Math 118—Precalculus Algebra

Topics of study include concepts, graphs, and properties of functions, inverse and algebraic functions, techniques of graphing, conic sections, linear and non-linear systems, arithmetic and geometric series, mathematical induction, and the binomial theorem.   **4 credits**

Instructor: Gretchen Renfert	**Office Hours**	**Course Meeting Times**		
Office: B348 SCI email: grenfert@uwsp.edu	10 – 10:45 AM Tuesday 2 – 2 :45 PM Thursday 4 – 4 :45 PM Wednesday *or by appointment*	Time	Days	Room
		11 - 11:50 AM	MTWR	A208 SCI

Text (rental): *Precalculus: Mathematics for Calculus*, 7th edition
by Stewart, Redlin & Watson   (Published by Cengage) **ISBN:** 978-1-305-07175-9
Topics include most of those in Chapters 1 – 4, and parts of Chapters 10 - 12.

Calculators: You will need a scientific calculator during portions, but not all, of the semester. Graphing
calculators may be used at times, but you will not always be allowed to use a calculator on all
parts of quizzes and tests—do not become too dependent on using either type of calculator.
* Use of computers, cell phones, SMART watches, iPads or other tablets, and calculators with
a "QWERTY" keyboard will not be allowed during exams or quizzes.

Prerequisites: Math 107 or a suitable placement test
This course prepares you for: Math 225 if you did not place into Math 225
GEP: QL (See below)

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: Course grade information will be available in CANVAS and will be determined as follows:

		Tentative Exam Dates:		
20%	**Quizzes (5 Quizzes, drop 1)**			
15%	**Exam 1**	in-class on	**Thursday,**	**Sept 29**
15 %	**Exam 2**	in-class on	**Thursday,**	**Oct 20**
15%	**Exam 3**	in-class on	**Thursday,**	**Nov 3**
15%	**Exam 4**	in-class on	**Tuesday,**	**Nov 22**
20%	**Final Exam**	**2:45 – 4:45 PM**	**Monday,**	**Dec 19**
100%		**SCI A208**		

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

(*Note*: There is no such grade as D- at this university)

* 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, if one low exam score in the course
adversely affects the weighted average grade).

> *The Key to Success in this class*:
> | 1. Attend class | 2. Do the homework | 3. Ask Questions |
> | --- | --- | --- |
> 4. Use Office Hours and/or Tutoring Services to get additional help

CANVAS   Homework solutions, occasional handouts, grade information, and other class announcements can be found on CANVAS. Some videos will occasionally be posted in CANVAS.

Cell Phones should be silenced and put away once class begins.
Food/Beverage : I would prefer that you not eat in class.

Homework: Almost every day a *minimal* list of problems which you need to understand in order to do well in this course will be given in class. The homework <u>will not be graded</u>, but it is highly recommended that you practice doing these problems. The first 5 minutes of each class day will be reserved for addressing homework questions or concerns. Do not be afraid to ask—your questions determine how class proceeds.
** I post my worked-out solutions to the homework to help if you get stuck.**

Attendance is expected at every class meeting. Attend class regularly and keep up if you must miss class. How? By checking the daily post in CANVAS, following in your book, and doing the homework.
** Missing class on the day of a Quiz or Exam could likely result in a score of zero! **
If there are extenuating circumstances, email me as soon as possible.

No graded Quizzes or Exams will be returned to students until it is determined *if and when* absent students will be allowed to make up the Quiz or Exam.

Quizzes: *Announced* quizzes worth 20 points will occur at the end of the class period, after a short lesson. These quizzes take no more than 15-20 minutes and are noted on the tentative schedule (see page 4). Short *Unannounced* ("Pop") Quizzes will be given at the beginning of class, taking no more than 5 minutes. Pop Quizzes cannot be made up, but the "Drop Lowest" feature in the gradebook will be turned on.
There are <u>no retakes</u> allowed on Quizzes.

Exams are worth 100 points and will take the entire class period. You must complete the exam by the end of the class period. If you have applied for and been granted accommodations through the DRC office (see procedure below), you will most likely take the exam in an alternate setting.
There are <u>no retakes</u> allowed on Exams.

Incompletes: A course grade of "Incomplete" may be given if circumstances arise which are beyond your control which prevent you from completing the course. To qualify for an incomplete, you must have had a passing grade in the course <u>when the circumstances arose</u>. A written agreement between instructor and student must be completed and filed with the Dean's Office detailing the amount of work that must be completed and the agreed upon deadlines.

Disability Accommodations: Reasonable accommodations are available for students who have a documented disability. For information on accommodations available to students with disabilities, visit the Disability Resource Center (DRC) website: https://www.uwsp.edu/disability-resource-center/

3 Steps to Apply for Accommodations:

The following steps do not necessarily need to be completed in order. Students wanting to meet to discuss potential accommodations can schedule a consult at any time.

> 1. Establish a DRC Connect Account
> 2. Submit Documentation
> 3. Participate in a New Client Intake Meeting

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
https://www.uwsp.edu/dos/Pages/Student-Conduct.aspx

STEM Tutoring
The STEM Tutoring Program on the Stevens Point campus is offering FREE tutoring during Fall 2022. These services are available to students from all three campuses.

