

**Math 109—Mathematics for the Social & Management Sciences**

The study systems of linear equations, matrices, linear programming, exponential growth and decay, mathematics of finance, and differential calculus with emphasis on applications. 4 credits

<b>Gretchen Renfert</b> <b>Office:</b> B152 Science Bldg <b>Phone:</b> 715-346-2919 <b>*Email:</b> <a href="mailto:grenfert@uwsp.edu">grenfert@uwsp.edu</a> (* preferred method of contact)	<b>Office Hours</b>	<b>Course Meeting Times</b>			
	Tue, Wed, Thur	Section	Time	Room	
	<b>5 – 6 PM</b>	2	2 PM	MTWR	CCC111
	<i>or</i> <i>by appointment</i>	3	3 PM	MTWR	CCC111
		4	4 PM	MTWR	CCC111

**Text (rental):** *College Mathematics for Business, Economics, Life Sciences and Social Sciences*, 12<sup>th</sup> Ed., by Barnett, Ziegler & Byleen (Published by Pearson) ISBN: 978-0-321-61400-1  
Topics include most of those in Chapters 1–5 and 10-12.

**Calculators:** You will need a calculator during the course of the semester. A graphing calculator may prove to be especially useful. The TI graphing calculators are 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.

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

**Quantitative Literacy Learning Outcomes:** Students will develop the following communication skills, and problem-solving approaches to applied problems in fields such as business, economics, life sciences and social sciences:

- 1) Select, analyze, and interpret appropriate numerical data used in everyday life in numerical and graphical format
- 2) Identify and apply appropriate strategies of quantitative problem solving in theoretical and practical applications.
- 3) Construct a conclusion using quantitative justification.

**Evaluation:** Final course grades will be determined by the following:

15 % for quizzes

20 % for **Exam I** (in-class on **Thursday, February 17th**)

20 % for **Exam II** (in-class on **Wednesday, March 15th**)

20% for **Exam III** (in-class on **Thursday, April 13th**)

25% 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 not 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 make every attempt to keep up with what is being taught by checking D2L, 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> .

**\*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 109 Mathematics for Social & Management Sciences**

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 free drop-in tutoring just off the Main Lobby of the older part of the 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) offers free group and drop-in tutoring 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. Discussing math concepts and practicing problems together clarifies and solidifies knowledge, and the tutors are eager to study with you. If you have questions about the schedule or would like to make an appointment, please visit the TLC in room 018 ALB, email ([tlctutor@uwsp.edu](mailto:tlctutor@uwsp.edu)), or call (715) 346-3568 for information.

**Math Assistance --Spring 2017**

Name	Day	Time	Location	Cost
Drop-In Tutoring Center	Mon. – Thurs.	<u>See TLC Drop-In Schedule</u>	DUC 205	Free
Group Tutoring and Supplemental Instruction	Mon. – Fri.	<u>See TLC Website</u>	<u>See TLC Website</u>	Free
One-on-One Tutoring	Mon. – Fri.	By appointment	Sign up in TLC, 018 ALB Mon. – Fri. 9:00 a.m. - 4:30 p.m.	May have fee
The Math Room	Mon. – Thurs.	9:00 a.m. - 4:00 p.m. 7:00 p.m. - 9:00 p.m.	SCI A113A <u>See Math Department Website</u>	Free
The Math Pad (Math 90 & Math 100 only)	Mon. – Fri.	<u>See Math Department Website</u>	CCC 302	Free
Physics Room	Mon. – Fri.	<u>See Physics Department Website</u>	SCI A105	Free

\*\*We have a **Student Instructor:**

**Rachel H.**

**Contact Information**

**Office Hours**

*\* Tentative Math 109 Schedule\**

Week	Dates	Sections	Topic
1	Jan 23-26	Chpt 1 2.1 2.2 2.3	Beginning Library of Functions Functions Elem. Functions: Graphs & Transformations Quadratic Functions
2	Jan 30 - Feb 2	10.1 10.2 <b>Quiz 1</b>	Limits Infinite Limits & End Behavior <b>Thursday, Feb 2nd</b>
3	Feb 6-9	10.4 10.5 10.3 11.3	The Derivative Basic Differentiation Properties Continuity The Product Rule
4	Feb 13-17	11.3 11.4 11.5 <b>Exam I</b>	The Quotient Rule The Chain Rule Implicit Differentiation <b>Thursday, Feb 17th</b>
5	Feb 20-23	11.5 11.6 2.5, A-5	Implicit Differentiation Related Rates Exponential Functions
6	Feb 27 - Mar 2	2.6 11.2 11.4 <b>Quiz 2</b>	Logarithmic Functions Derivatives of Logarithmic & Exponential Functions The Chain Rule (continued) <b>Thursday, March 2nd</b>
7	Mar 6-9	10.7 12.1	Marginal Analysis 1st Derivative and Graphs
8	Mar 13-16	12.2 <b>Exam II</b> 12.3	2nd Derivative and Graphs <b>Wednesday, March 15th</b> L'Hopital's Rule
	<b>Mar 20-23</b>		<b>SPRING BREAK</b>
9	Mar 27- 30	12.5 12.6 3.1	Absolute Maxima & Minima Optimization Simple Interest
10	Apr 3-6	3.2 3.3 <b>Quiz 3</b>	Compound & Continuous Interest Future Value <b>Thursday, April 6th</b>
11	Apr 10-13	3.4 <b>Exam III</b>	Present Value <b>Thursday, April 13th</b>
12	Apr 17-20	4.2 4.3 4.4	Matrices Gauss-Jordan Elimination Matrices: Basic Operations
13	Apr 24-27	4.5 4.6	Inverse of a Square Matrix Matrix Equations
14	May 1-4	<b>Chpt 10 &amp; 11</b>	<b>Review</b>
15	May 8-11	<b>Chpt 12, 3 &amp; 4</b>	<b>Review</b>
2 PM 3 PM 4 PM	<b>Tuesday, May 16<sup>th</sup> Wednesday, May 17<sup>th</sup> Tuesday, May 16<sup>th</sup></b>	<b>12:30-2:30 PM 2:45-4:45 PM 5:00-7:00 PM</b>	<b>Final Exam</b>