

COURSE SYLLABUS

Professor: Dr. Raegan Higgins
Office: MA 219
Email: raegan.higgins@ttu.edu
Phone: 742-2580 ext 273
Office Hours: TR 9:30 – 11:00am
W 1:30 – 2:30 pm (by appt)

Teaching Assistant: Ms. Chelsea Lewis
Office: MA 253
Email: chelsea.j.lewis@ttu.edu
Phone: N/A
Office Hours: M 4:00 – 5:00pm
R 9:30 – 11:00am, 3:30 – 5:00pm

Classroom Lecture
TR 8:00am – 9:20am Holden 033

Discussion Sections
750: M 11:00am – 11:50am CivilE 009
751: M 5:00pm – 5:50pm Math 016

Prerequisite Policy: Students must have completed Math 1351 with a minimum grade of C-.

Text: *Calculus*, 5th Edition by Strauss, Bradley, and Smith, ISBN: 0-536-46027-2.

Course Outline: The information below serves a *tentative* outline for the material to be covered, including any assessments.

Chapter 6	8	days
Chapter 7	9	days
Chapter 8	10	days
Chapter 9	7	days

Total 34 days

Course Webpage: The course webpage contains this syllabus in its most current form, course grades, lecture notes, and other noteworthy material for this course. All course information can be found at www.blackboard.ttu.edu; select Spring 2010 - MATH 1352 - MATH 1352 022 Calculus II in the course list.

Expected Student Learning Outcomes: Math 1352 satisfies the university core curriculum requirement in Mathematics: “*Students graduating from Texas Tech University should be able to demonstrate the ability to apply quantitative and logical skills to solve problems.*” It meets TTU general education student learning outcomes for mathematics that student will:

- apply arithmetic, algebraic, geometric, statistical, and logical reasoning to solve problems;
- represent and evaluate basic mathematical and/or logical information numerically, graphically, and symbolically;
- and interpret mathematics and/or logical models such as formulas, graphs, tables and schematics, and draw inference from them.

Students should become proficient in techniques of integration and the use of integration to solve real world problems. They must also understand the basic properties of convergent sequences and series. In particular, the students will:

- compute areas and volumes;
- solve real world problems involving selected concepts from the physical and life sciences and economics;
- integrate using substitution, integration by parts, and partial fractions;
- analyze the convergence of infinite series and sequences;
- and perform basic vector algebra.

Methods of Assessment of Learning Outcomes: Assessment will be achieved through one or more activities, non-graded and graded, such as lecture attendance, class discussion, board work, short quizzes, selected homework, examinations and other optional activities deemed appropriate by the professor. Class grades will be assigned as follows:

Homework	6 assignments (drop lowest) – 20 pts each Due in discussion on Jan 25, Feb 15, March 1 & 22, April 5 & 26	100 pts
Quizzes	4 quizzes – 25 pts each Administered in discussion on Feb 1 & 22, March 29, April 12	100 pts
Examinations	3 examinations – 100 pts each Administered in lecture on Feb 11, March 11, April 22	300 pts
Final Exam	Comprehensive, Monday, May 10 th 10:30 a.m. - 1:00 p.m.	200 pts
<hr/>		
Total		700 pts

Grading Scale

A+ 100%–95%	A 94.9%–91%	A- 90.9%–88%	
B+ 87.9%–85%	B 84.9%–81%	B- 80.9%–78%	
C+ 77.9%–75%	C 74.9%–71%	C- 70.9%–68%	
D+ 67.9%–65%	D 64.9%–59%	D- 58.9%–55%	F 54.9%–0%

Extra Credit: There will be 4 extra credit vocabulary quizzes this semester. Each quiz will be worth 10 points and cover terminology used in each chapter. The quizzes will be given on February 8th, March 8th, April 19th, and May 4th. There will be no make-ups for any of these quizzes. The extra credit points will be added to the points earned through the semester.

Final Exam: The final exam will be given on Monday, May 5th at 10:30am. The location will be announced the last week of class, posted on Blackboard, and at www.math.ttu.edu.

Each student is required to purchase a blue book for the final. The **required** book is the BB-5; only the BB-5 will be accepted. This blue book is required due to the number of pages it contains and the requirement that solutions be written on one side of the page only. Instructions on how to complete the front cover will be posted on Blackboard.