- The **STEM Drop-In Tutoring Center in CBB 190, next to Starbucks**
  Students do not need to make an appointment or register in advance; you can simply "drop-in" when there are tutors available for your class. The drop-in schedule can be found here .

- **STEM One-on-One Tutoring in CCC 205**
  Students can sign up to meet with a tutor on a weekly, recurring basis by completing the online request form located here. Appointments are made based upon tutor availability – we cannot guarantee that every student will be matched with a tutor.

The tutors are UWSP students who have done well in their classes and who are here to share their successful study habits and content knowledge to help others succeed. Discussing concepts and practicing problems together clarifies and solidifies knowledge, and the tutors are eager to study with you.
If you have questions about the schedules or would like to make an appointment, please visit the STEM Tutoring office in: **CCC 234**, email: tlctutor@uwsp.edu , or call: (715) 346-3568.

STEM Tutoring – Fall 2022

What	Location	Schedule	Cost
STEM Drop-In Tutoring	**CBB 190**	No appointment needed – stop by when tutors are available: https://www.uwsp.edu/tlc/Pages/dropInTutoring.aspx	Free
STEM One-on-One Tutoring	**CCC 205**	By appointment. Complete online request form here: https://www.uwsp.edu/tlc/Pages/Mathandscischedules.aspx	Free

G. Renfert --- Fall 2022

	Monday	Tuesday	Wednesday	Thursday	* Friday
8:00 - 8:50					
9:00 - 9:50					
10:00 - 10:50		Office Hour			
11:00 - 11:50	Math 118.2 SCI A208	Math 118.2 SCI A208	Math 118.2 SCI A208	Math 118.2 SCI A208	
12:00 - 12:50			Lunch		
1:00 - 1:50	Math 109.1 SCI A208	Math 109.1 SCI A208	Math 109.1 SCI A208	Math 109.1 SCI A208	
2:00 - 2:50				Office Hour	
3:00 - 3:50	Math 109.2 SCI A208	Math 109.2 SCI A208	Math 109.2 SCI A208	Math 109.2 SCI A208	
4:00 - 4:50			Office Hour		

<p align="center">*Tentative Math 118 Schedule*</p>

Week	Dates	Sections	Topic
1	Sept 6 - 8	1.1	Introduction; Real Numbers
		1.2	Exponents & Radicals
		1.3	Algebraic Expressions
2	Sept 12 - 15	1.4	Rational Expressions
		1.4	(continued)
		1.5	Equations
		1.5	(continued) & **Quiz 1**
3	Sept 19 - 22	1.8	Solving Inequalities
		1.8	The Boundary Point Method
		1.9	The Coordinate Plane; Graphs of Equations; Circles
		1.10	Lines
4	Sept 26 - 29	1.11	Solving Equations & Inequalities Graphically
		2.1	Functions
		2.2	Graphs of Functions
		Exam 1	**Thursday, Sept 29 (Chapter 1)**
5	Oct 3 - 6	2.3	Getting Information from the Graph of a Function
		2.4	Average Rate of Change of a Function
		2.5	Linear Functions & Models
		2.6	Transformation of Functions (Vertical & Horizontal Shifts)
6	Oct 10 - 13	2.6	Transformation of Functions (Stretching & Shrinking))
		2.6	Transformation of Functions (Even & Odd)
		2.7	Combining Functions
		2.8	One-to-One Functions & **Quiz 2**
7	Oct 17 - 20	2.8	Inverse Functions
		3.1	Quadratic Functions & Models
		3.2	Polynomial Functions & Their Graphs
		Exam 2	**Thursday, Oct 20 (Chapter 2)**
8	Oct 24 - 27	3.3	Dividing Polynomials
		3.3	(continued)
		3.4	Real Zeros of Polynomials
		3.4	(continued) & **Quiz 3 (Synthetic and Long Division)**
9	Oct 31 - Nov 3	3.6	Rational Functions
		3.6	Rational Functions (continued)
		3.7	Polynomial & Rational Inequalities
		Exam 3	**Thursday, Nov 3 (Chapter 3)**
10	Nov 7 - 10	4.1	Exponential Functions
		4.2	The Natural Exponential Function
		4.3	Logarithmic Functions
		4.4	Laws of Logarithms & **Quiz 4**
11	Nov 14 - 17	4.5	Exponential & Logarithmic Equations
		10.1	Systems of Linear Equations in Two Variables
		10.2	Systems of Linear Equations in Severable Variables
		10.3	Matrices & Systems of Linear Equations **(Graphing Calculator)**
12	Nov 21 - 23	10.7	Partial Fractions (Cases #1 & #2)
		Exam 4	**Tuesday, Nov 22 (Chapter 4 & 10)**
		10.7	Partial Fractions (Cases #3 & #4)
13	Nov 28 - Dec 1	(1.9) & 11.2	(Circles) & Ellipses
		11.3	Hyperbolas
		11.1	Parabolas
		11.4	Shifted Conics
14	Dec 5 - 8	12.1	Sequences & Sigma Notation
		12.2	Arithmetic Sequences
		12.3	Geometric Sequences
			Quiz 5
15	Dec 12 - 15	12.6	The Binomial Theorem
		12.6	Pascal's Triangle
		Review	Chapters 1-4, 10 & 11
	Monday, Dec 19th	**Final Exam**	Time: 2:45 - 4:45 PM Room: SCI A208 (Our classroom)