

MTH 305 - 001: Functions and Calculus for Elementary and Middle School Teachers

Spring 2017 Syllabus

Instructor:	Aditya Viswanathan
Class Meetings:	Tu Th 1:00pm - 2:20pm in Wells Hall B 100
Instructor's Office:	Wells Hall, C 331
Office Hours:	Tu W 2:30 - 3:30pm, Th 12:00 - 1:00pm and by appointment
Instructor's Email:	aditya@math.msu.edu
Course Page:	https://math.msu.edu/~aditya/teaching/mth305_s17.html

Course Materials

- *Required:* Calculus Connections: Mathematics for Middle school Teachers, Asma Harcharras and Dorina Mitrea, Pearson Prentice Hall, 2007, ISBN: 9780131449237
- *Optional:* Developing Essential Understanding of Functions for Teaching Mathematics in Grades 9-12, Thomas J. Cooney, Sybilla Beckmann and Gwendolyn M. Lloyd, National Council of Teachers of Mathematics (NCTM) Press, ISBN: 9780873536233
- Additional (electronic and/or paper) resources will be provided as needed

Prerequisites

The prerequisites for the class is MTH 304.

Course Description and Topics

In this course, we will study real numbers, functions and calculus with the dual objectives of enhancing your understanding of these topics and seeing how they are related to the mathematics taught in contemporary elementary and middle schools. The main topics that will be covered are:

- Sequences and Series
- Functions
- Differentiation
- Integration

We will emphasize concepts and definitions, proofs, precision and rigor of language, accurate representations and connections within/between mathematics and other subjects as applied to teaching at upper elementary and middle school.

Attendance

Students are expected to attend all class meetings and are responsible for all of the material covered in class and in the homework. Any changes in this syllabus or in the scheduling of exams, quizzes, etc. will be announced during class meetings (usually at the beginning of class).

Homework

Homework will be assigned on the course website for each section we cover. Since there are many of you and just one of me, selected problems/parts of each homework will be graded. The two lowest homework scores will be dropped from your grade computation. You are strongly encouraged to discuss and work together on these assignments. However, please note that your final solutions must be your own (except in the case of group assignments).

Quizzes

You will be given a total of 5 in-class, closed notes/book quizzes during the semester which will be announced in advance, either in class or on the course website. Your lowest quiz grade will be dropped.

Exams

- There will be one in-class (in Wells Hall B 100) midterm exam:
 - Midterm Exam: Thursday, February 23rd
- There will also be a cumulative final exam on Monday, May 1st from 12:45–2:45pm in Wells Hall B 100.

No exams at a time other than the designated ones will be allowed (exceptions for illness with **documentary proof**, or emergency). Both the midterm and final exams are closed book/closed notes and no calculators will be permitted during exams.

Evaluation

Your final course percentage will be determined by averaging your homework, quiz, midterm exam, and final exam percentages with the following weights:

Homeworks: 35% Quizzes: 15% Midterm Exam: 20% Final Exam: 30%

The result of this weighted average will then be rounded to the nearest integer. Your final grade will be assigned using your final course percentage as follows:

4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.0
90%–100%	85%–89%	80%–84%	75%–79%	70%–74%	65%–69%	60%–64%	0%–59%

In addition, you must take the final examination in order to pass the course. The instructor also reserves the right to alter this grading scale in favor of the students when necessary.

Exams and Other Important Dates

Online open add period for spring semester ends	Friday, January 13 at 8pm
Go to C212 Wells Hall for Math Enrollment changes	Monday, January 16 to Friday, January 20
Last day to drop the class with tuition refund	Friday, February 3
Mid-term Exam (in class)	Thursday, February 23
Last day to drop the class with no grade reported	Wednesday, March 1
Spring Break	Monday, March 6 to Friday, March 10
Final Exam (in Wells Hall, B 100)	Monday, May 1 from 12:45pm - 2:45pm

Students with Disabilities

If you have a disability that requires some kind of accommodation, you should contact the Resource Center for Persons with Disabilities (RCPD) as soon as possible and then schedule an appointment to meet with your instructor.

- To make an appointment with a specialist at RCPD, contact: (517) 353-9642 or TeleTYpewriter (TTY): (517) 355-1293
- Web site for RCPD: <https://www.rcpd.msu.edu/>

Academic Honesty

You are expected to complete quizzes and exams on your own, without collaboration or the use of outside resources. Any violation of this rule will be treated according to the MSU policies on academic integrity. Please familiarize yourself with these policies if you have not already. MSU's policy on academic integrity can be found at the following web page:

<https://www.msu.edu/~ombud/academic-integrity/index.html>

Also consider familiarizing yourself with the **Spartan Code of Honor Academic Pledge** at

<http://splife.studentlife.msu.edu/spartan-code-of-honor-academic-pledge>

“As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor in ownership is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do.”

Some Final Thoughts...

Class Participation: Please ask questions and make constructive comments during lecture. This course is for you – get the most out of it. Take careful notes on those topics which are unfamiliar and work with your classmates during class exercises, especially those adjacent to your seat.

Utilize Office Hours: Office hours are times set aside specifically as an opportunity for you to get additional help. If your schedule conflicts with the scheduled office hours, please make an appointment by sending a request by e-mail.