MTH 132 Course Syllabus

SUMMER 2015 Section 702

Last updated on: May 28, 2015

Contents

Who/What/Where/When

People to Know

ITEM	INSTRUCTOR
Name	Ryan Maccombs
Office Location	C131 Wells Hall
Email	maccomb1@math.msu.edu
Office Hours	Mondays 6:00-8:00PM

Places to Be

WEEKDAYS	LOCATION	TIME	ITEM
W	Room 902 North Farmington High School Farmington Hills, MI	6:00-9:30PM	Class

A Note on Office Hours

Office Hours will be held on Monday evenings 6:00-8:00PM via `http://msu.zoom.us/`. Here is the meeting URL: `https://msu.zoom.us/j/9785543299`

Expectations

What I Expect From You

There are exactly seven class meetings. I expect you to come to each of the meeting ready to be an active, hardworking, diligent, and competent learner. In each class you should bring in your filled in class notes to be checked along with your textbook. I expect you to spend between 16 and 24 hours per week outside of our meetings watching the course videos, attempting the WeBWorK homework, and reviewing your course notes. I expect you to ask lots of questions. I expect you to visit my virtual office hours when you need help or anything is unclear.

What You Can Expect From Me

I will be doing my best to present clear, useful lessons which are relevant to the course goals, homework, and test material. Each class meeting with typically contain:

- A pre-quiz to be taken in groups.
- A chance to ask theory, homework, or past quiz/exam questions.
- A review of what we should have taken away from the week's videos.
- A group activity (perhaps multiple)
- A individual assessment such as a quiz or exam.

Each class you will receive the graded assessments from the previous class. I will update the grade book on D2L as soon as possible so that you always have a realistic view of how you are doing in the course.

Schedules and Dates

Tentative Weekly Schedule

Updates can be found on D2L.

MSU US15 MTH 132.702 Schedule				
Date	Week	Beginning of Class Assessment	End of Class Assessment	Topics/Videos to Watch Before Class
7/8/2015	1	PQ1	Q1	1.4, 1.5, 1.6
7/15/2015	2	PQ2	Q2	1.7, 1.8, 2.1, 2.2, 2.3
7/22/2015	3	PQ3	Exam 1	2.4, 2.5, 2.7, 2.6, 2.8
7/29/2015	4	PQ4	Q3	2.9, 3.1, 3.2, 3.3, 3.4
8/5/2015	5	PQ5	Q4	3.5, 3.7, 3.8, 3.9
8/12/2015	6	PQ6	Exam 2	4.1, 4.2, 4.3, 4.4, 5.5
8/19/2015	7	PQ7	Final Exam	4.5, 5.1

Important Dates

WEEKDAY	DATE	EVENT
Monday	7/6/2015	Classes Begin.
Wednesday	7/8/2015	Online open add period for summer semester ends at 8pm.
Thursday	7/16/2015	End of 100% Tuition Refund
Tuesday	7/28/2015	Middle of Semester. Last day to drop without a grade being reported.
Thursday	8/20/2015	Last day of classes.

Grades

Overall

Your course grade will be based on:

Participation	WeBWorK	Quizzes	Exam 1	Exam 2	Final	TOTAL
5%	10%	15%	20%	20%	30%	100%

In addition, you must take the final examination in order to pass the course.

Final grades will be determined by:

4.0 GRADE	0.0	1.0	1.5	2.0	2.5	3.0	3.5	4.0
% Grade	[0,55)	[55,60)	[60,65)	[65,73)	[73,80)	[80,85)	[85,90)	[90,100]

This scale may be curved throughout the semester to be more lenient. Such a curve is at the discretion of the instructor.

Assessment - Participation

Each week there will typically be a possibility for 10 Participation Points. Bringing your filled in notes to be checked at the beginning of class (during the pre-quiz) will earn you 5 points. The other 5 points will be given for filling out the "Muddiest Point" survey which will help me understand what I should review in the following class.

Assessment - WeBWorK Homework

WeBWorK Homework will be done online at `http://math.msu.edu/webwork`. There is a $39.95 WeBWorK fee that must be paid. Instructions for payment and payment due date are available on the WeBWorK website.

WeBWorK will typically be due at 11:59PM after class (on Wednesdays). I highly suggest though that you work on in continuously throughout the week. See each assignment on the WeBWorK website for its actual due date. Homework assignments submitted up to 48 hours after the 100% deadline will be worth 75%. View the WeBWorK tutorial.

Assessment - Quizzes

During each class there will be a pre-quiz that can be worked on in groups. These pre-quizzes will account for 5% of the course grade. In addition, in weeks where there is no exam there will be an additional quiz at the end of class. These quizzes must be taken individually and will contribute to 10% of the overall course grade.

Assessment - Midterm Exams

Midterms are tentatively scheduled for July 22nd and August 12th. Each will contribute 20% to the overall course grade.

Assessment - Final

By registering for this class, you understand that the final exam is a mandatory part of the course and cannot be missed. The final exam will be on Wednesday August 19th and will take 2 hours of class. The final is cumulative and will contribute to 30% of the overall course grade.

Supplies

Course Materials:

CATEGORY	ITEM	DESCRIPTION
Textbook	Custom MSU MTH 132 Calculus I, ISBN-13: 978-1-305-51387-7	For reading and learning (optional but recommended)
Notes	MTH 132 Course Notes	For filling out and learning
Electronics	Printer	To print anything you may need/want.

In Class Materials:

It is mandatory that you bring your course notes packet to all class meetings.

