

**MATH 305**  
**FUNDAMENTALS OF ADVANCED MATHEMATICS**  
**Spring 2005**

**Textbook:** Gary Chartrand, Albert D. Polimeni and Ping Zhang, *Mathematical Proofs: A Transition To Advanced Mathematics*, Addison-Wesley 2003.

**Topics Covered:** : This course helps students bridge the gap between calculus and the advanced courses in mathematics. We shall covers the following topics that are in chapters 1 through 10 of the text: Sets, Logic, Direct Proof and Proof by Contrapositive, Proof by Contradiction, Equivalence Relations, Functions, Mathematical Induction and Cardinality of Sets.

**Instructor:** Dr. Kiran R. Bhutani (bhutani@cua.edu)

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**Class Hours:** M, W, F: 1:10-2:00 P.M. Pangborn G035

**Office Hours:** M, W, F: 9:30 am -11:00 am and by appointment

**Grading Policy:** Grading is based on:

1. Three tests (50 points each)+ five quizzes (50 points in all) for a total of 200 points.
2. Final exam (200 points).

**Let X be the score on (1) and Y be the score on (2).**

Your total score out of 300 is equal to:

$$\max (X,Y) + 1/2 \min (X,Y)$$

and the course grade is as follows:

000 – 179	<i>F</i>	195 – 209	<i>C–</i>	230 – 239	<i>B–</i>	260 – 269	<i>A–</i>
180 – 194	<i>D</i>	210 – 219	<i>C</i>	240 – 249	<i>B</i>	270 – 300	<i>A</i>
		220 – 229	<i>C+</i>	250 – 259	<i>B+</i>		

**Homework:** Homework problems will be assigned at the end of each class, and will be discussed in the following class. Homework will not be graded but will help you prepare for exams and quizzes.

**Please Note:**

1. There will be no make-ups on quizzes.
2. Make-ups on tests are possible only if a student has a valid reason for not taking the test on time.

**A letter from the Office of the Dean of Students is absolutely necessary in this case.** Questions are always welcome and strongly encouraged.

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Have a great semester.