Mathematics 1710 Syllabus - Spring 2014

Course Description: This course is designed to give students a basic background in the topics of limits and continuity, derivatives and integrals; differentiation and integration of polynomial, rational, trigonometric, and algebraic functions; applications, including slope, velocity, extrema, area, volume and work.

Learning Objectives: By the end of this course, you will be able to compute 1) limits of algebraic and trigonometric functions; 2) derivatives of most algebraic function; and 3) certain integrals. You will also be able to apply these computational skills to compute 1) tangent lines to curves; 2) areas in the plane; 3) volumes; and 4) solutions to applied problems. In addition to computational skills, you will also gain understanding of the theoretical aspects of limits, derivatives, and integrals.

Prerequisite: Math 1650 or equivalent

Book: Calculus by Briggs and Cochran

Professor: Neal Brand

Contact Information: Email: neal@unt.edu Phone: 940-565-4138

Office: GAB 417B
M 2:00-2:50, T 9:00-11:30, W 4:00-4:50, Th 9:00-11:30, F 1:00-1:50 and by appointment.
Please use these hours to ask questions of your instructor. At other times, your instructor will most likely be busy with other responsibilities, so do not just drop in at other times. If you need to see your instructor at another time, please make an appointment in advance.

Grading and Course Requirements: Grades will be based on three regular exams, homework, projects, quizzes, and a final. The homework is worth a total of 100 points. You will receive more than 20 homework assignments, each worth 5 points, but only the best 20 assignments count. Projects are extended homework assignments that require more effort and time than regular homework assignments. The projects are worth 25 points each for a total of 100 points. Quizzes will be given in your recitation section and they will account for 100 points total. Each regular exam is worth 100 points and the final exam is worth 200 points. This gives you a total of 800 possible points. To earn an A it is sufficient to make a total of 720 points, 640 for a B, 560 for a C, and 480 for a D.

Course Evaluation: The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you between April 14 and May 4, providing you a chance to comment on how this class is taught. You are required to go to the SETE web site and complete an evaluation of the course sometime during the open period. The evaluation could take you 10 minutes or less if you just answer the multiple choice
questions. If you wish to make specific comments about the course, the instructor or anything else related to this class, you will have the opportunity to type in comments. Although your instructor will receive a list of who completed the evaluation forms, he will not receive any other information about the evaluations until after the grades are turned in. Your instructor will receive no information that would link you to your specific answers or comments. The university, the mathematics department and I take your course evaluation input very seriously.

**Exams**: The regular exams will be given in class on February 21, March 21 and April 23. The final exam is scheduled for May 7 (Wednesday) at 1:30 in the classroom. The exam dates are subject to change, but the final exam date is very unlikely to change.

**Homework**: Homework will be posted in MyMathLab and done online. When an assignment is available, it will show up in MyMathLab with the due date. Since MyMathLab is a computer program, it is very picky about getting the homework done on time. So no late homework will be accepted. The class web page gives directions on how to register in MyMathLab.

**Projects**: You are expected to turn in neatly written projects that show all essential work. **If the grader has trouble reading a project, then the project will be returned with a zero.** Please see the web site homeworkexp.html for clarification on what is expected.

**Web Page**: From the UNT home page follow through the links through the College of Arts and Sciences, the Mathematics Department and Neal Brand's home page to find the Math 1710 home page. You will find what is being covered each day at that site. The URL is http://www.math.unt.edu/~brand/CLASS/1710/2013Fall/Brand1710.htm.

**Attendance**: It is important that you come to class in order to master the material. Although most of what I cover can be found in the book, I will often present a different point of view from the book and give different examples.

**Extra Credit**: Do not expect to be able to do extra credit work to help your grade either before or after the final exam. There will be no extra credit for this course other than perhaps an extra problem on an exam. Please do not ask for extra credit work to help your grade. Your best strategy to help your grade is to do the required work at the time it is assigned.

**Cell Phones and Other Electronic Devices**: Mathematics builds on itself and if a student misses a concept, then it is difficult to understand what comes next. Consequently, I request that you do not try to multitask by listening to what is going on in class while browsing the web, reading text messages, or checking your stocks. However, if you are using your computer to take notes or your calculator to compute an answer, that is fine.

