

Advanced Abstract Algebra

Module designation	Advanced Abstract Algebra
Semester(s) in which the module is taught	2 (even semester)
Person responsible for the module	Dr. Yudi Mahatma, M.Si. Dr. Lukita Ambarwati, S.Pd., M.Si.
Language	Bahasa Indonesia
Relation to curriculum	<i>Compulsory</i>
Teaching methods	Teaching methods used in this course are: <ul style="list-style-type: none"> • Lecture (i.e., small group discussions and project-based learning) • Structured assignments (i.e., project development and presentations)
Workload (incl. contact hours, self-study hours)	For this course, students required to meet a minimum of 154,66 hours in one semester, which consist of 26,66 hours for lecture 64 hours for structured assignments 64 hours for private study
Credit points	2 sks x 2,6 = 5,2 ECTS
Required and recommended prerequisites for joining the module	Abstract Algebra course
Module objectives/intended learning outcomes	Students are able to: <ol style="list-style-type: none"> 1. understand the concept of a ring (ring) including the definitions, the examples, the types, the characteristics, and homomorphism between two rings. 2. understanding the concept of ideal including definitions, examples, types of ideals, characteristics, and the construction of quotients 3. understand Euclid's ring and explain its characteristics. 4. construct a multi-tribal ring and explain its characteristics.
Content	Students will learn about: <ol style="list-style-type: none"> 1. Ring theory, subring, homomorphism 2. Ideal of a ring, ring quotient, maximal ideal 3. Euclidean ring, principal ideal ring, unique factorization domain 4. Polynomial ring 5. Polynomial ring over rational field, Eisenstein criterion
Examination forms	Assessment of the learning process according to the following components: Midterm Exam 20%, Final Exam 30%, and assignments 50%
Study and examination requirements	Study and examination requirements: Students should have attended all lectures and submitted all scheduled individual and group assignments prior to the final examination.
Reading list	Main Reference Herstein, I. N. (1995). Abstract Algebra 3 rd ed. Prentice-Hall.