written exam: Essay
Media employed	Video conference, slide presentation, Learning Management System (LMS)
Reading list	**Main :** 1. Calculus. 9th edition, Dale Varberg, Edwin Purcell, Steve Rigdon, 2011 2. Calculus, 5th edition, James Stewart, 2000 3. Modul Kalkulus, Tim Dosen Matematika, 2018 4. Aljabar Linier Elementer, Howard Anton, 2005 **Support :** https://www.khanacademy.org/math/calculus-1,