**Disabilities**: The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the
semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Accommodation website at [http://www.unt.edu/oda](http://www.unt.edu/oda). You may also contact them by phone at 940.565.4323.

**Cheating:** No cheating will be tolerated. Cheating includes receiving help from anyone or anything that is not specifically allowed on an exam, quiz, or final. For example, calculators are not allowed on exams and using one would constitute cheating. On the other hand, you are encouraged to work together on homework assignments as long as everyone participates and no one just copies the answers. **Anyone caught cheating will receive an F for the course.** Furthermore, a letter will be sent to the TAMS dean. I expect no cheating in this class. (See the UNT website on academic dishonesty: [http://www.vpaa.unt.edu/academic-integrity.htm](http://www.vpaa.unt.edu/academic-integrity.htm).)

**Last Comment:** Anything on this syllabus is subject to change at the discretion of the instructor.

[Return to 1710 Home Page](http://www.unt.edu/oda).
Math 1710 Information  
Spring 2014

Syllabus

Directions on how to get started with MyMathLab are here.

Schedule and Homework Assignments: Below each date you will find the topic to be covered that day. This is tentative and it may change due to unforeseen circumstances. It is best to check http://www.math.unt.edu/~brand/class/1710/2014Spring/Brand1710.htm often as it will be updated occasionally to reflect changes.

- **January 13**
  Introduction to slope of curves and limits (Section 2.1)
- **January 15**
  Introduction to limits (Section 2.2)
  Browse Chapter 1. This is all review.
  Limits of Functions Mathematica Notebook
- **January 17**
  Properties of limits (Section 2.3)
- **January 22**
  Infinite limits and limits at infinity (Sections 2.4, 2.5)
- **January 24**
  Continuity (Section 2.6)
- **January 27**
  Introduction to derivatives (Section 3.1)
- **January 29**
  Basic properties and rules of differentiation (Section 3.2)
- **January 31**
  Product and quotient rule (Section 3.3)
- **February 3**
  Continue with product and quotient rule
  Differentiation of trigonometric functions (Section 3.4)
- **February 5**
  Continue with differentiation of trigonometric functions
- **February 7**
  Derivatives as rates of change (Section 3.5)
- **February 10**
  Linear approximations (Section 4.5)
- **February 12**
  The chain rule (Section 3.6)
- **February 14**
  Implicit differentiation (Section 3.7)
- **February 17**
  Related rates (Section 3.8)
- **February 19**
  Maxima and minima (Section 4.1)
- **February 21**
- **Exam 1**
- **February 24**
  Mean Value Theorem (Section 4.6)
- **February 26**
  Increasing, decreasing, and shape of functions (Section 4.2)
- **February 28**
  Graphing functions (Section 4.3)
- **March 3**
  Continue graphing functions
- **March 5**
  Optimization problems (Section 4.4)
- **March 7**
  L’hopital’s Rule (Section 4.7)
- **March 17**
  Antiderivatives (Section 4.8)
- **March 19**
  Riemann sums and the definite integral (Section 5.1, 5.2)
- **March 21**
  Exam 2
- **March 24**
  Continue Riemann sums and the definite integral
- **March 26**
  Fundamental Theorem of Calculus (Section 5.3)
- **March 28**
  Working with integrals (Section 5.4)
- **March 31**
  The chain rule for integrals (Section 5.5)
- **April 2**
  Position, displacement, velocity, speed, acceleration (Section 6.1)
- **April 4**
  Areas of regions between curves (Section 6.2)
- **April 7**
  Volumes by cross section and (Section 6.3)
- **April 9**
  Volume by shells (Section 6.4)
- **April 11**
  More volume by slicing and shells
- **April 14**
  Length of curves (Section 6.5)
- **April 16**
  Mass and density (Section 6.6 through Example 1)
  Center of mass (Section 14.6 through Example 2)
- **April 18**
  Center of mass of a planar region
- **April 21**
  Pappus’ Theorem
- **April 23**
  Exam 3
- **April 25**
  Work (Section 6.6)
- **April 28**
  More work (Section 6.6)
- **April 30**
  Moment of inertia
May 7
Final Exam (1:30 pm)

Return to Neal Brand's homepage.