MATH 509-WWW Syllabus
Spring 2010

Logic and Foundations of Mathematics for Teachers

Instructor: Dr. Ianna West

Office: Peltier 106-B
Office Hours: On-campus 3T, 5T, 6T, 7T or by appointment: Online M/W/F 10:00-11:00 AM: The instructor will be available for consultation via email or in the Blackboard virtual classroom during online office hours, or by appointment. Also the instructor will be available online throughout the day available to answer questions via email.
Email: ianna.west@nicholls.edu
Phone: 985-448-4394
Blackboard: http://blackboard.nicholls.edu/

Section: WWW

Required Text and Other Materials: No required text; access to a computer with internet is required.

Prerequisites: MATH 265 (Calculus III) and MATH 358 (Foundations of Mathematics).

Catalog Description: Cornerstone course normally taken in first semester of graduate study. Developing and evaluating arguments and proofs, the use of various types of reasoning, methods of proof, making and investigating conjectures.

Student Outcome Objectives:
Student will be able to:
1. Understand and apply standard mathematical language;
2. Formulate definitions of given mathematical terms;
3. Understand the definition of conjecture and apply this knowledge to form conjectures;
4. Discuss the plausibility of a conjecture without a formal proof;
5. Develop assertions as theorems;
6. Understand the terminology and rules of logic;
7. Apply the rules of logic to construct formal proofs of conjectures and/or theorems;
8. Understand the use of counterexamples and use counterexamples to disprove false conjectures;
9. Demonstrate knowledge of and how to apply assumptions, axioms previously proved theorems and definitions in deductive proofs.
10. Understand and apply various methods of proof including direct proof, proof by contrapositive, proof by contradiction, and mathematical induction.
Course Requirements, Course Content, and Methods of Evaluation

**Hardware and Software Requirements:** The course will be conducted via internet using Blackboard and email. The URL for the university’s distance learning website is [http://www.nicholls.edu/distance/](http://www.nicholls.edu/distance/). FAQs about internet courses can be viewed at [http://www.nicholls.edu/distance/faqs/](http://www.nicholls.edu/distance/faqs/). A download for minimum computer requirements for taking a course on Blackboard can be found in the last question on the FAQS site given above. A Blackboard Tutorial can be viewed at [http://www.nicholls.edu/distance/blackboard-tutorial/](http://www.nicholls.edu/distance/blackboard-tutorial/). A word processing software such as Microsoft Word is highly recommended to complete homework assignments.

**On Campus Meeting Requirements:** Students will be required to meet on-campus to take the final exam if he/she lives within a reasonable driving distance of the campus. Distance learners must locate an approved testing facility near his or her home. Examples of approved testing centers are universities community colleges or military testing centers, as well as Sylvan testing centers.

**Notes:** Lecture notes and homework assignments will be posted on Blackboard.

**Homework:** Exercises will be assigned from each section. Students are required to complete all homework assigned to ensure an understanding of the concepts. The student will have approximately one week to complete each assignment. The instructor will upload the homework assignment to Blackboard, and the student will be required to download the assignment from Blackboard. The student will then have to upload the completed assignment to Blackboard. Homework assignments will be graded and feedback will be uploaded to Blackboard where the student may access his or her feedback. Instructions for acquiring and submitting assignments will be given later.

**Final Exam:** There will be a final exam worth 40% of the total grade. Students who live out-of-state, or students who do not live within a reasonable driving distance to the Nicholls’ campus, may request an alternative location (an approved testing center) to take the exam. Arrangements need to be made by the student in advance.

**Final Exam—Thursday, May 13, 2010 @ 1:00 PM**

**Distance Learning Form:** A copy of the distance learning Proctor Approval Form is attached to the syllabus. This form is only for students who will take the exam off-campus. The form must be filled out by the student at the beginning of the semester to be approved by the instructor. A Test Administration Procedure Form will be sent by the instructor to the approved testing center approximately a week before the exam and is to be filled out by the test administrator and returned to the instructor before the day of the test.

**Grade**
Grade will be calculated on a ten point grading scale 90-100 A, 80-89 B, 70-79 C, 60-69 D, below 60 F.

- **Homework** 60% **Distribution of points may change during the semester**
- **Final Exam** 40%

**Make-up Procedure:** To make up a test, student must have a valid written excuse resulting from an emergency situation since we are only having a final exam. Students representing the university in any official capacity will be granted valid excuses and will be allowed to make up the exam.
Behavioral Policy: Students must at no time be disrespectful toward the instructor. Students must behave in a professional manner at all times. Failure to act in an appropriate manner will not be tolerated and will be handled according to the guidelines outlined in the Code of Student Conduct.

Attendance Policy: Participation in activities is required where an electronic record which clearly indicates time and date activity was submitted. For financial aid purposes, student must complete at least one activity, which is equivalent to having attended a class at least once.

Academic Honesty Policy: Cheating will not be tolerated. Sanctions for academic cheating, plagiarism, and forgery of academic documents including signing another's name (Sec 1.9) are those outlined in the Code of Student Conduct handbook. Section 5 of the Code of Student Conduct, ‘Academic Dishonesty and Disruptive Behavior,’ includes a requirement that faculty file a charge complaint statement with their respective dean whenever a student is confronted or disciplined for cheating. The Office of Academic Affairs will maintain these records, and any student confronted and/or disciplined for multiple offenses of academic dishonesty will be brought before the Academic Affairs Integrity Committee for further review and potential sanctions. Please read the Code of Student Conduct for further details regarding this policy.

Continued Learning following an Extreme Emergency:
In order to make continued learning possible following an extreme emergency;

**Students are responsible for:**
- reading regular emergency notifications on the NSU website;
- knowing how to use and access Blackboard (or university designated electronic delivery system);
- being familiar with emergency guidelines;
- evacuating textbooks and other course materials;
- knowing their Blackboard (or designated system) student login and password;
- contacting faculty regarding their intentions for completing the course.

**Faculty are responsible for:**
- their development in the use of the Blackboard (or designated) software;
- having a plan for continuing their courses using only Blackboard and email;
- continuing their course in whatever way suits the completion of the course best, and being creative in the continuation of these courses;
- making adjustments or compensations to a student’s progress in special programs with labs, clinical sequences or the like, only in the immediate semester following the emergency.

Academic Grievances:
The proper procedure for filing grade appeals or grievances related to academic matters is listed in Section 5 of the Code of Student Conduct and at the following link:

Americans with Disabilities Act: If you have a documented disability that requires assistance, you will need to register with the Office of Disability Services for coordination of our academic accommodations. The Office of Disability Services is located in Peltier Hall, Room 100-A. The phone number is (985) 448-4430 (TDD 449-7002).

**The last day to drop this course with a “W” is Wednesday, March 31, 2010**