

Math 3321 ABSTRACT ALGEBRA
Spring 2017

Instructor: Dr. Esteban Diaz

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Office Hours: TuTh: 10:00 to 2:00 p.m.

Time and Place of Class Meetings: PKH 107

Description of Course Content: We will focus on Chapters I-IV of the book. The topics will include groups, subgroups, permutations, homomorphism, factor groups, introduction to rings and fields. Upon completion of Math 3321, the students should have a solid knowledge of the topics outlined above. In particular, you should be able to: write the definition of most of the terms, solve problems, and construct correct and detailed mathematical arguments to justify your claimed statements.

Required Textbooks and Other Course Materials: A First Course in Abstract Algebra by John B. Fraleigh, 7th Edition.

Grade Components:

Midterm Exam 1:	20%	(Tuesday, February 21)
Midterm Exam 2:	20%	(Tuesday, March 28)
Midterm Exam 3:	20%	(Thursday, April 20)
Final Exam	30%	(May 11, 2-4:30 p.m.)
Homework/Project	10%	(TBA)

Midterms and Final: The Final Exam is comprehensive. You will be asked to present a UTA picture ID at all exams. Please bring your UTA picture ID to all exams.

Make-up Exam Policy: No make-up exams will be allowed unless there is a verifiable excuse such as a medical emergency. In such a case you should contact me (via phone, email, in person, note, etc.) before the exam. Make-up exams will be more difficult. If you have a conflict with any of the Midterms or the Final Exam, you must contact me **in writing** no later than the Census Date, February 1, 2017.

Homework and quizzes: Homework assignments will be given after every lecture. Keep a collection of all assigned homework. A selected portion of the homework assignment will be collected and graded on a regular basis. No late homework will be accepted. One small project will be given during the semester.

Attendance: At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. Each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-

specific policies on attendance. As the instructor of this section, I will take attendance sporadically. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients “begin attendance in a course.” UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

Expectations for Out-of-Class Study: Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 9 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/aao/fao/>).

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA)*, *The Americans with Disabilities Amendments Act (ADAAA)*, and *Section 504 of the Rehabilitation Act*. All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of **a letter certified** by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability.

Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy: *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos.*

Title IX Policy: The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.*

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents’ Rule* 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University. Additional information is available at <https://www.uta.edu/conduct/>.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

Student Feedback Survey: At the end of each term, students enrolled in face-to-face and online classes categorized as “lecture,” “seminar,” or “laboratory” are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback via the SFS database is aggregated with that of other students enrolled in the course. Students’ anonymity will be protected to the extent that the law allows. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: for semester-long courses, a period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, [which is located to the right and left of the classroom](#). When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include [tutoring](#), [major-based learning centers](#), developmental education, [advising and mentoring](#), personal counseling, and [federally funded programs](#). For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at <http://www.uta.edu/universitycollege/resources/index.php>.

The IDEAS Center (2nd Floor of Central Library) offers **free** tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email IDEAS@uta.edu or call (817) 272-6593.

The Library's 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library's hours of operation. <http://library.uta.edu/academic-plaza>

Course Schedule

2017		January				
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
26	27	28	29	30	31	01
02	03	04	05	06	07	08
09	10	11	12	13	14	15
16	17 Welcome 1. Introduction and examples.	18	19 1. Introduction and Examples. 2. Binary Operations	20	21	22
23	24 2. Binary Operations 3. Isomorphic Binary Structures	25	26 3. Isomorphic Binary Structures 4. Groups	27	28	29
30	31 4. Groups	Notes:				

2017	February					
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
30	31	01	02 5. Subgroups	03	04	05
06	07 5. Subgroups 6. Cyclic Groups	08	09 6. Cyclic Groups 7. Generating Sets and Cayley	10	11	12
13	14 Review and Exercises	15	16 Review and Exercises	17	18	19
20	21 Abstract Algebra Midterm 1	22	23 8. Groups of Permutations	24	25	26
27	28 8. Groups of Permutations 9. Orbits, Cycles, and Alternating	01	02	03	04	05

2017	March					
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
27	28	01	02 9. Orbits, Cycles, and the Alternating Groups	03	04	05
06	07 10. Cosets and the Theorem of Lagrange	08	09 10. Cosets and the Theorem of Lagrange	10	11	12
13	14	15	16	17	18	19
20	21 11. Direct Products and Finitely Generated Abelian Groups	22	23 11. Direct Products and Finitely Generated Abelian Groups	24	25	26
27	28 Abstract Algebra Midterm 2	29	30 13. Homomorphisms	31	01	02

2017	April					
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
27	28	29	30	31	01	02
03	04 14. Factor Groups	05	06 15. Factor-Group Computation and Simple Groups	07	08	09
10	11 16. Group Action on Sets	12	13 16. Group Action on Sets	14	15	16
17	18 Review and Exercises	19	20 Abstract Algebra Midterm 3	21	22	23
24	25 36. Sylow Theorems	26	27	28 36. Sylow Theorems	29	30

2017	May					
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
01	02 36. Sylow Theorems	03	04 18. Rings and Fields	05	06	07
08	09	10	11 Abstract Algebra Final Exam	12	13	14

As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. – Esteban Diaz

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. Non-emergency number 817-272-3381

Library Home Page library.uta.edu

Resources for Students

Academic Help

Academic Plaza Consultation Services library.uta.edu/academic-plaza

Ask Us ask.uta.edu/

Library Tutorials library.uta.edu/how-to

Subject and Course Research Guides libguides.uta.edu

Subject Librarians library.uta.edu/subject-librarians

Resources

A to Z List of Library Databases libguides.uta.edu/az.php

Course Reserves pulse.uta.edu/vwebv/enterCourseReserve.do

FabLab fablab.uta.edu/

Special Collections library.uta.edu/special-collections

Study Room Reservations openroom.uta.edu/

Teaching & Learning Services for Faculty

Copyright Consultation library-sc@listserv.uta.edu

Course Research Guide Development, Andy Herzog amherzog@uta.edu or your subject librarian

Data Visualization Instruction, Peace Ossom-Williamson peace@uta.edu

Digital Humanities Instruction, Rafia Mirza rafia@uta.edu

Graduate Student Research Skills Instruction, Andy Herzog amherzog@uta.edu or your subject librarian

Project or Problem-Based Instruction, Gretchen Trkay gtrkay@uta.edu

Undergraduate Research Skills Instruction, Gretchen Trkay gtrkay@uta.edu or your subject librarian.