

# RANGER COLLEGE

## Math 2413: Calculus I

**Instructor:** Courtney Bozeman

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**Office Hours:** By Appointment Only

**COURSE DESCRIPTION:** Applications of algebra and trigonometry to the study of elementary functions and their graphs including polynomial, rational, exponential, logarithmic, and trigonometric functions. May include topics from analytical geometry.

**COURSE CREDIT:** 3 semester hours—3 lecture hours per week

**TEXT:** Calculus, by Tan. ISBN: 10:0-534-46579; ISBN: 13:978-0-534-46579-7

**OTHER REQUIRED MATERIALS:** MML (MyMathLab) Access Code; can be purchased online or in book store. Graphing Calculator (TI-83 or -84 strongly recommended), Graph Paper (optional).

**PREREQUISITES:** Passing College Algebra or an equivalent version, or approval from instructor

**INSTRUCTIONAL METHODS:** Class lecture, cooperative learning and problem-solving, interactive web pages, Blackboard, and My Math Lab

**STUDENT ABSENCE POLICY:** The only official absence is an authorized College activity. All work and/or assignments missed because of an official absence must be completed within **one week** or the official absence may count as unofficial. An official absence during the one week period does not extend the deadline for the completion of assignments.

### COURSE / CLASSROOM POLICIES

- 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 lecture period.
- If the student has the equivalence of three weeks of unofficial absences . . . the instructor may drop the student from the course with a grade of F ([Ranger College General Catalog](#)).
- Excessive tardiness (6) may be considered as absences.
- It is your responsibility to inform the instructor of an excused absence. An absence is excused if you are excused by the Dean to participate in an authorized College activity or if you have a valid medical excuse.
- Any student who is disruptive to the class will be dismissed from the class and may be dismissed from the course. Any student misconduct will be reported to the Dean of Student Services (See Student Handbook).
- Any student found with unauthorized notes (cheat sheets, electronic devices, etc.) during an exam or copying from another student's exam will be subject to disciplinary action.
- Please do not bring cell phones, iPods or similar devices to class or be sure they are turned off. Use of cell phones, or other electronic devices, in class may lead to the student being counted absent, asked to leave or points deducted on exams. Computers (lap tops) may be used in class with special permission and with the understanding that they will be used only for math class material.
- No tobacco use is permitted in the science building.

**ASSESSMENT:** (Grading Procedures).

Students missing lectures are responsible for getting notes from classmates.

Make-up exams will only be given if you make arrangements **before** the test date, otherwise you will receive a zero.

**Students who miss an exam will get a zero, unless otherwise arranged.**

The course grade will be computed as follows:

|       |     |
|-------|-----|
| HMK   | 10% |
| TESTS | 54% |
| FINAL | 36% |

Letter grades will be assigned as follows:

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

**EXEMPLARY OBJECTIVES SUPPORTED BY THIS COURSE:**

The purpose of these objectives is to contribute to your intellectual and personal growth and assist you in understanding and appreciating not only your heritage, but also to prepare you for responsible citizenship and provide you the ability to adapt to a rapidly changing and highly technological world.

M1. To apply arithmetic, algebraic, geometric, higher-order thinking, and statistical methods to modeling and solving real-world problems

M2. To represent and evaluate basic mathematical information verbally, numerically, graphically, and symbolically

M3. To expand mathematical reasoning skills and formal logic to develop convincing mathematical arguments

M4. To use appropriate technology to enhance mathematical thinking and understanding and to solve mathematical problems and judge the reasonableness of the results

M5. To interpret mathematical models such as formulas, graphs, tables, and schematics, and draw inferences from them

M6. To recognize the limitations of mathematical and statistical models

M7. To develop the view that mathematics is an evolving discipline, interrelated with human culture, and understand its connections to other disciplines

**PRECALCULUS COURSE OBJECTIVES:**

To be able to demonstrate these skills in writing:

1. Graphing relations, functions and inverses in the plane (M1, M2, M5)

2. Solving linear and quadratic equations (M2, M3, M4, M6)

3. Solving linear and non-linear inequalities (M2, M3, M4, M6)

4. Graphing quadratic and higher-degree polynomial functions; finding zeros of polynomial functions (M1, M4, M5, M6, M7)

5. Solving systems of linear equations; applying matrix algebra in solving linear systems (M1, M4)

6. Graphing and solving equations with exponential and logarithmic functions (M1, M2, M4, M5, M6, M7)

7. Graphing rational functions and conic sections (M1, M4)

8. Solving triangles and application problems using trig functions (M1, M2)

9. Using a hand-held calculator to solve trig problems (M4)

10. Proving trigonometric identities (M3)

11. Converting between radian and degree measure. Solving applications of radian measure (M2)

12. Using trig formulas to simplify expressions and solve trig equations (M1, M3)

13. Graphing trig functions in rectangular and polar form (M5, M6)

14. Simplifying logarithmic expressions & solving logarithmic equations (M2, M4)

15. Using the trig form of complex numbers to solve problems (M1, M7)

**ADA Statement:** Ranger College provides a variety of services for students with learning and/or physical disabilities. The student is responsible for making the initial contact with the Ranger College Counselor (Vicki Lowrance). It is advisable to make this contact **before** or **immediately after** the semester begins.

**NON-DISCRIMINATION STATEMENT**

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

**REVISION OF SYLLABUS**

The above schedule and procedures in this course are subject to change.