



Course Number/Section and Title: MATH 1250-02: Mathematics for Calculus

Semester and Year: Spring 2019

Course Meeting: MWF 11:30am-12:25pm Roush 426
Days Time Location

Credit Hours: 3 3 0
Total Credit Hours Lecture Credit Hours Lab Credit Hours (if applicable)

Is this a Travel Course: Yes No

Instructor: Mr. Matthew McMullen

mmcmullen@otterbein.edu

Email Address

Towers 138
Office Location/Room #

(614) 823-1279
Office Phone Number

www.otterbein.edu/fac/mmcmullen
Course webpage (for homework problems)

MWF 9-10am
TR 10-11am
MWF 1-2:30pm (tutoring in Math Lab)

Set Office Hours and Tutoring Hours (also available by appointment).

Course Catalog Description, including pre- or co-requisite course work or other required items.

A study of the behavior of functions and their graphs: polynomial, rational, trigonometric and inverse trigonometric, exponential and logarithmic functions. (Prerequisites: MATH 0900 with a C- or better, or ACT Math score of 24 or above, or SAT Math score of 560 or above, or qualification through Otterbein's Mathematics Placement Exam.)

Course Objectives (learning outcome goals or student learning outcomes for the course)

Upon successful completion of the course, the student shall be able to:

- Algebraically and graphically analyze functions by determining intervals of increase and decrease, intercepts, asymptotes, symmetry, maxima and minima.
- Apply transformations, including translations, reflections, stretching, and compressing.
- Perform operations on functions, including addition, subtraction, multiplication, division, and composition.
- Determine and graph the inverse of a function.
- Solve equations including polynomial, rational, exponential, logarithmic, and trigonometric.
- Solve polynomial and rational inequalities.
- Determine the values of trigonometric functions and the inverse trigonometric functions.
- Graph the sine, cosine, and tangent functions using phase shifts, periodicity, and amplitude.
- Simplify trigonometric expressions and verify trigonometric identities.
- Solve application problems involving exponential, logarithmic, and trigonometric models

Program Learning Goals or Outcomes

Goal 1: To assist all students in understanding the value and purpose of the study of mathematics.

Outcomes:

- Students engage in topics and activities that will help them to acquire mathematical habits of mind.
- Students gain awareness of the connections of mathematics to other disciplines, thereby enhancing their perceptions of the vitality and importance of mathematics in the modern world.

Goal 2: To help students progress in developing analytical, critical reasoning, and problem-solving skills.

Outcomes:

- Students strengthen mathematical and/or quantitative abilities that will be useful in the study of other disciplines, required in the workplace, and/or needed for informed citizenship.
- Students gain experience formulating problems, considering multiple approaches, reasoning logically to conclusions, and interpreting results intelligently.

Required Texts and/or Ancillary Materials

The textbook we will be using is *Fundamentals of Precalculus*, 2nd edition, by Dugopolski. A scientific or graphing calculator may be used for most of our coursework and will be necessary for certain topics (but by no means all topics!).

Attendance and Participation Policy

You are expected to be present at all classes. If you have a conflict with any test, you must see me in advance. No make-up tests will be given for unexcused absences.

Method for determining course grade

Group work/participation counts towards 5% of your final grade, homework towards 10%, short exams towards 60%, and the final towards 25%. It is anticipated (but subject to change) that the letter grade assignments will be made on the following scale: A 93%, A- 90%, B+ 87%, B 83%, B- 80%, C+ 77%, C 73%, C- 70%, D+ 67%, D 60%, F below 60%.

Assignments/Tests and expectations for out-of-class work

We will have group practice days, eight homework sets, eight short exams (the two lowest scores will be dropped), and a final.

Final Exam Date and Time

Monday, April 22, 10:15am-12:15pm (**Warning:** This is the day after Easter Sunday!)

Academic Honesty

All academic work should be your own. Academic dishonesty (plagiarism and cheating) may result in automatic failure of the assignment or the course itself, and you will be referred to the Academic Affairs Office for suspension or expulsion proceedings.

