

## COURSE SYLLABUS

**Professor:** Dr. Angela Peace

**Office:** Mathematics 243

**\*Email:** a.peace@ttu.edu

**Phone:** 806-834-1014

**Office Hours:** MW 8:30 – 9:00am, 10:00–11:00am and by appointment—schedule 24 hours prior

\*Preferred. Please put “**Math 1452**” in the subject line. I will respond within 24 hours during the work week (excluding holidays) and 48 hours during the weekend.

**Course Number:** Mathematics 1452-H01

**Course Title:** Calculus II with Applications

**Course Text:** *Calculus*, 6th Edition by Smith, Strauss, and Toda.

**Course Time and Location:** MW 9:00am – 10:50pm, Mathematics 00012

**Course Webpage:** The course webpage contains this syllabus in its most current form, course grades, and other noteworthy material for this course. All course information can be found at <http://www.blackboard.ttu.edu>; select the appropriate course in the course list. You will need your eRaider username and password to log in.

**Course Description:** Methods of integration, polar coordinates, infinite sequences and series, basic vector algebra. Applications and problem-solving are strongly emphasized. Partially fulfills Core Mathematics requirement.

**Expected Student Learning Outcomes:** Math 1452 satisfies part of 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/or logical reasoning to solve problems. Math 1452 students will develop skills to: (1) compute areas and volumes; (2) solve real world problems involving selected concepts from the physical and life sciences, and economics; (3) integrate by using substitution, integration by parts, and partial fractions; (4) analyze the convergence of infinite series and sequences; (5) perform basic vector algebra; (6) apply specific concepts to certain problems from the real world and other sciences.
- Represent and evaluate basic mathematical and/or logical information numerically, graphically, and symbolically. Math 1452 students will learn how to adequately communicate mathematical information in writing, verbally and graphically, by using words, numerical answers, algebraic expressions, logical sentences, as well as graphs and diagrams.
- Use mathematical and logical reasoning to evaluate the validity of an argument. Math 1452 students will learn how to identify, understand, and apply mathematical and logical reasoning to theoretical and applied problems. In particular, attention will be given to elementary proofs in calculus and convergence inferences for improper integrals and infinite series.
- Interpret mathematical and/or logical models such as formulas, graphs, tables and schematics, and draw inference from them. Math 1452 students will learn to identify and interpret mathematical information contained in formulas, graphs and tables, in particular: (a) applications to physical problems; (b) formulas from integration tables; (c) geometric and infinite series. The development of student interpretative and inference skills will be assessed through homework exercises, in-class quizzes, and examinations.

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

<b>WeBWorK</b>	on-line assignments <a href="http://webwork.math.ttu.edu/webwork2/f17anpeacem1452sH01">http://webwork.math.ttu.edu/webwork2/f17anpeacem1452sH01</a> . More information is given below.	10%
<b>Quizzes</b>	weekly in-class quizzes	10%
<b>Project</b>	calculus application project	5%
<b>Examinations</b>	3 in-class exams <b>September 25, October 23, November 20</b>	45%
<b>Final Exam</b>	Friday December 8 4:30pm - 7:00pm This is a comprehensive exam. The room will be announced about 2 weeks prior.	30%
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<b>Total</b>		100%

### Grading Scale

A = 100%–90.00%, B = 89.99%–80.00%, C = 79.99%–70.00%, D = 69.99%–60.00%, F = 59.99%–0%

**Calculator:** Calculators or other electronic devices will NOT be permitted on quizzes, in-class exams, and the final exam.

**Scheduling:** A tentative schedule is included in this syllabus. These details are presented as a guide. The instructor may change the dates for each assignment, modify the exercise list, and/or add assignments. It is your responsibility to keep track of the course details and schedule for your section. The exam dates will not be changed.

**Reading:** 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.

**WeBWorK:** WeBWorK is an internet-based method for delivering homework problems to students. You will need your eRaider username and student ID number with the R to log into WeBWorK.

