

COURSE SYLLABUS	Math 421 Section A	Modern Algebra I					
COURSE DESCRIPTION	Introduction to the theory of groups, rings, integral domains, and fields.						
PREREQUISITE	Math 322 and Math 292, or permission of department head.						
TEXT BOOK (Required)	<i>Contemporary Abstract Algebra</i>			Joseph A. Gallian, 6th edition, Houghton Mifflin			
INSTRUCTOR	Karen Aucoin			OFFICE	Kirkman Hall 139F		
				TELEPHONE	475-5803		
				e-mail	aucoin@mcneese.edu		
				web site	http://faculty.mcneese.edu/kaucoin/		
Office Hours And Class Schedule	Time	Mon	Wed	Fri	Time	Tuesday	Thursday
	08:00 AM - 08:50	Office	Office	Office	08:00 AM - 09:15	Office	Office
	09:00 AM - 09:50	Office	Kirkman201	Kirkman201	09:25 AM - 10:40	Math 291 Sec B	Math 291 Sec B
	10:00 AM - 10:50	Math 421/551 Sec A	Math 421/551 Sec A	Math 421/551 Sec A	10:50 AM - 12:05		
	11:00 AM - 11:50	Math 307 Sec A	Math 307 Sec A	Math 307 Sec A	12:15 PM - 01:30	Math 113 Sec H1	Math 113 Sec H1
	12:00 PM - 12:50				01:40 PM - 02:55	Office	Office
	01:00 PM - 02:15				04:00 PM - 05:15		
	02:25 PM - 03:40				05:25 PM - 06:40		
	04:00 PM - 05:15				06:50 PM - 08:05		
	05:25 PM - 06:40						
POLICY ON ASSISTANCE DURING OFFICE HOURS	First, I will want to see your work on the problem in question. You should read the section in the book before coming for help. Bring all the materials that relate to your question.						
TUTORING CENTER	Additional help is available at the tutoring center located in Kirkman Hall room 129.						

<p>STUDENT LEARNING OUTCOMES AND OBJECTIVES</p>	<p>The student will be able to</p> <ul style="list-style-type: none"> • prove statements involving familiar number systems as well as abstract algebraic structures using a variety of techniques, including direct and indirect argument, and mathematical induction; • understand the algebraic properties of groups through the exploration of examples from familiar number systems, modular groups, matrices, and permutation groups; • demonstrate knowledge of subgroups and direct products of groups; • demonstrate knowledge of normal subgroups and factor groups; • compare group structures using the concepts of homomorphism and isomorphism. 																												
<p>COURSE CONTENT</p>	<p>Course material will include the following topics:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Topic</th> <th style="text-align: center;">Chpt.</th> </tr> </thead> <tbody> <tr> <td>Preliminaries</td> <td>Ch. 0</td> </tr> <tr> <td>Introduction to groups</td> <td>Ch. 1</td> </tr> <tr> <td>Groups</td> <td>Ch. 2</td> </tr> <tr> <td>Finite groups; subgroups</td> <td>Ch. 3</td> </tr> <tr> <td>Cyclic groups</td> <td>Ch. 4</td> </tr> <tr> <td>Permutation groups</td> <td>Ch. 5</td> </tr> <tr> <td>Isomorphisms</td> <td>Ch. 6</td> </tr> <tr> <td>Cosets and Lagrange's Theorem</td> <td>Ch. 7</td> </tr> <tr> <td>External direct products</td> <td>Ch. 8</td> </tr> <tr> <td>Normal subgroups and factor groups</td> <td>Ch. 9</td> </tr> <tr> <td>Group homomorphisms</td> <td>Ch. 10</td> </tr> <tr> <td>Introduction to rings</td> <td>Ch. 12</td> </tr> <tr> <td>Introduction to integral domains and fields</td> <td>Ch. 13</td> </tr> </tbody> </table> <p>Topics and applications may be added or deleted at the discretion of the instructor. In particular, topics from Chapter 0 will be covered as needed.</p>	Topic	Chpt.	Preliminaries	Ch. 0	Introduction to groups	Ch. 1	Groups	Ch. 2	Finite groups; subgroups	Ch. 3	Cyclic groups	Ch. 4	Permutation groups	Ch. 5	Isomorphisms	Ch. 6	Cosets and Lagrange's Theorem	Ch. 7	External direct products	Ch. 8	Normal subgroups and factor groups	Ch. 9	Group homomorphisms	Ch. 10	Introduction to rings	Ch. 12	Introduction to integral domains and fields	Ch. 13
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<p>METHOD OF INSTRUCTION</p>	<p>Lecture, presentation and explanation of problems by students, collaborative group problem solving</p>																												

