

COURSE SYLLABUS	Math 307 Section A	Foundations of Mathematics						
COURSE DESCRIPTION	Course to bridge the gap between calculus and upper division mathematics courses. Topics will include selections from set theory, relations, functions, Boolean algebra, algebraic systems, and mathematical logic.							
PREREQUISITE	Math 291, or permission of department head.							
TEXT BOOK (Required)	<i>Introduction to Advanced Mathematics</i>			Barnier and Feldman, 2nd edition, Prentice Hall				
CALCULATOR	The <i>Casio 9750G Plus</i> will be used for classroom demonstrations. It is recommended that you check with the instructor before using a calculator other than the <i>Casio 9750G Plus</i> for this class. Some testing will be conducted without the use of the calculator.							
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.							

STUDENT LEARNING OUTCOMES AND OBJECTIVES	<p>The student will be able to</p> <ul style="list-style-type: none"> • understand propositional logic, logical equivalence, tautology and contradiction; • understand the rules of inference, including implications and counterexamples; • use the basic proof techniques including: direct proof, proof by contradiction, and proof by contrapositive; • understand and use mathematical induction to show the validity of a statement for an infinite sequence; • use the algebra of sets for construction and proof, including union, intersection, and Cartesian product; • understand functions and the concepts of composition, bijection, and inverse functions; • find images and inverse images of sets under functions; • use the concepts of relations, equivalence relations, and partial ordering of sets; • use the concept of cardinality of finite and infinite sets; • use the concepts of divisibility, prime factorization, and modular arithmetic in number theory; • convey understanding of course material to peers through daily presentation of problem solutions • demonstrate understanding of selected topics from the history of mathematics • evaluate and reflect on problem solutions presented by peers 																								
COURSE CONTENT	<p>Course material will include the following topics:</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Topic</th> <th style="text-align: center;">Chpt.</th> <th style="text-align: center;">Sections</th> </tr> </thead> <tbody> <tr> <td>Introduction to logic</td> <td style="text-align: center;">Ch. 1</td> <td style="text-align: center;">1-3</td> </tr> <tr> <td>Methods of proof</td> <td style="text-align: center;">Ch. 2</td> <td style="text-align: center;">1–5</td> </tr> <tr> <td>Set theory</td> <td style="text-align: center;">Ch. 3</td> <td style="text-align: center;">1–4</td> </tr> <tr> <td>Cartesian products and functions</td> <td style="text-align: center;">Ch. 4</td> <td style="text-align: center;">1–4</td> </tr> <tr> <td>Relations</td> <td style="text-align: center;">Ch. 5</td> <td style="text-align: center;">1,2</td> </tr> <tr> <td>Cardinality</td> <td style="text-align: center;">Ch. 6</td> <td style="text-align: center;">1,2</td> </tr> <tr> <td>Number theory</td> <td style="text-align: center;">Ch. 7</td> <td style="text-align: center;">As time permits</td> </tr> </tbody> </table>	Topic	Chpt.	Sections	Introduction to logic	Ch. 1	1-3	Methods of proof	Ch. 2	1–5	Set theory	Ch. 3	1–4	Cartesian products and functions	Ch. 4	1–4	Relations	Ch. 5	1,2	Cardinality	Ch. 6	1,2	Number theory	Ch. 7	As time permits
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METHOD OF INSTRUCTION	Lecture, presentation and explanation of problems by students, collaborative group problem solving																								

SEMESTER GRADE	The semester grade for the course will be calculated by using the weights (%'s) indicated below.													
	MIDTERM TEST 1	20%	Sections 1.1-1.3, 2.1-2.3											
	MIDTERM TEST 2	20%	Sections 2.4,2.5,3.1-3.4,4.1											
	MIDTERM TEST 3	20%	Sections 4.2-4.4,5.1,5.2,6.1,6.2											
	PRESENTATION OF HOMEWORK PROBLEMS, HISTORY OF MATHEMATICS PRESENTATIONS, PROBLEM REFLECTIONS, AND PEER REVIEW EXERCISES	15%	As determined by the instructor on a daily basis											
	FINAL EXAM	25%	Chapters 1-7											
	<p>Notes:</p> <p>In case of an excused absence, the instructor reserves the right to reweight 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>													
SEMESTER MARK	The Department of Mathematics, Computer Science, and Statistics does not assign the mark WN.													
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CLASSROOM BEHAVIOR	All cell phones and electronic devices should be in silent mode.													
	No food or drinks are allowed in the classrooms.													
	Respect and courtesy to one another are expected at all times.													
	Late arrival and/or early departure will be considered an unexcused absence unless resolved with the instructor before or after the class.													

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