



MODULE HANDBOOK ALGEBRA II

**BACHELOR DEGREE PROGRAM
DEPARTMENT OF MATHEMATICS
FACULTY OF SCIENCE AND DATA ANALYTICS
INSTITUT TEKNOLOGI SEPULUH NOPEMBER**

MODULE HANDBOOK

ALGEBRA II

Module name	Algebra II	
Module level	Undergraduate	
Code	KM184504	
Course (if applicable)	Algebra II	
Semester	Fall (Gasal)	
Person responsible for the module	Prof. Dr. Drs. Subiono, MS	
Lecturer	Prof. Dr. Drs. Subiono, MS	
Language	Bahasa Indonesia and English	
Relation to curriculum	Undergraduate degree program, mandatory , 5 th semester.	
Type of teaching, contact hours	Lectures, <60 students Tuesdays, 11.00-12.50 (GMT+7)	
Workload	<ol style="list-style-type: none"> 1. Lectures : 3 x 50 = 150 minutes per week. 2. Exercises and Assignments : 3 x 60 = 180 minutes (3 hours) per week. 3. Private learning : 3 x 60 = 180 minutes (3 hours) per week. 	
Credit points	3 credit points (sks)	
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.	
Mandatory prerequisites	-	
Learning outcomes and their corresponding PLOs	<p>Course Learning Outcome (CLO) after completing this module,</p> <p>CLO 1: Students are able to follow developments, develop and apply math and able to communicate actively and correctly both oral and written</p> <p>CLO 2: Students are able to explain basic and advanced principles of the theory they understand in particular with regard to the structure of a finite field and capable of performing symbolic computations</p> <p>CLO 3: Students are able to explain intelligently and creatively about the significant role of Algebra application in the field of related knowledge clusters and other fields</p>	

	CLO 4: Students are able to present their knowledge in Algebra field independently or in teamwork	
Content	The algebra II course discussion includes the assessment of ring, integral area, field, characteristics of a ring, ideal and ring factor, ring homomorphism and fractional field. In the discussion of lectures, SAGEMATH software is used to equip students to have the ability to perform symbolic computations related to algebraic problems with two binary operations. In the learning process in the classroom students will learn to identify problems, express symbolic mathematical ideas and express them in written form. Besides being directed to learn independently through assignments, students are directed to work together in group work	
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> ● In-class exercises ● Assignment 1, 2, 3 ● Mid-term examination ● Final examination 	
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.	
Reading list	<p>Main :</p> <ol style="list-style-type: none"> 1. Subiono, "Catatan Kuliah : ALJABAR I", Jurusan Matematika FMIPA-ITS, 2014. 2. Joseph A. Gallian, " Contemporary Abstract Algebra, 7th Edition", Brooks/Cole, (2010) 3. Joseph J. Rotman,"Advanced Modern Algebra", Prentice Hall, (2003). <p>Supporting :</p> <ol style="list-style-type: none"> 1. William Paulsen," Abstract Algebra, An Interactive Approach", CRC Press, (2010) 2. Robert A. Beezer," Sage for Abstract Algebra, A Supplement to Abstract Algebra, Theory and Applications ", Department of Mathematics and Computer Science University of Puget Sound, (2012) 	