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:	1ST / First Year
Module coordinator(s):	Dr. Mohammad Imam Utoyo, M.Si
Lecturer(s):	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:	Indonesia Language
Classification within the curriculum	Compulsory Course / ~~Elective Studies~~
Teaching format / class hours per week during semester:	3 hours lectures (50 min / hours)
Workload:	3 hours lectures, 3 hours structured activity , 3 hours individual activity, 13 weeks per semester, total 117 hours per semester ~ 3.9 ECTS *
Credit Points:	3
Requirements:	-
Learning goals/competencies:	**General Competence (knowledge):** Students can use the concepts of calculus in life science. **Specific Competence:** 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
Content:	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 trigonometry 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-Value Theorem for derivatives, L'hospital rule , Maximum-minimum, sketch the graph of the function using information gathered from the first and second derivatives)
Soft skill	Active, honest, and disciplined
Study/exam achievements:	Students are considered to be competent and pass if at least get 55 of maximum mark of the exams (UTS dan UAS), and structured activities(group discussion)

Test prerequisites ability (10%), test (20%), UTS (30%), UAS (30%), soft skills (10%)

Table Value Graduation :
A: 100> NA≥75
AB: 74,9≥NA≥70
B: 69,9≥NA≥65
BC: 64,9≥NA≥60
C: 59,9≥NA≥55
D: 54,9≥NA≥40
E: 39,9≥NA |
| Learning Methods | Lecture, discussion, and structured individual activities |
| Forms of Media: | Slides and LCD projectors, whiteboards |
| Literature: | 1. Stewart, J., 2008, Calculus Early Transcendentals, Ed. 6th, Thomson Laerning Inc.
2. Utoyo, I., 2011, Kalkulus I dan II, DepartemenMatematika FST UniversitasAirlangga |
| Notes: | *Total ECTS = {(total hours workload x 50 min) / 60 min } / 25 hours
Each ECTS is equals with 25 hours |