Math 111--Applied Calculus

Gretchen Renfert	Office Hours	Course Meeting Times
Office: B152 Science Bldg **Phone:** 715-346–2919 ***Email:** grenfert@uwsp.edu (* preferred method of contact)	Tue, Wed, Thur **3 – 3:45 PM** *or* *by appointment*	Mon, Tue, Wed, Thur **Section 1:** 2:00-2:50PM SCI A225 **Section 6:** 4:00-4:50PM SCI A210

Text (rental): *Applied Calculus for the Managerial, Life, and Social Sciences: A Brief Approach*, 10th Ed., by S. T. Tan   (Published by Cengage, ISBN: 978-1-285-46464-0). Topics include most of those in Chapters 1 – 6.

Calculators: A graphing calculator can be a helpful tool for understanding concepts and working homework problems in this class.   The TI graphing calculator such as the TI-84 is most familiar to me. Computers, phones, Ipads, and calculators with a "QWERTY" keyboard are not allowed during exams or quizzes. You will not always be allowed to use a calculator on all parts of quizzes and tests, so do not become too dependent on using them. You <u>may not share</u> a calculator with another student during a quiz or exam.

Prerequisites: Math 100 (College Algebra) or a suitable placement test.

General Course Goals: In addition to achieving the Quantitative Literacy learning outcomes of the university's General Education Program, students will develop communication skills, and problem-solving approaches to applied problems in fields such as biology, natural resources, and social science, using the central concepts of introductory differential and integral calculus.

Learning Outcomes: Students will be able to
1) Find limits, derivatives, and integrals from graphs and from formulas.
2) Determine when limits, derivatives, or integrals are useful in applied problems.
3) Use rules for finding derivatives and integrals and identify which rules apply.
4) Identify features of a graph using derivatives.
5) Optimize a function or value using derivatives, and construct a conclusion using quantitative justification.
6) Use the Fundamental Theorem of Calculus to relate derivatives & integrals to each other.
7) Find exact area under a curve and area between two curves, and estimates for these areas.
8) Communicate their conclusions and justifications using mathematical notation and language and using English sentences. This includes the use of mathematical terminology.

Evaluation: Final course grades will be determined by the following<u>:</u>

15 % for quizzes (your lowest score of the five quizzes will be dropped at the end of the semester)
20 % for **Exam 1,** in-class on **Tuesday,   October 11th**
20 % for **Exam 2,** in-class on **Tuesday,   November 8th**
20% for **Exam 3,** in-class on **Wednesday, December 14th**
<u>25%</u> for the **Comprehensive Final Exam** (See next page for date & time.)
100%

Course Grades (%) at or above	93	90	87	83	80	77	73	70	67	60
will receive at least a grade of	A	A -	B +	B	B -	C +	C	C -	D +	D

* I reserve the right to exercise discretion in raising a student's grade if the final weighted average does not appear to reflect the quality of a student's work (for example, because of one low exam score early in the course). I will <u>not</u> use discretionary judgments to lower a student's final grade.

Homework: Almost every day a list of homework problems will be given in class. Each of these will be a *minimal* list of problems which you need to understand in order to do well in this course. Doing the homework is extremely important, so make sure you stay on top of it and ask questions on whatever you don't understand. The homework will not be graded, but it is highly recommended that you practice doing problems on your own.

Attendance is expected at every class meeting. Everyone becomes ill sometimes. If you become ill, I expect you to make a reasonable effort to come to class. If the illness or other emergency require absence from class, I expect you to contact me immediately, preferable by email. I expect you to keep up with what is being taught by following in your book and making every attempt to do the homework.

Quizzes and exams may not be made up unless arranged with me ahead of time, and then only for sufficient reason.

If a dire emergency occurs, contact me as soon as possible to see if an exception is in order.

Incompletes: A grade of incomplete may be given when circumstances arise which are beyond the student's control and the student is unable to complete the course *IF* the student was passing when the circumstances arose.

Disability Accommodations: Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the first week of class of any accommodations needed for the course. For information on accommodations available to students with disabilities, call 715-346-3365, visit the Disability and Assistive Technology Center in room 609 of the Learning Resources Center, or visit their website: http://www.uwsp.edu/disability/Pages/default.aspx .

