MATH 4391 - 020 - Abstract Algebra II - Fall 2017

Instructor: Jesse Taylor  Office Hours: M: 11:00-12:00, 3:00-3:45
Office: MCS 219E  T: 9:15-11:00
Email: jesse.taylor@angelo.edu  W: 11:00-12:00, 3:00-3:45
Our Classroom: MCS 219E  Th: 9:15-11:00
Meeting Times: 10:00-10:50 F (and as needed)  F: 11:00-2:00
and by appointment


Course Content: Selected sections from chapters 1, 4, 5, 8, 9, 10, and 11 will be covered, as well as additional topics as time permits.

Homework: Homework will be assigned regularly throughout the semester. In general, I will assign a problem set each week. **No late homework will be accepted.** It is always your responsibility to attend class and know when an assignment is due and to make sure it is turned in or taken on time.

Tests: We will have one test. It will constitute the “final project” portion of this course and will be taken during our final exam slot or at another time as arranged by the instructor and students.

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<tr>
<th>Test</th>
<th>Material Covered</th>
<th>Date</th>
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<tbody>
<tr>
<td>Test</td>
<td>Cumulative</td>
<td>10:30-12:30pm, Mon Dec 11, 2017</td>
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Grading: Your grade in this class will determined based on the following grading rubric.

Homework: 75%
Test: 25%

Your final letter grade in this class will be determined based on a ten-point grading scale.

Attendance: Attendance will be taken regularly, and each student’s absences will be reported with their final grade at the end of the semester.

Technology: Unless you have special accommodations documented with the Student Life office, **no cell phones, tablets, laptops, games, or other electronic devices may be used in the classroom at any time.**

Study Aids: • Feel free to come by my office for help. I will definitely be near my office during my office hours (or there will be a note telling you when I will be back). If my office hours are not convenient for you, meet with me to arrange for another time that is more convenient.
Notes:

- In the event that the university is closed for a scheduled class time, whatever was scheduled for that day and/or whatever was due that day will be scheduled and/or due on the next scheduled class time.

- All electronic correspondence will be sent to your ASU e-mail account unless other arrangements are made.

- If you do not receive a graded homework assignment or an exam on the day they are returned, please come by my office to pick them up.

- Good luck. I want you to succeed in this course. If at any point during the semester you feel as if you do not understand the material, please come talk with me as soon as possible. An ounce of prevention is worth a pound of cure.

All items and dates in this syllabus are subject to change as the semester progresses. Students will be notified in class of any changes, and the changes will not be updated within this syllabus.

Student Learning Outcomes

1. The students will demonstrate factual knowledge including the mathematical notation and terminology used in this course. Students will read, interpret, and use the vocabulary, symbolism, and basic definitions used in abstract algebra, including ideas related to groups, rings, fields, and modules.

2. The students will describe the fundamental principles including the laws and theorems arising from the concepts covered in this course. Students will develop and apply the fundamental properties of abstract algebraic structures, their substructures, their quotient structure, and their mappings. Students will also prove basic theorems such as Cayley’s theorem and the three Sylow theorems.

3. The students will apply course material along with techniques and procedures covered in this course to solve problems. Students will use the facts, formulas, and techniques learned in this course to prove theorems about the structure, size, and nature of groups, rings, fields, modules, subrings, ideals, quotient rings, and the associated mappings. Students will also solve problems about the size and composition of structures and substructures listed above.

4. The students will apply course material along with techniques and procedures covered in this course to solve problems. Students will use the facts, formulas, and techniques learned in this course to prove theorems about the structure, size, and nature of groups, rings, fields, modules, and the associated mappings.
Course Content


1. Introduction to Groups
4. Group Actions
5. Direct and Semidirect Products of Abelian Groups
8. Euclidean Domains, Principle Ideal Domains, and Unique Factorization Domains
9. Polynomial Rings
10. Introduction to Module Theory
11. Vector Spaces

Additional topics will be covered as time permits.

Below is an approximate guide to what we will cover on each day of the semester. These topics are subject to change.

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<th>Topic</th>
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<td>9</td>
<td>Direct and Semidirect products</td>
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<td>2</td>
<td>Dihedral groups and p-Sylow Theorems</td>
<td>10</td>
<td>Direct and Semidirect products</td>
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<td>3</td>
<td>p-Sylow Theorems</td>
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<td>PIDs and UFDs</td>
<td>Final Test</td>
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Student Disability Services

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA), and subsequent legislation.

The Office of Student Affairs is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability, and it is the student’s responsibility to initiate such a request by contacting:

Dallas Swafford  
Director of Student Disability Services  
Office of Student Affairs  
325-942-2047  
dallas.swafford@angelo.edu

Title IX

Angelo State University is committed to the safety and security of all students. If you or someone you know experience sexual harassment, sexual assault, domestic or dating violence, stalking, or discrimination, you may contact ASU’s Title IX Coordinator:

Michelle Boone  
Director of Title IX Compliance  
325-486-6357  
michelle.boone@angelo.edu

Student Absence for Observance of Religious Holy Days: A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence.  
(http://www.angelo.edu/opmanual/ -- OP 10.19)

Incomplete Grade Policy: It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more information.

Student Conduct Policies

Academic Integrity

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the Statement of Academic Integrity
Plagiarism

Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality via Turnitin. Resources to help you understand this policy better are available at the ASU Writing Center.

Copyright Policy

Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

General Policies Related to this Course: All students are required to follow the policies and procedures presented in these documents:

- Angelo State University Student Handbook
- Angelo State University Catalog