

SUFFOLK COMMUNITY COLLEGE
MATHEMATICS DEPARTMENT
STUDENT COURSE OUTLINE/SYLLABUS
MAT101 - Fall 2009

INSTRUCTOR: Dr. James Fulton
COURSE: MAT 101- 103 Survey of Mathematical Reasoning
CRN #: 94279
M/W 12:30-1:45 PM

OFFICE: R345
OFFICE HOURS:
M 2:00-3:30 PM
Tu 8:00-9:00 AM
W 2:00-3:45 PM
Th 7:30-8:00 AM
CREDITS: 3

CLASSROOM: T111
PREREQUISITE: MAT006 or MAT007 or equivalent
TELEPHONE: 451-4784 (Prof. Fulton)
451-4270 (Secretary)
E-MAIL: fultonj@sunysuffolk.edu

COURSE PHILOSOPHY:

This course is designed to provide college students with the opportunity to experience the different types of mathematical thinking; and to enable them to ultimately appreciate mathematics as an art, a science and a language, in addition to a method of understanding and solving problems. This course, while designed to satisfy the mathematical requirements of the liberal arts student, as a consequence of its emphasis on abstract reasoning, can be a useful course for all college students.

COURSE OBJECTIVES

Upon successful completion of this course, students will be able to:

1. distinguish between deductive and inductive reasoning;
2. make connections between mathematical discoveries and the history of human thought;
3. perform basic operations of set theory including: intersection, union, and complement;
4. analyze basic data using Venn diagrams;
5. translate verbal statements into symbolic form;
6. test for the validity or arguments;
7. define logical connectives using truth tables;
8. convert to any number base;
9. understand the concept of infinity;
10. solve compounded/exponential growth problems

STUDENT REQUIREMENTS:

The student is required to:

1. Attend class.
2. Read assigned material and complete web assignments
3. Participate in classroom discussions
3. Complete homework assignments before the next scheduled class.

4. Take all the examinations at scheduled times.
5. Complete and hand-in a final paper

GRADING POLICY:

1. There will be three (3) exams.
2. There will be three to six (3-6) collected homework assignments. **Homework handed in late will receive a 10- point (out of a possible 100 points) deduction per class day late.**
3. You must complete a technical paper on mathematics that is at least **seven (7)** pages long (see handout on paper format.) The final paper is due the last day of class.
4. Your course average will be determined as follows:

Exams.....	50%
Homework.....	25%
Paper.....	25%
TOTAL	100%

COLLEGE-WIDE ATTENDANCE POLICY:

All students are expected to attend every session of each course for which they are registered. Students are responsible for all that transpires in class whether or not they are in attendance. The College defines excessive absence or lateness as more than the equivalent of one week of class meetings during the semester. Excessive absence or lateness may lead to failure in a course or removal from the class roster.

TEXTBOOK:

Class Notes (located on the website:

<http://www2.sunysuffolk.edu/fultonj/MA21/MathematicalMysteryTour090406.pdf>) and handouts. This course is also “web-enabled.” This means you will have access to a class website where assignments will be posted, as well as access to other course materials. You will need to have access to a computer that can log onto the web for this course.

OUTLINE OF TOPICS:

Listed below is a general outline of the topics to be covered:

Topics

What is mathematics? “A philosophical perspective”	TEST 1
How do we understand mathematics? “A psychological perspective”	
How did mathematics develop? “A historical perspective”	
Development of Numbers and Number Systems	TEST 2
Development of Logic & Set Theory	TEST 3