Module name	Basic Mathematics
Module level, if applicable	Bachelor of Physics
Code, if applicable	016U0033
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], [tutorial] 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

Requirements according to the examination regulations	Students have participated in at least 80% of the learning activities (Academic Regulations, Chapter VII)
Recommended prerequisites	-
Module objectives/intended learning outcomes	**Intended Learning Outcomes (ILO):** **ILO 6 :** Students are able to use the mathematical method to solve the physical related- problem. **Course Learning Objective (CLO):** After attending this course, students are expected to have the ability to analyze the 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 6 ⇒ 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

	8. System of Linear Equations
Forms of Assessment	Assessment techniques: [participation], [written test] Assessment forms: [quiz], [midterm exam], [final term exam], [assignment] CLO-1 => ILO 6: Question in assignment 1 (10 %) Mid term 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 final grade. **Form of examination:** Written exam: Essay
Media employed	Text book, Video Conference (Zoom & Gmeet), Slide Presentation, Learning Management System (SIKOLA).
Reading list	**Main :** ● Calculus. 9th edition, Dale Varberg, Edwin Purcell, Steve Rigdon, 2011 ● Calculus, 5th edition, James Stewart, 2000

	• Aljabar Linier Elementer, Howard Anton, 2005 **Support:** https://www.khanacademy.org/math/calculus-1