You are plagiarizing when you:

1. Copy material from a source without using quotation marks and proper citation.
2. Follow the movement of the source, substituting words and sentences but keeping its meaning, without citing it.
3. Lift phrases or terms from a source and embed them in your own prose without using quotation marks and proper citation.
4. Borrow ideas (that are not common knowledge) from a source without proper citation.
5. Turn in a paper wholly or partially written by someone else.

The complete statement on Plagiarism, Cheating and Dishonesty can be found in the [Campus Life Handbook](#), page 33, at the following web link: <http://www.otterbein.edu/public/CampusLife/HealthAndSafety/StudentConduct.aspx>.

Learning Differences

If you have a documented learning difference please contact Kera McClain Manley, the Disability Services Coordinator, to arrange for whatever assistance you need. The Disability Services is located in Room #13 on the second floor of the Library in the Academic Support Center. You are welcome to consult with me privately to discuss your specific needs. For more information, contact Kera at kmanley@otterbein.edu, 614-823-1618 or visit the Disability Services at the following web link:

<http://www.otterbein.edu/public/Academics/AcademicAffairsDivision/AcademicSupportCenter/DisabilityServices.aspx>.

Statement on Credit Hour Definition/Expectation for Student Work

For each credit hour of classroom or direct faculty instruction, students are expected to engage in two hours of out-of-class work (readings, homework, studying, project preparation, etc.). A three semester credit hour course requires six hours per week of out-of-class work.

Schedule (tentative)

Monday	Tuesday	Wednesday	Thursday	Friday
Jan. 7	Jan. 8	Jan. 9	Jan. 10	Jan. 11
<i>Classes start</i> Intro to course/1.5	X	1.6	X	1.7
Jan. 14	Jan. 15	Jan. 16	Jan. 17	Jan. 18
1.8	<i>Last day to add</i>	Practice	X	Quiz #1 HW #1 due
Jan. 21	Jan. 22	Jan. 23	Jan. 24	Jan. 25
MLK Day	X	1.9	X	2.1
Jan. 28	Jan. 29	Jan. 30	Jan. 31	Feb. 1
2.3/2.4	X	Practice	X	Quiz #2 HW #2 due
Feb. 4	Feb. 5	Feb. 6	Feb. 7	Feb. 8
2.6	X	2.7	X	<i>Last drop day w/o "W"</i> 2.7
Feb. 11	Feb. 12	Feb. 13	Feb. 14	Feb. 15
Practice	X	Quiz #3 HW #3 due	X	4.1
Feb. 18	Feb. 19	Feb. 20	Feb. 21	Feb. 22
4.1	X	Practice	X	Quiz #4 HW #4 due
Feb. 25	Feb. 26	Feb. 27	Feb. 28	Mar. 1
4.2	X	4.3	X	4.4
Mar. 4	Mar. 5	Mar. 6	Mar. 7	Mar. 8
Spring Break	X	Spring Break	X	Spring Break
Mar. 11	Mar. 12	Mar. 13	Mar. 14	Mar. 15
Practice	X	Quiz #5 HW #5 due	X	3.6
Mar. 18	Mar. 19	Mar. 20	Mar. 21	Mar. 22
<i>Last day to drop</i> 3.9	X	Practice	X	Quiz #6 HW #6 due
Mar. 25	Mar. 26	Mar. 27	Mar. 28	Mar. 29
3.1	X	3.2	X	3.3/3.4
Apr. 1	Apr. 2	Apr. 3	Apr. 4	Apr. 5
3.5	X	Practice	X	Quiz #7 HW #7 due
Apr. 8	Apr. 9	Apr. 10	Apr. 11	Apr. 12
3.7	X	3.8	X	Practice
Apr. 15	Apr. 16	Apr. 17	Apr. 18	Apr. 19
Quiz #8 HW #8 due	X	<i>Last day of classes</i> Review	X	Good Friday
Apr. 22	Apr. 23	Apr. 24	Apr. 25	Apr. 26
Final Exam 10:15am-12:15pm	X	X	X	X