



RANGER COLLEGE  
COMANCHE HIGH SCHOOL

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COURSE SYLLABUS

**Calculus I / AP Calculus AB**

**MATH 2313**

**3 credit hours**

**INSTRUCTOR:**

**Mrs. Heather Cuellar**

## MATH 2313

**INSTRUCTOR:** Mrs. Heather Cuellar  
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**OFFICE:** CHS room 303  
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**HOURS:** afterschool on Wednesdays, or by appointment

- 1. Texas Core Curriculum Statement of Purpose**  
Students will gain a foundation of knowledge of human cultures and the physical and natural world, develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for all learning.
- 2. Course Description**  
Functions, limits, continuity, differentiation, integration, applications, and topics in analytic geometry. Use of computer technology and lab assignments will be required in this course.
- 3. Required Background and Prerequisites**  
MATH 1314 and MATH 1316.
- 4. Required Textbook and Course Material**  
James Stewart, Calculus, 8<sup>th</sup> Edition, Cengage Learning,  
ISBN 13: 978-1-285-74062-1  
Graphing calculator (TI – 84+CE ) strongly recommended
- 5. Course Purpose**  
This course focuses on quantitative literacy in logic, patterns, and relationships. The course involves the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experiences.

## MATH 2313

### 6. Learning Outcomes

Upon successful completion of this course the student will:

- 1) Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals.
- 2) Draw graphs of algebraic and transcendental functions considering limits, continuity, and differentiability at a point.
- 3) Use differentiation rules to differentiate algebraic and transcendental functions.
- 4) Determine whether a function is continuous and/or differentiable at a point using limits.
- 5) Identify appropriate calculus concepts and techniques to provide mathematical models of real-world situations and determine solutions to applied problems.
- 6) Evaluate definite integrals using the Fundamental Theorem of Calculus.
- 7) Articulate the relationship between derivatives and integrals using the Fundamental Theorem of Calculus.

### 7. Core Objectives

This course directly meets the following of the six Core Objectives:

- ⊗ **Critical Thinking Skills (CT)** – Creative thinking, innovation, inquiry, and analysis, evaluation, and synthesis of information.
- ⊗ **Communication Skills (COM)** – Effective development, interpretation, and expression of ideas through written, oral, and visual communication.
- ⊗ **Empirical and Quantitative Skills (EQS)** – The manipulation and analysis of numerical data or observable facts resulting in informed conclusions.
  - **Teamwork (TW)** – The ability to consider different points of view and to work effectively with others to support a shared purpose or goal.
  - **Social Responsibility (SR)** – Intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities.
- ⊗ **Personal Responsibility (PR)** – The ability to connect choices, actions, and consequences to ethical decision-making.

**8. Methods of Instruction**

This course will employ informal lecture/demonstration/discussion and occasional student group work.

**9. Methods of Assessment for each six-weeks grading period**

There will be roughly 6 major exams (per semester) and a final exam. You will also be required to take the AP test at the end of the year.

Students missing lectures are responsible for getting notes from classmates.

Make-up exams will only be given at the instructor's discretion, and only if you make arrangements **before** the test date, otherwise you will receive a zero.

**Students are strongly urged to not miss exams.**

The six-weeks grade will be computed as follows:

HOMEWORK	20%
TESTS	50%
QUIZZES	30%

The final college grade will be calculated with each six-weeks grade counting 12.5%, and the final exam counting 25%. Ten points will be given for eligibility and the course will be weighted for GPA purposes on your HIGH SCHOOL GRADE ONLY. The 10 additional points will not appear on your report card, and will NOT contribute towards credit in the course or to the college grade.

Letter grades will be assigned as follows:

90-100 = A, 80-89 = B, 70-79 = C, 60-69 = D, below 60 = F

**10. Classroom Policies/procedures**

- Regular and punctual attendance in all classes is considered essential for optimum academic success.
- Students are expected to be seated by the beginning of the class.
- If a student has the equivalence of three weeks of unofficial absences the student may be dropped from the class with a grade of F (Ranger College General Catalog).
- Excessive tardiness (6) may be considered as an absence.
- It is the responsibility of the student to inform the instructor of an excused absence. An absence may be excused by the Dean for participation in an authorized college activity or for a valid medical reason.

- Any student who is disruptive to the class will be dismissed from the class and may be dropped from the course. Any student misconduct will be reported to the Dean of Student Services (See Student Handbook.)
- Any student found with unauthorized material(s) such as cheat sheets, electronic devices, etc. during a quiz or exam or copying another student's work will be subject to disciplinary action.
- Please do not bring cell phones, ipods, or other electronic devices to class or be sure they are turned off. Computers (lap tops) may be used with special permission and only for math class material.
- No use of tobacco products is permitted in anywhere on campus.

**11. Course Outline/Schedule**

1 <sup>st</sup> Six-weeks	Chapters 1 – 2
2 <sup>nd</sup> Six-weeks	Chapters 3 – 4
3 <sup>rd</sup> Six-weeks	Chapters 5 – 6 and Final Exam

**12. Non-Discrimination Statement**

Admissions, employment, and program policies of Ranger College are non-discriminatory with regard to race, creed, color, sex, age, disability, and national origin.

**13. ADA Statement**

Ranger College provides a variety of services for students with learning and/or physical disabilities. Students are responsible for making initial contact with the Ranger College Counselor, Gabe Lewis (glewis@rangercollege.edu). It is advisable to make this contact before or immediately after the semester begins.

**14. Revision of Syllabus**

The contents of this syllabus may be revised to better meet the needs of a particular class. Any revisions will be presented to class members in writing.