

# MATH 150: APPLIED CALCULUS

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**Class Location:** TR Lecture – Brooks 225, W Lab – Armstrong 421

**About Math 150:** This course is a survey of the basic tools of calculus as they are used primarily in business and economics. The material we will cover ranges from derivatives and rates of change to integration and probability.

**Prerequisites:** Satisfy the minimum ACT/SAT math score, or satisfactory performance on departmental placement examination or a C- in any of the following: Math 124, Math 124S, Math 126, or Math 126S.

**Method of Instruction:** Math 150 meets TR with a W lab time. Instruction will include lecture, web-based activities, group-work, and individual assignments.

**Catalog Description:** For students in other disciplines needing calculus for applications. Limits of sequences and functions, continuity derivatives, and integrals of polynomials, rational functions, and exponential and logarithmic functions, partial derivatives, maxima and minima.

**Required Text:** *Applications of Calculus*, Goodykoontz and Squire, with access code to online website, MyLabsPlus, <http://wvu.mylabsplus.com> (wvu, not www). Access to the website is required to complete most assignments and assessments in this course.

**Technology:** A scientific or graphing calculator is required for use in this class. Suggested graphing calculators include the TI-83, TI-84, or TI-86. Suggested scientific calculators include the TI-36X PRO.

Grades will be reported in eCampus and emails will be sent using MIX.

## **Learning Outcomes:**

- Students will learn how to apply and will review important precalculus concepts.
- Students will learn how to compute derivatives and how to apply them to real world situations.
- Students will learn how to compute antiderivatives and how to apply them to real world situations.
- Students will master basic calculus skills of differentiation and antidifferentiation.
- Students will use multiple representations of functions in each of the course objectives.

**Calculator Policy:** On all exams, you may use any calculator that cannot communicate with other people (i.e. no iPads, no phones, no tablets, no watches). The exception to this policy is gateway assessments. NO CALCULATORS of any kind are allowed on the gateways.

**Evaluation:** Multiple forms of assessment will be used to measure your understanding of concepts, skills, problem-solving, and critical thinking abilities. The distribution of these assessments is:

<b>Assessment</b>	<b>Percentages</b>
Quizzes & Online Homework	15%
Laboratory Activities	10%
Gateway Skill Assessments (Req'd 80% Score.)	10%
Exams	40%
Comprehensive Final Exam	25%
<b>Total</b>	<b>100%</b>

The standard 90-80-70-60 percentage scale will be used to determine letter grades.

**Quizzes:** Your instructor will give frequent quizzes during lecture classes. Quizzes may be announced or unannounced. They are designed partially as a way to collect an attendance grade. Because of this, they may be made up under no circumstances.

**Homework:** Homework will be assigned each week and will include assignments through an online platform as well as pencil/paper assignments. Due dates and times will be included on the course syllabus. All homework assignments must be submitted by their specified due dates. No late assignments will be awarded credit.

**Laboratory Exercises:** Math 150 will meet in a computer lab on Wednesdays. On most Wednesdays, the class will work in groups on a series of laboratories. These focus on applied topics related to the majors requiring this course. The labs are designed so that students become actively engaged to learn how to discover mathematics.

**Gateway Skill Assessments:** Two gateway assessments will be given during the semester on Wednesdays during your scheduled lab testing time. These assessments will consist of skill exercises on differentiation and integration which are essential skills in a calculus course. Calculators will NOT be permitted on gateway assessments. A minimum score of 80% on each gateway is required in order to receive a passing grade in the course. Students will be guaranteed one attempt on the gateway given during lab time according to the schedule. More details about these assessments will be given in class.

**Exams:** Four major will be given during the semester on Wednesdays, during your scheduled lab time. Each exam will be 50 minutes in length, each worth 10% of your overall grade. The **final exam** is comprehensive and worth 25% of the course grade. The final exam for all sections of Math 150 will be given on one day according to the university published schedule <http://registrar.wvu.edu/calendars/final-examination-schedule>. Students will sign up for the final exam time on that day which does not conflict with their other exams (instructions will be given during class). You will be given 2 hours for the final. Testing policies are posted on eCampus. Students must familiarize themselves with these policies and procedures prior to exams.

**Attendance Policy:** Attendance is taken every day. Active participation and regular attendance are expected. You are allowed three “free” absences, for this class that meets three times per week. If you have on your schedule an Authorized University Activity that conflicts with class sometime during the semester, you are expected to apply your “free” absences to meeting that commitment. If you encounter a crisis that causes you to miss more than 3 times, you should talk to me as soon as possible.

**Handling extenuating circumstances that may occur:** If there are any extenuating circumstances that occur during the semester (missed exam, missed gateway, technology issues, etc.), students must write a letter addressed to the Math 150 Committee fully explaining the issue. The letter should include as much information as possible about the circumstances surrounding the situation. Students may provide any documentation they wish to support their explanation of the situation. The timeliness of the letter may be taken into account when the committee makes a decision, so the letter should be submitted as early as possible. The committee will then decide the fairest course of action. Decisions will be made before the final exam but are not immediate. Letters and supporting documentation should be given to the instructor in hard copy format. Committee decisions will be final.

**EXTRA HELP:** Many students who have failed or dropped this course in the past could have succeeded if they would have sought extra help. Instructors of this course highly encourage all students to seek some form of extra help at the first sign of adversity. You can seek extra help by:

- Attending your instructor’s office hours for individual one-on-one help from your instructor.
- Seeking assistance from the course TA.
- Going to the Math Learning Center (Armstrong 301).
- Going to the IML Computer Lab (Armstrong 215) during open lab hours.
- Hiring a tutor for private instruction (many math majors, math education majors, and IML computer lab mentors provide tutoring for a fee).

**Academic Integrity:** The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, instructors will enforce rigorous standards of academic integrity in all aspects and assignments of their courses. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the [Academic Standards Policy](http://catalog.wvu.edu/undergraduate/coursecredittermsclassification) (<http://catalog.wvu.edu/undergraduate/coursecredittermsclassification>). Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see your instructor before the assignment is due to discuss the matter.

**Please visit the following links for more information on:**

*Commitment to Diversity, Equity, and Inclusion:* <http://catalog.wvu.edu/undergraduate/#missiontext>

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