MTH 124 Course Syllabus

Instructor: Teena Gerhardt   **E-mail: teena@math.msu.edu**   **Office: D322 Wells Hall**
Office Hours: Mondays and Wednesdays 1-3pm

Course Goals: The primary goals of this course are for students to:

1. *Analyze functions using limits, derivatives, and integrals in a variety of different ways (graphically, numerically, and analytically).*

2. *Apply mathematical tools from calculus to applications in the life sciences.*

Textbook: Waner, Costenoble. *Applied Calculus for MSU, Custom Edition.* Cengage, Boston, MA, 2015.

Available at: http://services.cengagebrain.com/course/site.html?id=1228939

Calculator: A graphing calculator is required for this course. You are expected to bring your calculator to every recitation and exam. The recommended calculators are TI83+, TI 84, or TI 84+. You are responsible for developing proficiency with your calculator.

NOTE: Some calculating devices are inappropriate for this course. All devices which can perform algebraic symbol manipulation ('computer algebra') are prohibited. Tests completed using a prohibited device will receive an automatic score of zero. Prohibited devices include: cell phones, tablets, laptops, TI89, TI-Nspire, Voyage 200, TI92, TI92+, HP49G, HP49G+, HP50G, and Casios algefx2.0 and algefx2.0pls. If you are uncertain about whether your calculator is allowed, it is your responsibility to ask.

Class Page: Each class has its own page where class materials will be posted. To access your class page go to https://www.math.msu.edu/classpages/, choose "100-Level Courses", then your section.

Grading: Grades in this course are based upon the scores from WeBWorK, application labs, two in-class exams, and a uniform final exam. Assessment will be distributed according to the following percentages.

Assessment	WeBWorK	Application Labs	Exam 1	Exam 2	Final Exam
Total Percentage	15%	15%	20%	20%	30%

The following grading scale can be used to estimate grades for individual WeBWorK, labs, and exams.

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, 79)	[79, 85)	[85, 90)	[90, 100]

Gradebook: You can track your current grade by downloading the gradebook at: https://msu.edu/~bramerda/124/Gradebook.xlsx and entering your scores. The gradebook automatically calculates your current grade and drops your two lowest labs. Grades calculated there are not binding.

WeBWork: WeBWork homework will be done online at http://math.msu.edu/webwork. Homework deadlines are available on the WeBWork site. Assignments submitted up to 48 hours after the 100% credit deadline will receive 75% of the score received. Make-ups will not be permitted and no assignments will be dropped.

                 Instructions for signing up for WeBWork can be found on your section's class page (see above). The WeBWork subscription fee is $40. The **Webwork fee is due before September 29th**. Webwork **can be used for free** up to the due date. If you pay the WeBWork fee and later drop the class, the fee will not be refunded. Thus if you are not sure whether you want to stay in the class, we recommend you use WeBWork without paying the fee until close to the due date.

Labs: Friday recitations will consist of team application lab projects focused on applications of calculus to the life sciences. The teams are assigned by the TAs and will vary throughout the semester. Each team will turn in the lab project at the end of the recitation period. Generally all team members will be given the same grade based on the group's report. However, all team members are expected to be on time and contribute -- those who fail to do so may lose points. Absent team members will receive a score of zero. Students should bring their calculator to every recitation.

                 Individual students' lowest two application lab grades will be dropped. For this reason, no excuses are accepted or required for your first two missed labs. No other lab grades can be discarded without an appropriate excuse which must be approved by the instructor in advance.

Exams: In-class exams are scheduled for **Friday October 7** and **Friday November 11** during recitation. An absence that has not been approved by the instructor prior to the exam will result in a score of 0. Make-up exams may be provided in exceptional cases, if a valid excuse is presented in advance and approved by the instructor.

                 The cumulative final exam is scheduled for **Monday, December 12, 10am – 12pm.** The room locations will be announced in December. Students are expected to take the final exam at the scheduled time -- the university has strict rules for exceptions. In particular, travel plans do not constitute a sufficient excuse for rescheduling the final. If a student has two other final exams on the same day they are eligible to take a make-up final exam on Tuesday December 13. If you qualify for the make-up final exam, you must fill out a request at C212 Wells Hall. You will not be allowed to take the make-up final without registering.

