

MWF 09:40 - 10:40 T: 10:05 - 11:30 OH G102

Instructor: Dr. Hung P. Tong-Viet
Office: WH 108
Office Hours: MW 11 : 00 – 12 : 30 and by appointment
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Course webpage: <http://people.math.binghamton.edu/tongviet/Math401.html>

Textbook The main textbook for this class is *A book of Abstract Algebra* by Charles C. Pinter, 2nd ed, Dover Publications, Inc., Mineola, New York, 1990. Students are encouraged to consult other textbooks in the subject such as *Algebra in action. A course in groups, rings, and fields* by S. Shahriari or *Abstract Algebra* by I.N. Herstein.

Prerequisite C or better in both MATH 304 and MATH 330, or consent of instructor.

Course Content We plan to cover the following topics:

- Group theory: definitions and examples of groups, symmetric and alternating groups, cyclic groups, subgroups, Lagrange theorem, Cayley theorem, Cauchy theorem, normal subgroups, homomorphisms, quotient groups and isomorphism theorems.
- Ring theory: definitions and examples, subrings, ideals, ring homomorphisms, quotient rings, integral domains, division rings, fields, prime and maximal ideals, Euclidean domains, polynomial rings.
- Field theory: definition and examples, characteristic of a field, finite fields, algebraic and transcendental extensions, complex numbers and the Fundamental Theorem of Algebra.

Course Expectation

This course is a 4-credit course, which means that in addition to the scheduled lectures/discussions, students are expected to do at least 9.5 hours of course-related work each week during the semester. This includes things like: completing assigned readings, participating in lab sessions, studying for tests and examinations, preparing written assignments, completing internship or clinical placement requirements, and other tasks that must be completed to earn credit in the course.

Course Description Groups, rings, integral domains, fields.

Exams There will be two tests and one final exam. The tests are tentatively scheduled for

October 5 and November 9

Date and time for the final exam will be announced when it is available. Please check the official Final Exam Schedule.

Exam Make-up Policy If you miss an exam because of an approved university absence, you may place the weight of the exam on the final exam or you may take a make-up exam. All other absences will result in a zero score. Exams should be made up within one week.

Homework Homework will be assigned on a weekly basis and will be collected on **Wednesdays**. You are allowed to collaborate with others but you must turn in your own work. Collaborative work should be explicitly acknowledged in the handed-in homework. No late homework will be accepted. Outside references for material used in the solution of homework should be fully disclosed. References to results from the textbook and/or class notes should also be included. Students will be expected to put homework problems up on the board on a regular basis.

Quizzes There will be pop-up quizzes. There is no make-up quiz but I will drop some of your lowest score quizzes at the end of the semester.

Attendance and Class Participation All lectures, practice sessions and office hours are held in-person. You are expected to be in class each day in person. If missing a class is unavoidable, you are responsible for all material covered and all announcement and assignments made during your absence. Excessive absences will lower your course grade.

Students are also expected to complete assigned reading and to participate in class discussions. Students may be expected to put homework problems up on the board on a regular basis.

Cellphones All cellphones, pagers and other noise-making devices are required to be turned off before the start of class.

Grading Scheme

Test 1	20%
Test 2	20%
Homework	20%
Quizzes	10%
Final exam	30%

Academic Honesty

Cheating of any kind will not be tolerated. If you are caught cheating you will receive a zero on the assignment or exams. Additionally, depending on the severity of the cheating, you may receive an F in the course. Furthermore, you will be subject to the University's disciplinary action.

Students are asked to practice extra care and attention in regard to academic honesty, with the understanding that all cases of plagiarism, cheating, multiple submission, and unauthorized collaboration are subject to penalty. Students must properly cite and attribute all sources used for papers and assignments. Students may not collaborate on exams or assignments, directly or through virtual consultation, unless the instructor gives specific permission to do so. **Posting an exam, assignment, or answers to them on an online forum (before, during, or after the due date), in addition to consulting posted materials, constitutes a violation of the university's Honesty**

policy. Likewise, unauthorized use of live assistance websites, including seeking “expert” help for specific questions during an exam, can be construed as a violation of the honesty policy. All students should be familiar with the University’s Student Academic Honesty Code

Important Dates

- Add/Drop deadline: **Thursday, September 9, 2021**
- Withdrawal deadline: **Wednesday, November 10, 2021**

Disability-related Equal Access Accommodations

Students needing accommodations to ensure their equitable access and participation in this course should register with Services for Students with Disabilities (SSD) office as soon as they’re aware of their need for such arrangements. Please visit the SSD website (www.binghamton.edu/ssd) for more detailed information. The office is located in the University Union, room 119.

For students already registered with SSD, please make an appointment to meet and discuss the implementation of your authorized accommodations.

University policies concerning in-person classes

Binghamton University follows the recommendations of public health experts to protect the health of students, faculty, staff and the community at large. Safeguarding public health depends on each of us strictly following requirements as they are instituted and for as long as they remain in force. Health and safety standards will be enforced in this course.

- **Face coverings and other safety measures**
 - Current rules require everyone to wear a face covering that completely covers both the nose and mouth while indoors (unless they are eating or alone in a private space like an office). A face shield is not an acceptable substitute. Classroom safety requirements will continue to be based on guidance from public health authorities and will be uniformly applied across campus. If these requirements change, a campus-wide announcement will be made to inform the University.
 - If you forget your face covering or it does not meet these requirements, you will be asked to leave the room immediately. You may not return until you meet the requirement.
 - If the student misses a graded assessment due to being asked to leave the classroom for not having a proper face covering. The student will receive a zero on the assignment.
 - Failure to comply with these requirements constitutes a public health risk to everyone in the learning environment and disrupts the class.
 - If a student does not comply with the requirements and refuses to wear their face covering properly or to leave the classroom when directed, or to follow instructions for reseating when directed by the instructor, the instructor will immediately cancel the remainder of the class session and inform the dean’s office, which will work with the Student Records office to issue a failing grade (F) for the course regardless of when in the semester the incident occurs. The dean’s office will also inform the Office of Student Conduct.

- If a student’s refusal to comply is a second offense, the Office of Student Conduct may recommend dismissal from the University.
 - If the rules for health and safety measures change, the campus will be notified and the new requirements will take effect.
- **Student Illness/quarantine**

If you become ill or are asked to go into quarantine/isolation, you are not allowed to attend class in person. You should immediately notify the instructor to make other arrangement. Further information on COVID-19 symptoms and next steps are available here: [Health](#). Students who exhibit symptoms should call the Decker Student Health Services Center at 607 – 777 – 2221 first.