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*Desire to Learn (D2L)   https://uwsp.courses.wisconsin.edu/d2l/home.

To access D2L, use your regular campus logon ID and password, and then click on our course:
                    MATH 111 Applied Calculus

Homework assignments, handouts, class work, grade information, and other class announcements can be found on the web in Desire to Learn (D2L).

All students are expected to know the UWSP Community **Rights & Responsibilities** and the **Student Academic Standards and Disciplinary Procedures** found on the Dean of Students webpage at http://www.uwsp.edu/dos/Documents/CommunityRights.pdf.

Food/Beverage: I would prefer that you not eat in class. It is a distraction.

Cell Phones: I understand that occasionally you may want to take a picture of what is on the board. Other than that, cell phones should be silenced and put away once class begins.

For Academic Support:

1) Ask questions as they arise.

2) Come to see me before or after class, stop by during my office hours, or check to see if I am available at other times.

3) Tutoring services are available for this course. **The Math Help Room** in the Science Building offers <u>free</u> drop-in tutoring just off the Main Lobby of the older part of building, room **SCI A113A**.

4) **The Tutoring Learning Center** (lower level of the **LRC**) offers support as well.

Tutoring

Tutoring in Math and Science (TIMS) in the Tutoring-Learning Center (TLC), in cooperation with the Math Department, offers free group and Drop-in Study Table Sessions to support you in your math classes. In addition, TIMS offers the option for individual math tutoring sessions. The math tutors are UWSP students who have done well in their classes and who are here to share their successful study habits and math content knowledge to help others succeed. Talking about math and working problem sets together helps to clarify and solidify knowledge, and the tutors in the lab are eager to help. If you have questions about the schedule or would like to make an appointment, please visit room LRC 018 or call (715) 346-3568 for information.

Math Assistance – Fall 2016

Name	Day	Time	Location	Cost
Drop-in Tutoring	Mon.–Thurs.	6:00 p.m.-9:00 p.m. See TLC Website for additional drop-in hours	Drop-In Tutoring Center, DUC 205	Free
Group Tutoring and Supplemental Instruction (SI)	Mon. – Fri.	See TLC Website	See TLC Website	Free
One-on-One Tutoring	Mon. – Fri.	By appointment	Sign up in TLC, LRC 018 Mon.-Fri. 9:00 a.m. - 4:30 p.m.	May have fee
Math Room	Mon. – Thurs. Mon. – Thurs.	9:00 a.m. - 4:00 p.m. 7:00 p.m. - 9:00 p.m.	SCI A113A See Math Website	Free
Math Pad (Math 90 and Math 100 only)	Mon. – Thurs. Fri.	9:00 a.m. - 7:00 p.m. 8:00 a.m. - 1:00 p.m.	CCC 302 See Math Website	Free

**We have a Student Instructor: _____

Contact Information   Office Hours

Tentative Schedule

Week	Dates	Sections	Topic
1	Sept 6-8		*Labor Day--No Class*
		1.1	Precalculus Review I
		1.2	Precalculus Review II
2	Sept 12-15	1.4	Straight Line Models
		2.1	Functions and their graphs
		2.2	The Algebra of functions
3	Sept 19-22	2.3	Functions and Mathematical models
		Quiz 1	**Wednesday, Sept 21st**
		2.4	Limits
4	Sept 26-29	2.6	The Derivative
5	Oct 3-6	3.1	The Basic rules of Differentiation
		3.2	The Product and Quotient Rules
		Quiz 2	**Wednesday, Oct 5th**
		3.3	The Chain Rule
6	Oct 10-13	3.3 (cont)	
		Exam I	**Tuesday, Oct. 11th**
		3.4	Marginal functions in Economics
7	Oct 17-20	4.1	Applications of the first derivative
		Quiz 3	**Thursday, Oct. 20th**
8	Oct 24-27	4.2	Applications of the second derivative
		4.3	Curve sketching
		Quiz 4	**Thursday, Oct. 27th**
9	Oct 31-Nov 3	4.4 , 4.5	Optimization
10	Nov 7-10	**Exam II**	**Tuesday, Nov. 8th**
		5.1	Exponential functions
		5.2	Logarithmic functions
11	Nov 14-17	5.4	Differentiation of exponential functions
12	Nov 21-23	5.5	Differentiation of logarithmic functions
		5.6	Exponential functions as models
		Quiz 5	**Wednesday, Nov. 22nd**
			Thanksgiving Week
13	Nov 28-Dec 1	6.1	Antiderivatives and Integration
		6.1 (cont)	
		6.2	Integration by substitution
		6.2 (cont)	
14	Dec 5-8	6.4	Fundamental Theorem of Calculus
		6.5	Evaluating Definite Integrals
		6.6	Area between two curves
15	Dec 12-15	**Exam III**	**Wednesday, Dec. 14th**
Final	**Section 1**	10:15AM – 12:15PM	**Friday, Dec. 16th**
	Section 6	5:00PM – 7:00 PM	**Monday, Dec. 19th**

