

TTU – MATH 1452 – Calculus II with Applications

Section / Time / Location: 012 / MW 2:00-3:50pm / MATH 016

Instructor: Josh Engwer

E-mail: josh.engwer@ttu.edu

Website: <http://www.myweb.ttu.edu/jengwer>
or Google™ "josh engwer"

Office Hours: MWF 11:15am - 1:15pm (or by appt.)

Office: MATH 106C

Text: *CALCULUS* 6th Edition by Strauss, Smith, and Toda [SST] (5th Edition by [SBS] is OK)

Prerequisites: Any one of [A]-[B] below. (Legend: / = 'or', + = 'and', :X = 'at least a grade/score of X')

[A] MATH 1351/1451:C

[B] Departmental permission (based on transfer or exam)

[i.e. **Calculus I**]

Course Content: (not exhaustive, but the main themes)

- Chapter 5 : **Integration:** Riemann Sums, F-T-C (review from Calculus I)
- Chapter 6 : **Integration:** Area, Volume, Arc Length, Surface Area, Work, Fluid Force, Centroids, Polar Forms
- Chapter 7 : **Integration:** by Parts, by Trig Methods, by Partial Fractions; Improper Integrals
- Chapter 8 : **Sequences:** Limits, Squeeze Rule, BMCT
- Chapter 8 : **Series:** Convergence Tests, Power Series, Taylor Series
- Chapter 9 : **Vectors** in \mathbb{R}^2 and \mathbb{R}^3 : Algebra, Norms, Dot Products, Projections, Cross Products

Lecture Slides: Slides in PDF format will be presented during lecture and available on the Course Calendar for later review.

Lecture Outlines: [Go to Course Calendar](#), **print out beforehand, bring to lecture**. Boxed problems will be worked.

Final Grade Assessment: Attendance – 5%, Homework – 10%, 3 x Midterm Exams (20% each) – 60%, **Final Exam – 25%**

Final Grade Scale: A: 100%-90% B: 89%-80% C: 79%-70% D: 69%-60% F: 59%-0%

Attendance Policy: Attendance will be taken. It is the student's responsibility to sign the roll sheet each class.

Homework: All homework (HW) is assigned & completed online through [WeBWorK](#).

Work HW problems by hand to realize the amount of work expected for similar problems on exams.

Midterm Exams: In-class, closed-'everything' (i.e. no books, no notes, no formulas, no calculators/phones/PC's/tablets, ...)

Use **pencils & erasers** to work problems – **Do not use: pens, colored pencils, markers, highlighters, ink**

Sufficient correct work must be shown to receive full points.

Be prepared to show a photo ID (e.g. your RaiderCard) if the instructor does not recognize you.

Final Exam: Comprehensive, departmental, Bluebook required, closed-'everything'.

It will be administered on **Monday, May 12th, 4:30pm - 7:00pm in room TBA**.

See the course webpage for Bluebook requirements.

Make-up Policy: **Homework will not be accepted late – hence, no make-ups for homework.**

There will be no make-up exams given except for observance of a religious holiday.

If a midterm exam is missed for a **legitimate documented** reason, then the Final Exam score will replace it.

Some legitimate excuses (with documentation): university field trip, severe illness, death in the family, ...

Some non-legitimate excuses: "I already bought plane tickets", "I was stuck in traffic", "I overslept", ...

Email Communication: Please use your **TTU email address** when sending email to the instructor.

All instructor-responses & class-wide announcements will be sent to your **TTU email address**.

KEYS TO SUCCESS: Show up. Work problems. Seek help when stuck. Show work. Manage time.

I never curve nor accept exam corrections nor drop the lowest exam score nor assign extra credit assignments!

Learning Objectives: 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 the TTU general education student learning outcomes for mathematics that students will:

- Apply arithmetic, algebraic, geometric, statistical and logical reasoning to solve problems.
- Use mathematical and logical reasoning to evaluate the validity of an argument.
- Represent and evaluate basic mathematical/logical information numerically, graphically and symbolically.
- Interpret mathematical/logical models such as formulas, graphs, tables and schematics and draw inference from them.

Students will develop skills to:

- Compute areas and volumes.
- Integrate by parts, by substitution, and by partial fractions.
- Analyze the convergence of infinite series & sequences.
- Perform basic vector algebra.
- Apply specific concepts to certain problems from the sciences.

ADA Accommodation: (from OP §34.22)

Any student who, because of a disability, may require special arrangements in order to meet the course requirements should present appropriate verification from Student Disability Services (SDS) during the instructor’s office hours.

For details, contact the **SDS office:** (Address) **335 West Hall** (Phone) **806-742-2405**.

Religious Holy Day Observance: (from OP §34.19)

- “Religious holy day” means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code §11.20.
- A student who intends to observe a religious holy day should make that intention known in writing beforehand. A student who is absent for the observance of a religious holy day shall be allowed to take an exam or complete an assignment scheduled for that day within a reasonable time after the absence.
- A student who is excused for a religious holy day observance may not be penalized for the absence. However, the instructor may respond appropriately if the student fails to complete the assignment satisfactorily.

Civility in the Classroom: Students are expected to assist in maintaining a classroom environment conducive to learning.

- No chatting. No newspapers. No periodicals. No music players. Silence phones.
- **When the instructor says “Let’s get started,” all talking should stop.**
- Students who insist on using a laptop or tablet should sit in the back two rows. Of course, the device should be silenced.

Academic Integrity: (from OP §34.12)

It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and a high standard of integrity. **Any attempt of scholastic dishonesty by the student is liable to serious consequences, possibly suspension.**

Scholastic Dishonesty: “Scholastic dishonesty” includes (but is not limited to): **Cheating & Misrepresenting Facts**

Cheating: “**Cheating**” includes (but is not limited to):

- Copying from another student’s exam
- Using unauthorized materials during an exam
- Collaborating with another student during an exam
- Leaving the exam room without submitting the exam for grading
- Taking an exam for someone else

Misrepresenting Facts: “**Misrepresenting facts**” includes (but is not limited to):

- Providing false or misleading information in an effort to receive a postponement or an extension on an exam or HW.