Calculator: Graphing calculators (TI-83, TI-84, TI-89 or equivalent) and/or computer algebra software (Maple, Mathematica) can be invaluable aids for facilitating learning. On the other hand, the course objectives are not centered around calculator proficiency nor computer expertise. Students may use a graphing calculator or computer algebra software while doing homework assignments to facilitate: (1) learning of concepts; (2) understanding the material; (3) checking calculation details. The emphasis on mid-term exams and the final exam will be oriented towards assessing mastery of the concepts stated in the Learning Objectives section. To that end, calculators will **not** be allowed on the in-class exams, quizzes, nor on the final exam.

Preparation outside of Class: There is a lot of content in this course, so it has a necessarily fast pace. You are expected to read the appropriate sections of the text BEFORE coming to the lecture in which the topic is scheduled. Also, you are responsible for all material in Chapters 6 through 9 of the text, regardless of whether it is explicitly covered in lecture.

It is strongly recommended that you spend at least 2 hours of preparation outside of class for *every* one hour of lecture. That is equivalent to **at least 5 hours 20 minutes per week for this class**.

Exercises: You are expected to work the assigned exercises (see last page) after the corresponding material is presented in class, and BEFORE the next class meeting. The careful completion of **all** assigned problems is essential for success in this course.

Five of the text exercises will be collected for grading; these constitute the above mentioned Homework. Homework is due in discussion on the specified Monday and will be announced in lecture one period prior to collection. Each submitted exercise should be:

- written in pencil,
- written on loose-leaf paper,
- labelled with section number and exercise number (1.2.14 denotes Exercise 14 of Section 1.2), and
- easy to follow.

All exercises must be written on one side of the page, stapled in the upper left-hand corner, and contain the heading below. Each exercise must be contained to one side of the page; solutions should not carry over to another page. Assignments that do not meet all the above criteria will not be graded. The opportunity to resubmit for grading will be determined by the professor.

First Name Last Name
Math 1352-022
(to be assigned)

Homework Assignment #

To help develop your problem-solving skills, each homework assignment will contain a documented problem solution. This means providing the specific steps you take in attempting to solve the assigned exercises. You will be told in advance which problem must contain a documented solution. If you make a serious, good-faith effort at documenting the steps taken in solving the specified problem, you will receive full credit on this exercise. However, if you fail to document a problem solution, the best you can earn is 80 percent.

To document a problem solution, draw a line down the middle of a piece paper. On the left side of the paper, show each step in math; on the right side, explain in words what you are doing in each step. Write as though you were explaining the steps to one of your classmates who has never solved this type of problem. A model of a documented solution is posted on Blackboard under the Homework Assignments folder.

Make-Up Policy: There are no make-up exams except for absence due to religious observance or absence to due officially approved trips (see Class Attendance below). The student should make arrangements to take the exam **prior** to his/her absence.

There are no make-up quizzes except for absence due to religious observance or absence to due officially approved trips. If a student misses a quiz for one of these reasons, the quiz will not be included in the student's course grade.

Class Attendance: Students are cautioned that active participation in all class activities is necessary for success. Absences and tardiness must be avoided.

- Absence due to religious observance - *The Texas Tech University Catalog* states that a student who is absent from classes for the observance of a religious holy day will be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence (p.49). Notification must be made in writing and delivered in person no later than the 15th class day of the semester.
- Absence due to officially approved trips - *The Texas Tech University Catalog* states that the person responsible for a student missing class due to a trip should notify the instructor of the departure and return schedule in advance of the trip. The student may not be penalized and is responsible for the material missed.

- Attendance in Discussion - The format of the Discussion Section will be problem question and answer sessions facilitated by the teaching assistant. Since this style of student engagement forms a critical point of the Calculus II learning experience, attendance at the Discussion Section will be monitored and recorded. Consequences of missed attendance at discussion sections will be:
 - Missed attendance of three (3) discussions will result in a letter grade drop.
 - Missed attendance of five (5) discussions will result in a two letter grade drop.
 - Missed attendance of seven (7) discussions will result in a three letter grade drop.
- Whether an absence is excused or unexcused is determined solely by the professor with the exception of absences due to religious observance and officially approved trips described above. The Center of Campus Life will notify faculty, at the student's request, when a student is absent for four consecutive days with appropriate verification of a health related emergency. This notification **does not** excuse the student from class; it is provided as a courtesy. More information about this service can be found on the Center of Campus Life website <http://www.campuslife.ttu.edu/crisis/>.