Tentative Math 111 Schedule

Week	Dates	Sections	Topic
1	Jan 25-28	1.1	Precalculus Review
		1.2	Precalculus Review II
		1.4	Straight Line Models
		2.1	Functions and their Graphs
2	Feb 1-4	2.2	The Algebra of Functions
		2.3	Functions and Mathematical Models
		Quiz 1	**Wednesday, Feb 3rd**
		2.4	Limits
3	Feb 8-11	2.6	The Derivative
		Quiz 2	**Thursday, Feb 11th**
4	Feb 15-19	3.1	The Basic Rules of Differentiation
		3.2	The Product Rule
		3.2 (cont'd)	The Quotient Rule
		3.3	The Chain Rule
5	Feb 22-25	3.4	Marginal Functions in Economics
		Exam I	**Thursday, Feb 25th**
6	Feb 29 - Mar 3	3.5	Higher Derivatives
		4.1	Applications of the First Derivative
		4.2	Applications of the Second Derivative
7	Mar 7-10	4.3	Curve Sketching
		Quiz 3	**Thursday, March 10th**
8	Mar 14-17	**Exam II**	**Wednesday, March 16th**
	Mar 21-24		*SPRING BREAK*
9	Mar 28-31	4.4	Optimization
		4.5	Optimization II
		Quiz 4	**Thursday, March 31st**
10	Apr 4-7	5.1	Exponential Functions
		5.2	Logarithmic Functions
		5.4	Differentiation of Exponential Functions
		5.5	Differentiation of Logarithmic Functions
11	Apr 11-14	5.6	Exponential Functions as Models
		Quiz 5	**Tuesday, April 12th**
		6.1	Antiderivatives and Rules of Integration
12	Apr 18-21	6.2	Integration by Substitution
		6.4	The Fundamental Theorem of Calculus
		6.5	Evaluating Definite Integrals
13	Apr 25-28	6.6	Area Between Two Curves
		Exam III	**Thursday, April 28th**
14	May 2-5		Extra Topics, as time allows
15	May 9-12		Review for Final Exam
Sec 1	Friday, Dec 16th	Final Exam	10:15AM - 12:15 PM
Sec 6	Monday, Dec 19th	Final Exam	5:00 – 7:00 PM

Emergency Response Guidance:

In the event of a medical emergency call 9-1-1 or use Red Emergency Phone [list location nearest your classroom]. Offer assistance if trained and willing to do so. Guide emergency responders to victim.

In the event of a tornado warning, proceed to the lowest level interior room without window exposure at [list primary location for shelter closest to classroom,]. See www.uwsp.edu/rmgt/Pages/em/procedures/other/floor-plans.aspx for floor plans showing severe weather shelters on campus. Avoid wide-span structures (gyms, pools or large classrooms).

In the event of a fire alarm, evacuate the building in a calm manner. Meet at [state logical location to meet 200 yards away from building]. Notify instructor or emergency command personnel of any missing individuals.

Active Shooter/Code React – Run/Escape, Hide, Fight. If trapped hide, lock doors, turn off lights, spread out and remain quiet. Call 9-1-1 when it is safe to do so. Follow instructions of emergency responders. See UW-Stevens Point Emergency Procedures at www.uwsp.edu/rmgt/Pages/em/procedures for details on all emergency response at UW-Stevens Point.