Attendance Policies

Late Assignment Policy

The WeBWorK has a 48 hour grace period in which the problems can still be completed for reduced credit. One pre-quiz and one quiz will be dropped when calculating the course grade. Because this class moves at such a fast rate there will be no make-up quizzes.

If you need to miss an exam class and have a documented and acceptable excuse please let Ryan know ASAP. You will most likely need to travel to Wells Hall (on MSU campus) to take the exam outside of class time. You cannot miss the final exam.

Administrative Drop for Non-Attendance

Students will be dropped from this course for non-attendance by a departmental administrative drop after the fourth class period, or the fifth class day of the term of instruction, whichever occurs first. (A.K.A. if you don't show up on the first day of class)

Topics List

Limits

- Have an intuitive idea of the definition of a limit.
- Evaluate limits (two-sided, left, and right) of the piecewise defined function given algebraically or graphically.
- Calculate infinite limits and detect vertical asymptotes.
- Recognize the precise definition of a limit and demonstrate using it to formally calculate two-sided limits.
- Detect when a function is continuous and when it is discontinuous.
- Apply the Intermediate Value Theorem to mathematically prove two functions intersect on a set interval.

Derivatives

- Apply limits to calculate slopes of tangent lines or instantaneous velocity.
- Given a function, sketch the graph of its derivative and calculate the formula for the derivative.
- Compare the different differentiation formulas and recognize when to use each for given functions.
- Recognize the need for implicit differentiation and apply it to find the slopes of various curves.
- Use differentiation to solve real world problems related to physics.
- Apply implicit differentiation and the chain rule to solve many types of related rates problems.
- Utilize the tangent line or differentials to estimate how a function is changing around a specific point.
- Use the Closed Interval Method to identify absolute maxima and minima of a function.
- State the Mean Value Theorem and identify points on the correct interval that satisfy it.
- Utilize the derivative to determine when a function is increasing or decreasing.
- Use the second derivative to determine when a function is concave up or down.
- Investigate horizontal asymptotes of a function given algebraically by using limits at infinity.
- Summarize all of our current algebra and calculus knowledge to sketch an accurate graph of a function.
- Apply our maxima/minima knowledge to solve optimization problems.
- Recognize how and why Newtons Method finds intersections between functions.

Integrals

- Compute general antiderivatives for many types of functions.
- Solve initial value problems for particular antiderivative functions.
- Use antiderivatives to calculate velocity or position from acceleration.
- Estimate the area under a curve using rectangles with heights given by left endpoints or right endpoints.
- Use the limit of finite sums to calculate the definite integral of a function.
- Identify how the definite integral relates with area under the curve.
- Relate slopes and areas through the two parts of the Fundamental Theorem of Calculus.
- Use the antiderivative to calculate definite integrals.
- Calculate the average value of a function over an interval.
- Develop a substitution rule to find antiderivatives of more complicated functions.
- Express the area bounded by two curves as a definite integral and evaluate. Identify when it is advantageous to integrate with respect to y instead of x.

Other Policies

Academic Honesty

Article 2.3.3 of the Academic Freedom Report states that The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards. In addition, the (insert name of unit offering course) adheres to the policies on academic honesty as specified in General Student Regulations 1.0, Protection of Scholarship and Grades; the all University Policy on Integrity of Scholarship and Grades; and Ordinance 17.00, Examinations. (See Spartan Life: Student Handbook and Resource Guide and/or the MSU Web site: www.msu.edu.) Therefore, unless authorized by your instructor, you are expected to complete all course assignments, including homework, lab work, quizzes, tests and exams, without assistance from any source. You are expected to develop original work for this course; therefore, you may not submit course work you completed for another course to satisfy the requirements for this course. Also, you are not authorized to use the www.allmsu.com Web site to complete any course work in this course. Students who violate MSU academic integrity rules may receive a penalty grade, including a failing grade on the assignment or in the course. Contact your instructor if you are unsure about the appropriateness of your course work. (See also the Academic Integrity webpage.)

Limits to confidentiality

Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the Universitys student record policies. However, students should be aware that University employees, including instructors, may not be able to maintain confidentiality when it conflicts with their responsibility to report certain issues to protect the health and safety of MSU community members and others. As the instructor, I must report the following information to the Department of Police and Public Safety if you share it with me: Suspected child abuse/neglect, even if this maltreatment happened when you were a child, Allegations of sexual assault or sexual harassment when they involve MSU students, faculty, or staff, and Credible threats of harm to oneself or to others. These reports will trigger contact from the Department of Police and Public Safety who will want to talk with you about the incident that you have shared. In almost all cases, it will be your decision whether you wish to speak with that individual. If you would like to talk about these events in a more confidential setting you are encouraged to make an appointment with the MSU Counseling Center.

Accommodations for Students with Disabilities (from RCPD)

Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at rcpd.msu.edu. Once your eligibility for an accommodation has been determined, you will be issued a Verified Individual Services Accommodation (VISA) form. Please present this form to me at the start of the term and/or two weeks prior to the accommodation date (test, project, etc.). Requests received after this date may not be honored.

Disruptive Behavior

Article 2.III.B.4 of the Academic Freedom Report (AFR) for students at Michigan State University states: The student's behavior in the classroom shall be conducive to the teaching and learning process for all concerned. Article 2.III.B.10 of the AFR states that The student has a right to scholarly relationships with faculty based on mutual trust and civility. General Student Regulation 5.02 states: No student shall . . . interfere with the functions and services of the University (for example, but not limited to, classes . . .) such that the function or service is obstructed or disrupted. Students whose conduct adversely affects the learning environment in this classroom may be subject to disciplinary action through the Student Judicial Affairs office.