MATH 200-001 – Introduction to Mathematical Reasoning Spring 2009, Liberty University, Lynchburg, VA	Class Meets in: Teacher Education 125 Lecture Times: T-TH 12:25-1:40pm
Even though I walk through the valley of the shadow of death, I will fear no evil, for you are with me; your rod and your staff, they comfort me. *Psalm 23:4 (E.S.V.)*	Instructor: Dr. James S. Cook Office: Applied Science 105 Office Hours: 11am-12pm weekdays. Email: jcook4@liberty.edu office phone: 434-582-2476

I. Course Description

Symbolic logic, direct and indirect methods of proof, and mathematical induction. Examples from set theory, recursion, basic algebraic structures, analysis are used to illustrates the various methods of proof.

II. Rationale

This course includes all of the material usually found in a first course in methods of reasoning and proofs. To the mathematics major it is crucial to be exposed to the various methods of mathematical proofs and presentations .

III. Prequisite Statement

MATH 132 with a minimum grade of C or equivalent maturity.

It is the student's responsibility to make up any prerequisite deficiencies, as stated in the Liberty University Catalog, which would prevent the successful completion of this course

IV. Materials List

A Transition to Advanced Mathematics; Douglas Smith; Sixth Edition; Thompson --Brooks/Cole—
Internet: Lecture notes and selected homework solutions can downloaded from http://www.supermath.info/math200s09.html

V. Learning Outcomes

The student will be able to:
1. use proper set notation and common mathematical abbreviations,
2. analyze and construct direct and indirect proofs,
3. give definitions for basic concepts pertaining to logic, relations, functions and algebra,
4. appreciate that mathematics is more than calculation.

VI. Assignments/Requirements

- Cognitive growth – Demonstrate mathematical proficiency by working exercises and solving problems related to the topics discussed. (See the course description and the outcomes listed in Section V above.)

- Product – Daily assignments and quizzes, two in-class tests, proof presentation, and a comprehensive final exam

- Process – A students will demonstrate individual progress by solving problems in daily assignments, quizzes, and tests. (See the outcomes listed in Section V above.)

VII. Grading Policies

- No late assignments are accepted.

- Quizzes may be announced or unannounced, take-home or in class, open or closed book, group or independent work.

- No make-up quizzes will be given.

- Homework assignments are generally collected weekly. There is a complete list of problems as well as due dates on the course website and at the end of this syllabus. It is in your best interest to work on the problems well before the due date. Proper time management will allow you to get more out of the homework and ultimately the course as a whole. I will answer reasonable questions about homework in lecture, but it's hard to ask a reasonable question unless you have already tried to work the problems.

- There is a bonus project on series and sequences if you wish to do something extra.

- Tests must be taken as scheduled. No make-up tests will be given after the scheduled time. If a test is missed due to an excused absence, the final exam grade may be substituted.

- **GRADING SCALE**: A – 90% and above, B – 80-89%, C – 70-79%, D – 60-69%, F – below 60%

- The course grade will be determined based on: homework/quizzes (30%), two tests (20% each), proof presentation(10%) and the cumulative final exam (20%). Grades are based on academic performance. I do not "give grades", rather you EARN your grade through your responsible and continual efforts to master the material. I want everyone to pass my course, but it is you who must do the work. I will do everything in my power to help you work effectively. The recipe for passing is quite simple: come to class, pay attention, do your homework. I rarely fail anyone who actually does these three simple things.

VIII. Attendance Policies

   - Class attendance is essential and students are expected to be present each class. If an absence is unavoidable, then the student should notify the professor in writing or by email in advance. If advance notice is not possible, then an email should be sent promptly after the absence. STUDENTS ARE RESPONSIBLE FOR ALL MATERIAL COVERED AND ASSIGNMENTS MADE DURING AN ABSENCE.

   - Phones, beepers, iPods, etc. should be turned off and put away during class.

   - Students will arrive on time and stay for the entire class.

   - Students will bring textbook, pen/pencil, paper, calculator, and completed homework to class.

IX. Other Policies

Dress Code

 Students are expected to come to class dressed in a manner consistent with The Liberty Way.

Honor Code

 We, the students, faculty, and staff of Liberty University, have a responsibility to uphold the moral and ethical standards of this institution and personally confront those who do not.

Academic Misconduct

 Academic misconduct includes: academic dishonesty, plagiarism, and falsification. See The Liberty Way for specific definitions, penalties, and processes for reporting.

Disability Statement

 Any student with a documented disability may contact the Office of Disability Academic Support (ODAS) in Teacher Education Building-TE 127 in order to make arrangements for an academic accommodation.

Classroom Policies

 Pay attention and be respectful of me and your peers.

X. Calendar for the semester/term

 - TEST DATES: Test 1 –February 24; Test 2 – April 16.
- final exam – (officially scheduled time) - Wednesday, May 6, 10:30-12:30 (TE 125 as usual)

XII. Homework Assignments and Course Calendar

 - Go to the course website http://www.supermath.info/math200s09.html for a complete and current list of assignments and solutions. Further instructions concerning homework will be found on that website.

XI. Disclaimer:

 While I have attempted to completely specify the content of this course, I reserve the right to change this syllabus if necessary. It is your responsibility to monitor your Liberty University email account for any changes in the syllabus. I will notify you via email and announce in class in the event something needs modification.