

1.Course Identity

Course name (Nama mata kuliah)	Calculus 2		
Faculty (Fakultas)	Mathematic and Natural Science	Study Program (Program Studi)	Statistics
Code (Kode)	SST-203	Credit poin Sks (Bobot Sks)	3
Group (Grup)	Study Program	Enrollment obligatory (Sifat pengambilan)	mandatory/ optional*
Semester(s) in which the course is taught (Semester)	2	Availability (Ketersediaan)	Limited
Learning method (Bentuk pembelajaran)	blended learning/online learning*	Media (Media)	Blended
Course category (Rumpun mata kuliah/blok)	university compulsory course/ SSP compulsory course/ practicum/ compulsory of scientific interest/ elective course*	Requirements (Prasyarat)	Calculus 1
Lecture (Dosen pengampu)	Abdullah Ahmad Dzirkullah, M.Sc./ Dr.techn. Rohmatul Fajriyah, M.Si.	Semester/ Academic year (Semester/ Tahun Akademik)	Even Semester 2020/2021

*) cross the unnecessary ones

2a. PROGRAM LEARNING OUTCOME (CAPAIAN PEMBELAJARAN LULUSAN)

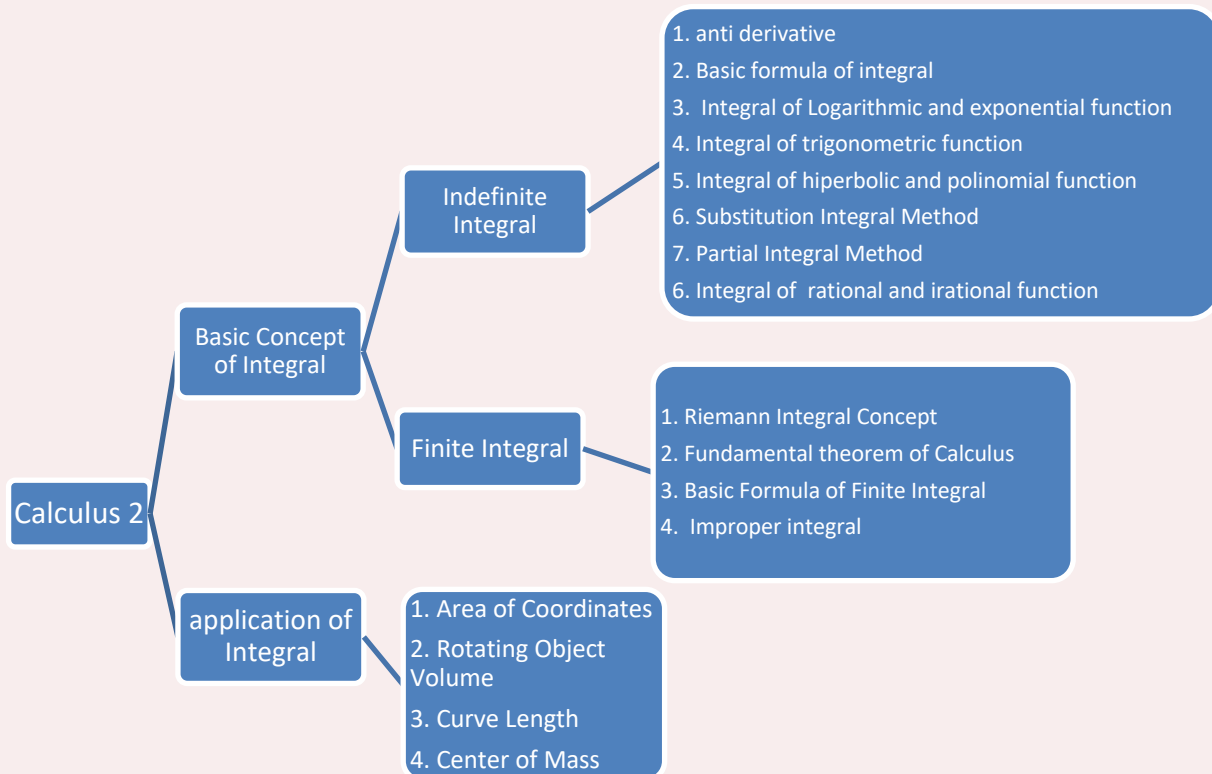
LO Code (Kode CPL)	LO Description (Rumusan CPL)
PP(a) Intellegence	Mastering the concepts of probability theory and statistics, mathematics, calculus, elementary linear algebra, statistical analysis methods, and elementary computer programming

2b. COURSE OUTCOME (CAPAIAN PEMBELAJARAN MATA KULIAH)

Support ed PLO Code (Kode CPL yang didu- kung)	CO Code (Kode CPMK)	CO Descriptions and Indicators (Rumusan CPMK dan Indikator)	Learning Experience (Pengalaman Pembelajaran)	Assessment (Asesmen/penilaian)	Wei ght (Bo - bot)
Intelle gence	PPa1	Students can explain the basic concepts of integral calculus. Indicator :	1. Lecture : lecturers are active in providing lecture material 2. Discussion: active students to discuss with groups or friends to	Written Test: short answer, essay, and individual task	50 %