<p>SEMESTER GRADE</p>	<p>The semester grade for the course will be calculated by using the weights (%'s) indicated below.</p> <table border="1" data-bbox="430 365 1510 728"> <tr> <td>MIDTERM TEST 1</td> <td>25%</td> <td>Chapters 0-3</td> </tr> <tr> <td>MIDTERM TEST 2</td> <td>25%</td> <td>Chapters 4-8</td> </tr> <tr> <td>DAILY PRESENTATION OF PROBLEM SOLUTIONS AND ASSIGNMENTS</td> <td>25%</td> <td>As determined by the instructor on a daily basis</td> </tr> <tr> <td>FINAL EXAM</td> <td>25%</td> <td>Comprehensive (with greater emphasis on the material not covered by the midterm exams)</td> </tr> </table> <p>Notes: In case of an excused absence, the instructor reserves the right to reweigh the final exam in lieu of a make-up test.</p> <p>In the case where a student's score on the final exam indicates exceptional achievement above and beyond that indicated by the semester average (all items above except the final), the instructor reserves the right to reweigh the final exam in computing the semester grade.</p>	MIDTERM TEST 1	25%	Chapters 0-3	MIDTERM TEST 2	25%	Chapters 4-8	DAILY PRESENTATION OF PROBLEM SOLUTIONS AND ASSIGNMENTS	25%	As determined by the instructor on a daily basis	FINAL EXAM	25%	Comprehensive (with greater emphasis on the material not covered by the midterm exams)
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<p>SEMESTER MARK</p>	<p>The Department of Mathematics, Computer Science, and Statistics does not assign the mark WN.</p> <table border="1" data-bbox="430 1251 1510 1474"> <thead> <tr> <th>Semester Grade</th> <th>Semester Mark</th> </tr> </thead> <tbody> <tr> <td>90 - 100</td> <td>A</td> </tr> <tr> <td>80 - 89</td> <td>B</td> </tr> <tr> <td>70 - 79</td> <td>C</td> </tr> <tr> <td>60 - 69</td> <td>D</td> </tr> <tr> <td>0 - 59</td> <td>F</td> </tr> </tbody> </table>	Semester Grade	Semester Mark	90 - 100	A	80 - 89	B	70 - 79	C	60 - 69	D	0 - 59	F
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<p>CLASSROOM BEHAVIOR</p>	<p>All cell phones and electronic devices should be in silent mode.</p> <p>No food or drinks are allowed in the classrooms.</p> <p>Respect and courtesy to one another are expected at all times.</p> <p>Late arrival and/or early departure will be considered an unexcused absence unless resolved with the instructor before or after the class.</p>												

ATTENDANCE POLICY	Please read the Department's Attendance Policy .
IMPORTANT INFORMATION	<p>Students should visit the MSU web page at http://www.mcneese.edu/policy/diversity.htm for information about diversity awareness and sexual harassment policies and procedures, as well as the Americans with Disabilities Act.</p> <p>Students should also visit the MSU web page at http://www.mcneese.edu/integrity for information on the Academic Integrity Policy.</p> <p>It is each student's responsibility to register with the Office of Services for Students with Disabilities when requesting an accommodation. Any student with a disability is encouraged to contact the Office of Services for Students with Disabilities, Drew Hall, Room 200, (337) 475-5916 Voice, (337) 475-5878 FAX, (337) 562-4227 TDD/TTY, Hearing Impaired. 475-5722.</p> <p>In compliance with federal regulation 29CFR1910.3, the National Fire Protection Association Standard NFPA 101, Life Safety Code, Section 4.7, and the State of Louisiana Office of Risk Management, McNeese State University will periodically conduct fire drills. In the event of a fire drill or a related building emergency, all persons in a classroom are required to exit the building using posted escape routes or the Area of Refuge for individuals with disabilities. All persons in class are required to follow the faculty member outside of the building to safety and are required to check in with the faculty member to ensure that everyone has safely exited the building. It is everyone's responsibility to ensure that emergency responders such as University Police or Building Coordinators are made aware of missing or injured persons and individuals with disabilities who evacuated to the Area of Refuge. No one may re-enter the building until an official all-clear is given by emergency responders.</p>
SUMMER SCHOOL	One week of summer school is equivalent to 2 ½ weeks of Fall or Spring classes