The WeBWorK system responds by telling you whether an answer (or set of answers) is correct or incorrect and also records whether you answered the question correctly or incorrectly. You are free to try a problem as many times as you wish until the due date. **It is your responsibility to check WeBWorK for new assignments.** I will do my best to email the class when a new assignment is available. It is estimated that **each** WeBWorK assignment will take **at least 3 hours**. Please do not wait until the day the assignment is due to begin and/or send questions. I will not answer questions about an assignment after **3 pm** the day it is due.

A key educational benefit of this system is that if you get an incorrect answer, you receive immediate feedback while the problem is still fresh in your mind. You can then correct a careless mistake, review the relevant material before attacking the problem again, or seek help (frequently via e-mail) from classmates or the professor.

**Quizzes:** Weekly quizzes will be administered in class every Tuesday.

**Make-Up Policy:** If you have to miss the exams due to university sponsored events, please provide documentation so that reasonable accommodations can be made. For illness and other emergencies, please contact the Office of Dean of Students (contact person: Denise Tijerina), and Associate Dean Dr. Jorge Iber of the College of Arts and Sciences so that reasonable accommodations can be made.

**Class Attendance:** Students are cautioned that active participation is necessary for success and their attendance will be documented every class.

- The Texas Tech University OP 34.19 states that a student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. As your instructor, I request that notification be made in writing and submitted no later than the 15th class day of the semester.
- The Texas Tech University OP 34.04 states department chairpersons, directors, or others responsible for a student representing the university on officially approved trips must notify the student's instructors of the departure and return schedules. The instructor so notified must not penalize the student, although the student is responsible for material missed. Any student absent because of university business must be allowed to make up missed work within a reasonable span of time or have alternate grades substituted for work due to an excused absence. Students absent because of university business must be given the same privileges as other students.
- 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.

**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 instructor and to your fellow students. Please **turnoff** cell phones, iPods, etc. Do not hold side conversations and do not read the newspaper in class. I will ask anyone participating in what I perceive to be inappropriate behavior to stop immediately.

**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 instructor (in MA 243) as soon as possible to make the necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor'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 at 335 West Hall or 806-742-2405.

### Campus Resources:

- Tutoring and Study Center (TSC) – a free tutoring center provided by the Mathematics & Statistics Department located at in Room 106 of the Math Building. Visit <http://www.math.ttu.edu/Undergraduate/Resources/tutor.shtml> for the most recent hours of operation.
- Learning Center – a free tutoring center located in Room 80 of Holden Hall. Online tutoring is also available. Visit <http://www.depts.ttu.edu/passcntr/PLC/> for more information.
- Tutoring List – a list of tutors student may hire can be found at <http://www.math.ttu.edu/Undergraduate/Resources/tutor.shtml> or in Room 201 of the Math Building.

### Tentative Schedule

<u>Date</u>	<u>Section</u>	<u>Topics</u>
Aug 28–Aug 30	5.1–5.4	Review Calc I
Sept 4–Sept 6	6.1–6.2	Area, Volume, Polar coordinates
Sept 11–Sept 13	6.3–6.4	Arc length, surface area, physical applications
Sept 18 – Sept. 20	6.5, Chapter 6	Review
Sept 25		<b>Exam 1</b>
Sept 27	5.5, 7.1	Substitution, Integration by parts
Oct 2–Oct 4	7.2–7.3	Integration by parts, Trig methods
Oct 9–Oct 13	7.4–7.5	Partial fraction method, summarize Integration methods
Oct 16–Oct 18	7.5–7.7	More integration practice, Improper integrals, Review
Oct 23		<b>Exam 2</b>
Oct 25	8.1	Sequences
Oct 30– Nov 1	8.2	Series, Integral tests
Nov 6 – Nov 8	8.4–8.6	comparison, ratio, root tests
Nov 13– Nov 15	8.7–8.8	Alternating series, power series, Taylor Series, Review
Nov 20		<b>Exam 3</b>
Nov 27– Nov 29	9.1–9.2	Vectors coordinates
Dec 4– Dec 6	9.3–9.4	Dot product, Cross product
Dec 8		<b>Final Exam</b>