<table>
<tr><td>Module designation</td><td>Ordinary Differential Equations
Indonesian title: Persamaan Diferensial Biasa
Course code: 8420203173</td></tr>
<tr><td>Semester(s) in which the module is taught</td><td>Semester 4 (Second year)</td></tr>
<tr><td>Person responsible for the module</td><td>Coordinator: Prof. Dr. Abadi., M.Sc.
Teaching staff: Dr. Dian Savitri, S.Si., M.Si.; Rudianto Artiono, S.Pd., M.Si.; Budi Priyo Prawoto, S.Pd., M.Si.; Novita Vindri Harini, M.Pd.; Annisa Rahmita Soemarsono, S.Si., M.Si.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory</td></tr>
<tr><td>Teaching methods</td><td>Lectures, tutorial assignments, and individual study
Media and tools: Slides and LCD projectors, whiteboard</td></tr>
<tr><td>Workload (incl. contact hours, self-study hours)</td><td>(Estimated) total workload: 2 CU × 170 minutes × 16 weeks = 5,440 minutes = 90.67 hours (≈ 3.18 ECTS)
Contact hours: lectures, 2 × 50 minutes per week × 16 weeks = 26.67 hours (class hours per week: 340 minutes = 5.67 hours, including structured activities)
Private study including examination preparation: structured assignments, 2 × 60 minutes per week × 16 weeks = 32.00 hours; independent study, 2 × 60 minutes per week × 16 weeks = 32.00 hours (total 64.00 hours)</td></tr>
<tr><td>Credit points</td><td>2 CU (3.18 ECTS)
1 CU = 170 minutes per week × 16 weeks = 45.3 hours; 1 ECTS = 28.48 hours (144 CU = 229 ECTS), so 1 CU = 1.59 ECTS (UNESA Rector's Decree No. 736/HK/KM/2023).</td></tr>
<tr><td>Required and recommended prerequisites for joining the module</td><td>Integral Calculus Kalkulus Integral</td></tr>
<tr><td>Module objectives/intended learning outcomes</td><td>Programme learning outcomes (PLO) addressed:
PLO-5: Apply the basic principles of mathematics to solve simple mathematical problems.
PLO-6: Demonstrate mathematical knowledge and insight.</td></tr>
<tr><td>Content</td><td>Studying analytical solutions of first-order ODE, second-order linear ODE with constant coefficients, uncertain coefficients and parameter variations, series solutions of ODE, Laplace transform method and series through learning that involves students in collaborative group discussions to understand, construct, solve, simulate, and interpret differential equations and their applications, as well as providing IT-assisted assignments.</td></tr>
<tr><td>Examination forms</td><td>Final score is calculated from the weekly assessment scheme below (CLO/PLO addressed and weight of each assessment):
<table>
<tr><th>Week</th><th>CLO</th><th>PLO</th><th>Weight (%)</th></tr>
<tr><td>1</td><td>CLO-1</td><td>PLO-6</td><td>2</td></tr>
<tr><td>2</td><td>CLO-1</td><td>PLO-6</td><td>2</td></tr>
<tr><td>3</td><td>CLO-1</td><td>PLO-5</td><td>2</td></tr>
<tr><td>4</td><td>CLO-1</td><td>PLO-5</td><td>2</td></tr>
<tr><td>5</td><td>CLO-2</td><td>PLO-5</td><td>2</td></tr>
</table></td></tr>
</table>

	6	CLO-2	PLO-5	2
	7	CLO-2	PLO-6	2
	8	CLO-4	PLO-5	20
	9	CLO-2	PLO-5	6
	10	CLO-2	PLO-6	5
	11	CLO-2	PLO-6	5
	12	CLO-2	PLO-5	5
	13	CLO-2	PLO-5	5
	14	CLO-4	PLO-6	6
	15	CLO-3	PLO-5	6
	16	CLO-3	PLO-6	28

Study and examination requirements

Students are considered competent and pass if the final score is at least 55 or C.

Final index (grade conversion):

Index	Converted score	Score range (A = final score)
A	4.00	85 ≤ A ≤ 100
A-	3.75	80 ≤ A < 85
B+	3.50	75 ≤ A < 80
B	3.00	70 ≤ A < 75
B-	2.75	65 ≤ A < 70
C+	2.50	60 ≤ A < 65
C	2.00	55 ≤ A < 60
D	1.00	40 ≤ A < 55
E	0.00	0 ≤ A < 40

Reading list

1. Boyce W.E. & DiPrima R.C. 2012. Elementary Ordinary Differential Equations and Boundary Value Problems 10th Edition, NewYork: John Willey and Sons.
2. Prawoto, Budi Priyo. 2019. Persamaan Diferensial Biasa. Surabaya: Unesa Press
3. Kreyszig, E. 2011. Advanced Engineering Mathematics 10th edition. New York: John Wiley and Sons.
4. Finan, Marcel B. 2010. A First Course in Elementary Differential Equations, Arkansas Tech University.