

Dual Enrollment Calculus III Fall 2023

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Rules and Procedures

1. Come to class prepared—have your notebook, pencils, and calculator for each class. Additionally, you may use your Chromebook if you so choose, but it should be used for academic purposes only. Using your Chromebook is a privilege, and that privilege, if abused, may be revoked.
2. Come to class on time.
3. Be respectful of yourself, your classmates, your teacher, and property. This includes following directions, not speaking while others are speaking, and handling complaints privately.
4. Participate actively during class, including taking part in class discussions, completing assignments, and getting help when needed. Do not wait until the last minute to get help.
5. At this time, eating is not allowed in the classroom. Drinks may be consumed at the discretion of the teacher. Only bring bottles or cups with lids—no open cups, aluminum cans, etc. Dispose of trash appropriately.
6. The only personal digital devices allowed in the classroom are calculators and Chromebooks. Cell phones should not be out at all during class unless permission is granted, and they should also be placed on silent (non-vibrating) prior to entering class. If a cell phone is seen out in class without permission, punitive consequences will ensue.
7. When absent, the student is responsible for checking Schoology and completing any assignments listed.
8. If a student misses an assessment, email me promptly, no later than the day of the absence, so that we can arrange for a make-up plan. Make-up plans will be individualized at the discretion of the teacher; however, they will follow standard guidelines.
9. In the grade book, an MA indicates a missing assignment that can be made up (for assessments, this means the unit or nine weeks test grade will replace it). A zero in the grade book indicates work that cannot be made up.
10. All work is to be done as independent work unless otherwise specified. Students are prohibited from unauthorized usage of artificial, algorithmic, decision-making tools for any assignment. All work should be completed in accordance with the Mountain Brook Schools academic integrity policies.

Grading Policy

Grades will be determined on the total points method (total points earned divided by total points assigned). Grades for the course will come from the following:

- Unit tests (5 total, 100 points each, best score doubled)
- Final exam (200 points)

The grading scale is as follows:

A: 90-100

B: 80-89

C: 70-79

D: 65-69

F: 0-64

Homework

Homework will be given in-class but not counted for a grade—the point of homework is to give the student opportunity to practice mathematical skills and is vital for a more thorough understanding of mathematical concepts.

Office Hours

Unless some urgent/pressing situation arises, I will be available in my room for help before 7:15 am Tuesday-Thursday and 1:30-2:00 pm Tuesday and Thursday. You may also make an appointment with me to see me outside of those times.

Contact

I may be contacted via my school e-mail address, kustosp@mtnbrook.k12.al.us.

For students:

- You may email me at this address from your school-issued Gmail account only—I will not respond to any student email from another source.
- I do not respond to emails sent to my school-issued Gmail account, so make sure to send email to the address above.
- Please include your first and last names in your email so that I will know with whom I am conversing.

For parents:

- Email is the best way to reach me. I will try to respond to emails within 24 hours.

Tentative Course Outline

I. Vectors & Space Geometry

3D coordinate systems

Vectors

Equations of lines and planes

Functions of multiple variables

Cylindrical & spherical coordinates

II. Vector Functions

Functions as vectors

Derivatives and integrals

Arc length & curvature

Motion in space

Parametrization of surfaces

III. Partial Differentiation & Applications

Limits & continuity

Partial derivatives

Tangent planes & linear approximations

Chain rule

Directional derivatives & gradients

Extreme values

Lagrange multipliers

IV. Multiple Integration

Double & iterated integrals, including over general regions and in polar coordinates

Applications: mass, inertia, surface area

Triple integrals, including in cylindrical and spherical coordinates

Change of variables

V. Vector Calculus

Vector fields

Line integrals

Fundamental theorem for line integrals

Green's theorem

Curl & divergence

Surface integrals

Stokes' theorem

Divergence theorem