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

Gretchen Renfert	Office Hours	Course Meeting Times		
Office: B152 Science Bldg **Phone:** 715-346–2919 ***Email:** grenfert@uwsp.edu (* preferred method of contact)	Tue **1 – 1:50 PM** Wed **4 – 4:50 PM** Thur **11–11:40 AM** *Or by appointment*	<u>Sec</u> <u>Time</u> <u>Room</u> 1 12 PM MTWR CCC 111 2 2 PM MTWR SCI A201 3 3 PM MTWR SCI A201		

Text (rental): *Mathematical Applications for the Management, Life and Social Sciences*,
          12th Ed., by Harshbarger & Reynolds   (Published by Cengage)   **ISBN**: 978-1-337-62534-0
          Topics include most of those in Chapters 1–3, 5-6, and 9-11.

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, SMART watches, and calculators with a "QWERTY" keyboard
          are not allowed during exams or quizzes.

          * You will <u>not always be allowed to use a calculator</u> on all parts of quizzes and tests,
            so do not become too dependent on using them.

Prerequisites: Math 100, Math 107, 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 22nd**)
          20 % for **Exam II**   (in-class on **Wednesday,   March 21st**)
          20% for **Exam III**   (in-class on **Thursday,   May 3rd**)
          <u>25%</u> for the **Comprehensive Final Exam** on **Monday, May 14th**
          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 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 .

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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 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.

<u>**For Academic Support:**</u>

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 the building, room **SCI A113A**.

4) **The Tutoring Learning Center** (lower level of the **ALB**) 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:
1. visit the TLC in room the basement of the Library, ALB 018, or
2. email (tlctutor@uwsp.edu), or
3. call (715) 346-3568 for information.

Math Assistance --Spring 2018

Name	Day	Time	Location	Cost
Drop-In Tutoring Center	Mon. – Thurs.	<u>See TLC Website</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	Visit ALB 018 (library basement) to make a request.	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, 95 & 107 only)	Mon. – Fri.	<u>See Math Department Website</u>	CCC 302	Free

**We have a Student Instructor:
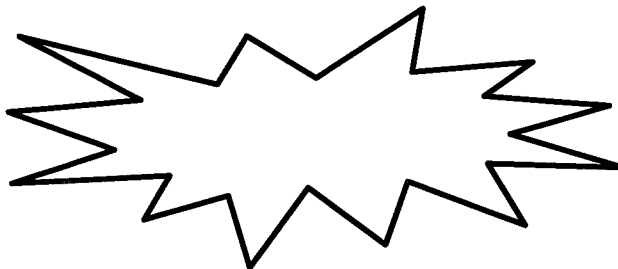
Tentative Math 109 Schedule

Week	Dates	Sections	Topic
1	Jan 22 - 25	0.3	Integral Exponents
		0.4	Radicals and Rational Exponents
		1.2, 1.3	Functions, Linear Functions
		1.4	Graphs and Transformations of Functions
2	Jan 29 - Feb 1	2.1, 2.3	Quadratic Functions
		2.4	Beginning Library of Functions
		9.1	Limits
		Quiz 1	Thursday, Feb 1st
3	Feb 5 - 8	9.2	Continuity
		9.2	Infinite Limits & End Behavior
		9.3	The Derivative
		9.4	Basic Differentiation Properties
4	Feb 12 - 15	9.5	The Product Rule
		9.5	The Quotient Rule
5	Feb 19 - 22	9.6	The Chain Rule
		Exam I	Thursday, Feb 22nd
6	Feb 26 - Mar 1	5.1	Exponential Functions
		5.2	Logarithmic Functions
		11.1	Derivatives of Logarithmic Functions
		11.2	Derivatives of Exponential Functions
7	Mar 5 - 8	9.9	Marginal Analysis
		10.1	1st Derivative and Graphs
		Quiz 2	Thursday, March 1st
8	Mar 12 - 15	10.2	2nd Derivative and Graphs
		10.4	Absolute Maxima & Minima
		10.3	Optimization
9	Mar 19 - 22	10.3	Optimization (continued)
		Exam II	Wednesday, March 21st
		1.4	Graphing Utilities
	Mar 26 - 29		SPRING BREAK
10	Apr 2 - 5	6.1	Simple Interest
		6.2	Compound Interest
		6.3	Future Value
		6.4	Present Value
11	Apr 9 - 12	6.5	Loans and Amortization
		Quiz 3	Tuesday, April 3rd
		3.1	Matrices
		3.2	Multiplication of Matrices
12	Apr 16 - 19	3.3	Gauss-Jordan Elimination
		3.4	Inverse of a Square Matrix
		3.4	Matrix Equations
		3.5	Applications of Matrices
13	Apr 23 - 26	4.1	Linear Inequalities in Two Variables
		4.2	Linear Programming: Graphical Models
		4.3	Simplex Method: Maximization
		4.4	Simplex Method: Duality & Minimization
14	Apr 30 – May 3	4.5	Simplex Method: Mixed Constraints
		Exam III	Thursday, May 3rd
15	May 7 - 10	Chpt 9-11, 6 & 3	Review
	Monday, May 14th	Final Exam	5:00-7:00 PM , Science Bldg D102