

MODULE HANDBOOK

Module Name:	Calculus I
Module Level:	Bachelor
Abbreviation, if applicable:	MAA102
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/Term:	1 st / First Year
Module Coordinator:	Dr. Mohammad Imam Utoyo, M.Si.,
Lecturer(s):	Dr. Mohammad Imam Utoyo, M.Si., Dr. Windarto, M.Si., Dr. Miswanto, M.Si., Zahidah, S.Si., M.Si., Abdullah Jaelani, S.Si., M.Si., M. Yusuf Syaifuddin, S.Si., M.Si., Dra. Utami Dyah Purwati, M.Si., Dra. Suzyanna, M.Si.
Language:	Bahasa Indonesia
Classification within the curriculum	Compulsory Course / Elective Studies
Teaching format / class hours per week during semester:	2 hours lectures (50 min / hour) 1 hour tutorial (100 min / hour)
Workload:	2 hours lectures, 1 hour tutorial, 2 hours structural activities, 3 hours individual study, 13 week per semester, and total 97,5 hours per semester 3.9 ECTS
Credit Points:	3
Requirement(s):	-
Learning Goals/Competencies:	<p>General Competence (Knowledge): Understand the concepts of calculus, especially in life sciences</p> <p>Specific Competence:</p> <ol style="list-style-type: none"> 1. Solve an equation and an inequality 2. Apply a system of linear equation 3. Sketch the graph of a function 4. Find the limit of a function 5. Use the limit to determine the continuity of a function 6. Find derivatives of a function 7. Apply of the derivatives of a function
Contents:	An equations and an inequalities (linear, quadratic and cubic polynomial, rational, and absolute), systems of linear equations (substitution methods, elimination methods and applied), functions (polynomial functions up to three degree, the roots of rational functions, trigonometric functions, inverse trigonometric functions, exponential functions, logarithmic functions, step functions, implicit functions, and parametric functions), functions operations, composition of functions and inverse functions. Limit, continuity and applied, the definition and properties of the derivative, derivative functions (special functions, the chain rules, implicit, parametric, and the second derivative) and applied (infinite limit, velocity, acceleration, and other rates of change, approximation, Apply the Mean-
Soft Skill Attribute:	Logic, ethics, and effort

Study/Exam Achievements:	<p>Students are considered to be competent and passed if at least get 40% of maximum mark of the exams and homeworks. Type of exam is multiple choice (MC test)</p> <p>Final score is calculated as follow: 10% Homework + 15% Quiz I + 15% Quiz II + 30% midterm exam + 30% final exam</p> <p>Final index is defined as follow:</p> <p>A : 75 - 100 AB : 70 - 74.99 B : 65 - 69.99 BC : 60 - 64.99 C : 55 - 59.99 D : 40 - 54.99 E : 0 - 39.99</p>
Forms of Media:	Powerpoints slides, LCD projectors and whiteboards
Learning Methods:	Lecture and discussion
Literature(s):	
Note	<p>*Total ECTS = {(total hours workload x 50 min) / 60 min } / 25 hours</p> <p>Each ECTS is equals with 25 hours</p>

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Forms of Media:	LCD projectors and whiteboards
Learning Methods	Lecture, tutorial, and assessments
Literature:	[1] Purcell, 2008, Kalkulus I Jilid I, Edisi 8, Erlangga, Jakarta [2] Stewart,J.,2001, Kalkulus, JilidII, Erlangga, Jakarta.
Notes:	