		<ol style="list-style-type: none"> 1. Students can explain the concept of anti-derivative 2. Students can distinguish several methods of solving indefinite integrals 3. Students can solve indefinite integral problems with the right method 4. Students can explain the concept of Riemann integral 5. Students can explain the concept of improper integral 	<p>solve problems given by the lecturer</p> <p>3. Contextual learning: students solve problems according to the context of the material being taught.</p>		
	PPa2	<p>Students can explain some applications of integral calculus Indicator :</p> <ol style="list-style-type: none"> 1. Students can calculate the area of coordinates with definite integrals integral 2. Students can calculate the volume of a rotating object with definite integral 3. Students can calculate the length of the curve and the center of mass with definite integrals 	<ol style="list-style-type: none"> 1. Lecture : lecturers are active in providing lecture material 2. Discussion: active students to discuss with groups or friends to solve problems given by the lecturer 3. Contextual learning: students solve problems according to the context of the material being taught. 	Written Test: short answer, essay, and individual task	50 %

3. Program Learning Outcome Analysis Map (*Peta Analisis Capaian Pembelajaran*)



4. Reference (*Referensi*)

1. Purcell, E.L., 1989, *Kalkulus and Geometri Analitik (Terjemahan)*, Erlangga, Jakarta
2. Fajriyah, R, *Logika Kalkulus*, UII Press, Yogyakarta

5. Detail of Learning Activities (*Rincian Aktivitas Pembelajaran*)

Sessi n (sesi)	LOC/Sub- LOC/Criterio n (CPMK/Sub- CPMK/ Kriteria)	Study Material (<i>Bahan Kajian</i>)	Activity Design and Duration (<i>Rancangan Aktivitas dan Durasi</i>)	Mod e	Learning Media/ Reference (<i>Media Pembelajaran/ Referensi</i>)
1	PPa1	Learning Contract and anti derivative concept	the lecturer explains about the contract agreement: attendance, reference books, materials, exams, scores (100 minutes) Lecturer explains about related material (50 minutes)	FF/ FFO	Book Zoom Google Classroom
2	PPa1	Basic Formula of Integral, Integral of polinomial function	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom
3	PPa1	Integral of logarithmic, eksponenial, hyperbolic, and trigonometric function.	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom
4	PPa1	Integral of polinomial, logarithmic, eksponenial, and trigonometric function using the substitution method.	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom
5	PPa1	Integral of polinomial, logarithmic, and eksponenial function using partial method	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom
6	PPa1	Integral of trigonometric function using partial function	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom
7	PPa1	Integral of rational and irtual function	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom

MIDTERM EXAM					
8	PPa1	definite integral with the concept of Riemann integral and Fundamental Theorem of Integral Calculus (continuity of function)	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom
9	PPa1	Improper integral: definite integral with infinite limit, and integral with discontinuous limit	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom
10	PPa2	Application of Integral : Areas of Cartesian coordinates	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom
11	PPa2	Application of Integral : Areas of polar coordinates.	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom
12	PPa2	Integral Application: Rotary Object Volume with disc method	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom
13	PPa2	Integral Application: Rotary Object Volume with ring method.	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom
14	PPa2	Integral Application: Rotary object volume with tube shell method.	Students study the book then a short presentation in class (30 minutes) Lecturer explains about related material (70 minutes) Lecturer gives written questions as material for student discussion (50 minutes)	FF/ FFO	Book Zoom Google Classroom
FINAL EXAM					

Information:

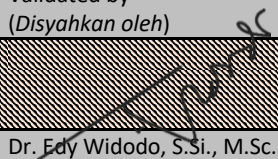
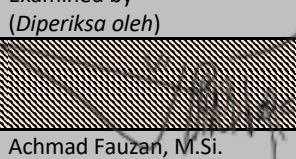
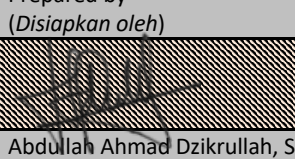
For mode, enter one of the following codes

- FF = activities that require **face-to-face** meetings in class (*aktivitas yang memerlukan tatap muka (TM) langsung di kelas*);
- FFO = activities that require **face to face online** (*aktivitas yang memerlukan tatap muka secara daring (tatap maya/TMD)*);
- SAA = standalone asynchronous online activity (*aktivitas daring asinkron mandiri/ASM*);
- CAA = collaborative asynchronous online activities (*aktivitas daring asinkron kolaborasi/ASK*);

Learning / reference media can be in the form of (1) self-produced results, (2) curated results: media sourced from the internet or other sources chosen by the lecturer, and / or (3) students' own exploration results.

6. Assessment and Evaluation System (*Sistem Penilaian dan Evaluasi*)

Assessment System <i>(Sistem Penilaian)</i>	Benchmark Reference Assessment (PAP) is an assessment using absolute study program value standards.
Evaluation System <i>(Sistem Evaluasi)</i>	each student must achieve a minimum grade/predicate of C for the overall grade point average. If it does not meet then the student is declared not to have passed and must take UAS remediation (according to regulations) or repeat the course at the next opportunity.

Date:	Date:	Date:
Validated by <i>(Disyahkan oleh)</i>	Examined by <i>(Diperiksa oleh)</i>	Prepared by <i>(Disiapkan oleh)</i>
		
Dr. Edy Widodo, S.Si., M.Sc.	Achmad Fauzan, M.Si.	Abdullah Ahmad Dzikrullah, S.Si., M.Sc.