Module Handbook

Module Name:	**Differential Calculus**
Module Level:	Bachelor
Abbreviation, if applicable:	4420104051
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/term:	1st / First Year
Module coordinator(s):	Dr. Manuharawati, M.Si.
Lecturer(s):	Dwi Nur Yunianti, S.Si., M.Sc. Dimas Avian Maulana, M.Si. Dr. Manuharawati, M.Si.
Language:	Bahasa Indonesia
Classification within the curriculum	Compulsory Course / ~~Elective Studies~~
Teaching format / class hours per week during semester:	3 hours lectures (50 min / hour)
Workload:	1 Credit is equal to 3 hours lectures, 3 hour structural activities, 3 hours individual study. 15 week per semester and total 15x4x50 minutes = 3.000 minutes equal to 50 hours per semester is equal **2 ECTS**
Credit Points:	4
Requirements:	-
Learning goals/competencies:	Knowledge • Develop a mathematical thinking which commences from understanding the concept of functions and their derivatives to the maximum-minimum problem. • Using concepts in determining the sequence and sequence of a function. Competency • Solve problems through a mathematical approach with or without the help of software. Social • Complete every task with full responsibility. (SOC)
Content:	This course covers the system of real numbers, real functions, limit and continuity, derivative of a real function and its application, transcendental function and its derivative, indeterminate limits, Taylor and Maclaurin series and applying those concepts in maximum-minimum and determining series and sequences of a function accompanied by a computer laboratory workshop.
Soft skill Attribute	A good and active communication skill

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<tr><td>Study/exam achievements:</td><td>Students are considered to be competent and pass if the students' final grades which comprise of participation, mid test, assignment, and final test obtain at least 56 or C in letter. The final grade is calculated as follow:
$$Grades = \frac{(2 \times P) + (3 \times A) + (2 \times MT) + (3 \times FT)}{10}$$
where,
P : Participation
A : Assignments
MT : Mid test
FT : Final test

The conversion from point grade to letter grade is as follow:
<table>
<tr><th>Letter</th><th>Points</th><th>Interval</th></tr>
<tr><td>A</td><td>4,00</td><td>$85 \leq A \leq 100$</td></tr>
<tr><td>A-</td><td>3,75</td><td>$80 \leq A^{-} < 85$</td></tr>
<tr><td>B+</td><td>3,50</td><td>$75 \leq B^{+} < 80$</td></tr>
<tr><td>B</td><td>3,00</td><td>$70 \leq B < 75$</td></tr>
<tr><td>B-</td><td>2,75</td><td>$65 \leq B^{-} < 70$</td></tr>
<tr><td>C+</td><td>2,50</td><td>$60 \leq C^{+} < 65$</td></tr>
<tr><td>C</td><td>2,00</td><td>$55 \leq C < 60$</td></tr>
<tr><td>D</td><td>1,00</td><td>$40 \leq D < 55$</td></tr>
<tr><td>E</td><td>0,00</td><td>$0 \leq E < 40$</td></tr>
</table></td></tr>
<tr><td>Forms of Media:</td><td>LCD projectors and whiteboards</td></tr>
<tr><td>Learning Methods</td><td>Lecture, tutorial, and assessments</td></tr>
<tr><td>Literature:</td><td>1. Stewart, J. 2016. Calculus: Early Transcendental 8th Edition. Belmont: Cengage Learning
2. Hass, J., et.al. 2015. University Calculus: Early Transcendental 3rd Edition. Boston: Pearson
3. Varberg D., Purcell, E. J. & Rigdon S. E. 2010. Kalkulus Jilid 1 Edisi Kesembilan (Terjemahan). Jakarta: Erlangga
4. Abadi & Wintarti, A. 2014 (in press). Kalkulus, Buku 1. Surabaya
5. Moesono, D. 1994. Kalkulus I (Edisi Revisi). Surabaya: University Press Surabaya.</td></tr>
<tr><td>Notes:</td><td></td></tr>
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