

MATH 3131 Honors in Linear and Abstract Algebra II

Course outline 2024-2025 Spring

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Office Hours: Thursday 5-6pm, Room 3459

PRE-REQUISITE Grade B- or above in MATH 2131

4 Credits

Course Description

This course is for honored students. It is a continuation of Honors in Linear and Abstract Algebra I. It covers basic concepts and theorems on abstract algebra including groups, rings, modules and fields.

Intended Learning Outcomes (ILOs)

By the end of this course, students should be able to:

1	Recognize and use appropriately important technical terms and definitions.
2	Use algebraic techniques to formulate and apply the fundamental theorems in concise form.
3	Understand and apply the basic concepts and theorems in abstract algebra.
4	Understand and apply the techniques of abstract algebra.
5	Able to write rigorous proof

Assessment and Grading

This course will be assessed using criterion-referencing and grades will not be assigned using a curve. Detailed rubrics for each assignment are provided below, outlining the criteria used for evaluation.

Assessments:

<u>Assessment</u>	Percentage to overall grading
Homework	30%
Quiz	20%
Final Exam	50%

* Assessment marks for individual assessed tasks will be released within two weeks of the due date.

Mapping of Course ILOs to Assessment Tasks

<u>Assessment</u>	<u>Assessing Course ILOs</u>
Homework	1, 2, 3, 4
Quiz	1, 2, 3, 4
Final Exam	1, 2, 3, 4

Final Grade Descriptors:

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	Shows a strong understanding of the subject, excels in problem-solving, and demonstrates notable creativity. Exhibits high scholarship and collaboration, exceeding core requirements to meet learning goals.
B	Good Performance	Demonstrates solid knowledge of the subject, problem-solving skills, and the ability to analyze and evaluate issues. Shows strong motivation to learn and works well with others.
C	Satisfactory Performance	Has sufficient knowledge of core subjects, can handle familiar problems, and demonstrates some analytical and critical thinking skills. Shows persistence and effort to achieve learning goals.
D	Marginal Pass	Has threshold knowledge of core subject matter, potential to achieve key professional skills, and the ability to make basic judgments. Benefits from the course and has the potential to develop in the discipline.
F	Fail	Demonstrates inadequate understanding of the subject and lacks problem-solving skills. Exhibits limited critical thinking and minimal effort to achieve learning goals, falling short of the requirements for professional practice in the discipline.

Course AI Policy

The use of Generative AI is permitted for the purpose of searching course related material. But the use of AI is not permitted in any of the assessments.

Communication and Feedback

Assessment marks for individual assessed tasks will be communicated via Canvas within two weeks of submission. Feedback on assignments will include [specific details, e.g., strengths, areas for improvement]. Students who have further questions about the feedback including marks should consult the instructor within five working days after the feedback is received.

Resubmission Policy

If applicable, explain the policy for resubmitting work or reassessment opportunities, including conditions and deadlines.

Required Texts and Materials

Notes of Abstract Algebra, <https://www.math.purdue.edu/~iswanso/abstractalgebra.pdf>

Academic Integrity

Students are expected to adhere to the university's academic integrity policy. Students are expected to uphold HKUST's Academic Honor Code and to maintain the highest standards of academic integrity. The University has zero tolerance of academic misconduct. Please refer to [Academic Integrity | HKUST – Academic Registry](#) for the University's definition of plagiarism and ways to avoid cheating and plagiarism.