Exam Remediation: Students who perform better on their final exam than their lowest in-class exam will have their lowest exam grade replaced by the average of their lowest exam score and their final exam score. The details and an example of this policy can be found at:
https://msu.edu/~bramerda/124/Exam_Remediation_Policy.pdf

Regrading: If you have any questions regarding the grading of an exam or lab, your paper must be handed back to the instructor for re-grading at the end of the class period during which you received it.
                 Once a graded paper has left the classroom, no grading changes will be made.

MLC: The Mathematics Learning Center (MLC) offers free help for Math 124 students. Its main location is C126A Wells Hall; there are additional satellite locations around campus. For more details and hours, visit https://www.math.msu.edu/mlc.

Honesty: The math department adheres to the university policies on academic honesty. Students caught cheating may receive a 0.0 on the assignment/exam or fail the course. Cheating includes using unapproved devices or materials, and copying another person's work.

Webassign: Textbooks purchased as a bundle include a copy of the text and a code which gives access to an electronic version of the text using the program WebAssign. In addition to the electronic text, WebAssign also has practice problems you may use. To access Webassign to go www.webassign.net and click "ENTER CLASS KEY". Once there you will be prompted for a class key. Please enter the class key **msu 2486 8423**, and follow the rest of the prompts to create an account. (Note: the instructor will be listed as David Bramer, the course coordinator.) You will need the access code that came with your purchased bundle to access WebAssign. **Please note that WebAssign is not WeBWork. WeBWork and WebAssign are two distinct programs have no relation to one another.** Access to WebAssign is not required for the course.

Dates: The following are important dates for Fall 2016:

Aug 31   Classes begin

Sep 5   Labor Day – University closed

Sep 7   Online open add period for fall semester ends at 8pm

Sep 8 – Sep 14   Students go to Undergraduate office, C212 Wells, for Mathematics enrollment changes.

Sep 14   Last day to late add a course or change sections within a course. Last day to drop to a lower level course.

Sep 26   End of 100% Tuition Refund

Oct 19   Middle of Semester. Last day to drop a course without a grade being reported.

Nov 24-25   Thanksgiving Break

Dec 9   Last day of classes.

SCHEDULE OF LECTURES:

Aug 31	Linear and quadratic functions and models	Sections 1.1, 1.2, 1.3, 2.1
Sep 2	Application Lab 1	
Sep 5	NO CLASS – LABOR DAY	
Sep 7	Exponential functions and models	Section 2.2
Sep 9	Application Lab 2	
Sep 12	Logarithmic functions and models	Section 2.3
Sep 14	Average rate of change	Section 3.4
Sep 16	Application Lab 3	
Sep 19	Limits: numerical and graphical viewpoints	Section 3.1
Sep 21	Limits: numerical and graphical viewpoints	Section 3.1
Sep 23	Application Lab 4	
Sep 26	Derivatives: numerical and graphical viewpoint	Section 3.5
Sep 28	Derivatives	Section 3.5, 3.6
Sep 30	Application Lab 5	
Oct 3	Derivatives	Section 3.6
Oct 5	Derivatives of powers, sums, and constant multiples	Section 4.1
Oct 7	**EXAM 1**	
Oct 10	The product and quotient rules	Section 4.3
Oct 12	Chain rule	Section 4.4
Oct 14	Application Lab 6	
Oct 17	Chain rule and derivatives of exponential functions	Sections 4.4, 4.5
Oct 19	Derivatives of logarithmic and exponential functions	Section 4.5
Oct 21	Application Lab 7	
Oct 24	Maxima and minima	Section 5.1
Oct 26	Applications of maxima and minima	Sections 5.1, 5.2
Oct 28	Application Lab 8	
Oct 31	Applications of maxima and minima	Section 5.2
Nov 2	Higher order derivatives	Section 5.3
Nov 4	Application Lab 9	
Nov 7	Higher order derivatives	Section 5.3
Nov 9	The indefinite integral	Section 6.1
Nov 11	**EXAM 2**	
Nov 14	The indefinite integral	Section 6.1
Nov 16	The definite integral	Section 6.3
Nov 18	Application Lab 10	
Nov 21	The definite integral	Section 6.3
Nov 23	Fundamental theorem of calculus	Section 6.4
Nov 25	NO CLASS – THANKSGIVING	
Nov 28	Fundamental theorem of calculus	Section 6.4
Nov 30	Area between two curves	Section 7.2
Dec 2	Application Lab 11	
Dec 5	Area between two curves	Section 7.2
Dec 7	Review	
Dec 9	Review	