

Course Code	TKIE161101							
Course Name	Engineering Mathematics (Course + Tutorial)							
Course Instructors	Indah Soesanti; Eny Sukani Rahayu; Agus Bejo; Adha Imam Cahyadi; Noor Akhmad Setiawan; Harry Prabowo							
Course Type	Required							
Course Classification	Basic Science & Math							
Credit / Contact Hour per Week	3 / 150 minutes per Week							
Course Description	Capability of understanding and applying fundamentals of mathematics, such as Function, Limit, Derivative, Integral, Sequence and Series, and Complex Number, also modeling and mathematical analysis for real problems.							
Prerequisites Courses	-							
<b>Covered Student Outcome</b>	<b>Fundamental and Engineering Knowledge (a)</b>							
Learning Outcome	<ol style="list-style-type: none"> <li>1. Students are able to do function operation in real number and complex number system.</li> <li>2. Students are able to do differential operations for equation with one or some independent variables.</li> <li>3. Students are able to do Indefinite Integral, Partial Integral, Definite Integral, and Multiple Integral.</li> <li>4. Students are able to formulate mathematics equations for simple real problems.</li> </ol>							
Topic	<ol style="list-style-type: none"> <li>5. Function and Real Number System</li> <li>6. Limit and Continuity</li> <li>7. Derivative and Derivative Applications</li> <li>8. Integral and Integral Applications</li> <li>9. Substitution Integral Methods</li> <li>10. Definite Integral and Multiple Integral</li> <li>11. Sequences and Series</li> <li>12. Ordinary Differential Equation with Constant Coefficient</li> <li>13. Complex Number System</li> </ol>							
Direct Assessment	<table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Direct Assessment Plan</th> <th style="text-align: left;">Measured Learning Outcome</th> </tr> </thead> <tbody> <tr> <td>Mid Exam</td> <td>LO1, LO2</td> </tr> <tr> <td>Final Exam</td> <td>LO3, LO4</td> </tr> </tbody> </table>		Direct Assessment Plan	Measured Learning Outcome	Mid Exam	LO1, LO2	Final Exam	LO3, LO4
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Mid Exam	LO1, LO2							
Final Exam	LO3, LO4							
Indirect Assesment	Questionnaire and direct communication							
References	<p>[1] Thomas, G. B., 2001, Thomas' Calculus, Addison Wesley Publishing Company, New York.</p> <p>[2] Erwin Kreizig, Advanced Engineering Mathematics 9th edition, Willey 2006</p> <p>[3] Frank Ayres, JR., 1996, Calculus [Schaum's Outline series], 2ed., Erlangga, Jakarta</p> <p>[4] Purcell, E. J. dan Varberg, D. 1987. Kalkulus dan Geometri Analitis. Jilid I. 5 ed., Prentice Hall, Inc. Alih Bahasa: Drs. I Nyoman Susila, dkk. Penerbit Erlangga, Jakarta</p>							