MEETING DAYS: M W R F  
MEETING TIMES: 12:00 – 12:50 pm  
ROOM: Jamrich 3102  

PROFESSOR: Dr. Bao Q. Truong  
OFFICE: Jamrich 2216  
PHONE: 227-1610  
EMAIL: btruong@nmu.edu  

OFFICE HOURS: 8:00 – 8:50 and 10:00 – 11:50 M W R F or by appointment. M W R F or by appointment.  

PREREQUISITES: At least a C – in MA 115 or satisfactory score on the Math Placement Exam.  


COURSE CONTENT: Calculus is the crowning achievement of 17th century mathematics. It provides, fundamentally, solutions to two problems: the development of a fruitful concept of the slope of a curve at a point on the curve and the development of a fruitful concept of the area bounded by a curve. In the first semester of Calculus, we will cover several topics on differential calculus.  
1. Functions  
2. Limits  
3. Derivative  
   - The meaning of derivative  
   - Finding derivatives of functions given by table, by graph, and by formula  
   - Derivatives of the fundamental functions  
   - Derivatives of sums, products and compositions of functions  
   - Selected applications of the derivative: optimization, rate of change, and linear approximation.  
4. Integral  
   - The meaning of the definite integral  
   - Finding the definite integral of functions given by table, by graph and by formula  
   - The Fundamental Theorem of Calculus  
   - Selected applications of the definite integral: area under a curve and total change from rate of change.  

This course satisfies the Foundation of Natural sciences/Mathematics requirement. Students who complete this course should be able to demonstrate a basic understanding of mathematical logic; use mathematics to solve scientific or mathematical problems in college classes; express relationships in the symbolic language of mathematics; and appreciate the role of mathematics in analyzing natural phenomena.  

LEARNING OBJECTIVES: By the end of the course students will be able to:  
- Understand the theoretical concept of a limit; use algebraic means to compute the values of limits and identify when they don’t exist.  
- Understand the theoretical concept of the derivative; compute them using the standard rules of differentiation.  
- Understand the theoretical concept of the integral; compute both definite and indefinite integrals using the fundamental theorem of calculus.  
- Communicate mathematically, including understanding, making, and critiquing mathematical arguments.  

ATTENDANCE: You should come to class. If at any point you feel that you would rather not come to class because, in some lecture I give, everything seems to be something you already know, then you are mistaken: there is a great deal of depth behind every single idea we will cover in this course (some of which I will at least describe a little bit of, over the course of the semester), and if you think you understand the most obvious features of what we cover in class, then it is time to dig deeper and try to solve more difficult problems.
**HOMEWORK:** Homework is an extremely important part of any mathematics course. As practice in sports or music sharpens your skills, so does homework sharpen your mathematics skills.

There will be weekly online homework assignments administered by WeBWork. WeBWork problems are computational in nature and assess the techniques introduced in class. Many of these problems will resemble examples in the textbook or from class. You will get immediate feedback on your progress and will get several chances to ensure it. WeBWork user name is NMU user name and password is 8 digits of NMU student ID.

Students should check the course webpage at [https://educat.nmu.edu/](https://educat.nmu.edu/) for homework and reading assignments. Handouts and other useful information can also be found there. Students are expected to complete all homework and reading assignments in a timely fashion. **Late homework will not be accepted.**

**TESTS:** There are four tests and a comprehensive final exam that will take place at the times given below.

- Test 1: Friday, September 18
- Test 2: Friday, October 9
- Test 3: Friday, October 30
- Test 4: Friday, November 20
- Final Exam: Tuesday, December 8, 2015, noon - 1:50 p.m.

Tests can be made up only for a good reason and you must provide documented proof (i.e. note from doctor, subpoena, funeral announcement, etc.) before you can take a makeup. If possible, please notify me before the test if you are not going to be there. Except for university related functions, I will solely determine whether or not the reason that you have for missing a test is valid.

Quizzes will be given once or twice a month, unannounced, and cannot be made up under any circumstances. Quizzes will include any in class projects. If you miss only one or two quizzes, it will not significantly affect your grade. However, missing most of them will.

**GRADES:** Your grade will be based upon written exams, quizzes, written assignments, homework, and class participation.

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<td>Group Assignments</td>
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<td>Final</td>
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A-A (> 90%)  B-BB+ (80% – 89%)  C-CC+ (70% – 79%)  D-DD+ (60% – 69%)  F (< 60%)

The grading may be less stringent, but not more stringent, than this.

**TUTORING:** If you need extra help in the class, you are welcome to come to my office hours, or email me to make an appointment to meet with me outside of my office hours. You are also welcome to go to the Mathematics Tutor Lab, West Science 3810. Mathematics Tutor Lab is open M-R 9:00 am.- 4:00 pm and F 9:00 am.- 3:00 pm.

**LAPTOP:** The use of laptop and other electronic devices, except for hand held calculators, will not be permitted during exams. Calculators are allowed on exams in this course; however, you are not permitted to use powerful calculators to perform symbolic differentiation on exams. In general almost all work in this course will be work that a calculator will not help you with, so I think you will find that you only rarely, if ever, need to reach for your calculator.

**ADA STATEMENT:** If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Dean of Students Office at 2001 C. B. Hedgcock Building (227-1700). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.

**FURTHER NOTES:** Bring your textbook, calculator, and notebook. Take notes and write down examples. You don’t learn by watching; you learn by doing. I urge you to work together in groups. If you have any concerns, questions, etc., please feel free to talk with me about them. There is always something we can work out. It is never too late to improve.