Communication: You are invited and indeed strongly encouraged to make use of my office hours and/or to schedule appointments. You may also feel free to stop by my office anytime; you will be welcome, although an appointment will ensure my undivided attention. If at anytime during the course you need help or special consideration regarding any subject, please do not hesitate to speak with me.

Blackboard offers an option to check email for all courses from one location. In this course, email will be sent and received via Blackboard. To send or to view email from Blackboard, click on the envelope icon in the top right corner of *My Blackboard*. A link for *Spring 2010-MATH 1352-MATH 1352 022 Calculus II* should be in the course list.

In the event that you need to contact me via email, please include “**Math 1352-022**” and the title of the email (e.g., homework question, attendance) in the subject line. For example, the subject line may read “Math 1352-022: Attendance.” I will respond to email within 24 hours during the work week (excluding holidays).

Academic Integrity (extracted from OP 34.12): It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and high standard of integrity. The attempt of students to present as their own any work not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offenders liable to serious consequences, possibly suspension.

Scholastic dishonesty includes, but it not limited to, cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student (such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructor) or the attempt to commit such an act.

Civility in the Classroom: Be respectful to the professor and to your fellow students. Please **turnoff** cell phones, pager, iPods, etc. Do not hold side conversations, do not text, and do not read the newspaper in class.

Accommodation for Students with Disabilities (extracted from OP 34.22): Any student who, because of a disability, may require some special arrangements in order to meet course requirements should contact the professor (in MA 219) as soon as possible to make the necessary arrangements. Students should present appropriate verification from Student Disability Services during the professor's office hours. Please note instructors are not allowed to provide classroom accommodations to a student until the appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services office in person at 335 West Hall, via phone at 806-742-2405, or via email at sds@ttu.edu.

Campus Resources:

1. Missouri Club – a free tutoring center provided by the Mathematics & Statistics Department located at in Room 106 of the Math Building. The hours are Monday – Thursday 10am – 5pm and Friday 10am – 3pm.
2. PASS Learning Center – a free tutoring center located in Room 80 of Holden Hall. The hours are Monday – Thursday 9am – 8pm and Friday 9am – 5pm. Online tutoring is available Monday – Wednesday 8 – 10pm.
3. Tutoring List – a list of tutors student may hire can be found in Room 201 of the Math Building.

Exercises

<u>Section</u>	<u>Topic</u>	<u>Exercises</u>
6.1	Area between Two Curves	multiples of 3: 3-24; 28, 30
6.2	Volume	multiples of 3: 3-30; 36, 39
6.3	Polar Forms and Area	multiples of 3: 6-33; 42, 45, 48
6.4	Arc Length and Surface Area	multiples of 3: 3-15; 18, 21, 24, 30
6.5	Physical Applications: Work, Liquid, Force, and Centroids	9, 10, 15, 17, 20, 23, 24, 28, 34, 37, 42
7.1	Review of Substitution and Integration by Table	eo: 2-38; 43, 47, 59
7.2	Integration by Parts	eo: 2-18; 30, 38, 39
7.3	Trigonometric Methods	multiples of 5: 5-50; 56
7.4	Method of Partial Fractions	multiples of 5: 5-50
7.5	Summary of Integration Techniques	multiples of 5: 5-70
7.6	First-Order Differential Equations	3, 6, 10, 12, 24, 43
7.7	Improper Integrals	3, 8, 10, 14, 17
8.1	Sequences and Their Limits	multiples of 3: 18-39
8.2	Introduction to Infinite Series: Geometric Series	eo: 2-38; 48
8.3	The Integral Test; p-Series	multiples of 5: 5-50
8.4	Comparison Tests	multiples of 5: 5-50
8.5	The Ratio Test and the Root Test	multiples of 3: 3-39
8.6	Alternating Series; Absolute and Conditional Convergence	multiples of 4: 4-40
8.7	Power Series	multiples of 4: 4-40
8.8	Taylor and Maclaurin Series	eo: 6-30; 31,35, 38, 43, 44
9.1	Vectors in \mathbb{R}^2	multiples of 5: 5-40
9.2	Coordinates and Vectors in \mathbb{R}^3	multiples of 5: 5-45
9.3	The Dot Product	multiples of 5: 5-40
9.4	The Cross Product	multiples of 5: 5-30
9.5	Parametric Representation of Curves; Lines in \mathbb{R}^3	multiples of 5: 5-45
9.6	Planes in \mathbb{R}^3	multiples of 5: 5-35