MODULE HANDBOOK DESCRIPTION

Module designation	Engineering Mathematics II	
Code	FBS2228	
Semester(s) in which the module is taught	4/2nd year	
Person responsible for the module	Dr. I Made Ginarsa, ST., MT.	
Language	Indonesian	
Relation to curriculum	Compulsory for all majors	
Teaching methods	Lecture, small group discussion.	
Workload (incl. contact hours, self-study hours)	Contact minutes every week, each week of the 16 weeks/semester : • Lectures: 3 × 50 minutes • Exercises and Assignments: 3 × 60 minutes • Private study: 3 x 60 minutes. Total study hours = 8 hours 30 minutes/week	
Credit points	*3 (~ 4.8 ECTS)*	
Required and recommended prerequisites for joiningthe module	- Engineering Mathematics I (FBS2120)	
Module objectives/intended learning outcomes	1. Students are able to explain the physical concept to mathematical model such as partial differential equation, ordinary differential equation. 2. The students also able to explain how to change the rectangular form into polar and logarithmic forms.	PLO2
	3. Students are able to formulate problems related to solve partial differential equation, ordinary differential equation. The students also able to solve complex number and function, to change the rectangular form into polar and logarithmic forms vice versa.	PLO3
	4. Students are able to implement complex integration, line integration, power series, Taylor series, and conformal mapping.	PLO4

Content	• Partial differential equation,. • power series method, special functions, polinomial Legendre, Legendre equation and Bessel function • Complex number and function, polar form, exponential function, trigonometric and hyperbolic function, logarithm and power. • Complex integration, line integral, Cauchy integral theorem, Cauchy integral formula. • Power series, Taylor series, Maclurian series • Conformal mapping, linear fractional transformation
Examination forms	- Multiple choice examination and Essay, - Présentation case study.
Study and examination requirements	The final grade in the module is composed of: a. Per-meeting score = 5 % x 16 meeting = 80% b. Exercise Report/ Homework/Portofolio = 20% Students must have a final grade of 65% or higher to pass
Reading list	1. Kreyszig, E.. 2006, Advanced Engineering Mathematics, Nineth Edition, Jhon Wiley, New York. 2. Mauch, S., 2004, "Introduction to Methods of Applied Mathematics", Caltech publishers.