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		
	Time	Days	Time	Days	Room
Office: B348 SCI	1:00 – 1:45 PM	TU,WE, TH	2:00 - 2:50 PM	MTWR	A207 SCI
email: grenfert@uwsp.edu	*or* *by appointment*				

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 <u>scientific calculator</u> during portions, but not all, of the semester. Graphing calculators may be used at times, but you will <u>not always be allowed to use a calculator</u> 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:

20% **Quizzes** (6 Quizzes, drop 1)	*Tentative Exam Dates:*		
20% **Exam 1**	in-class on	**Thursday, March 1**	
20 % **Exam 2**	in-class on	**Wednesday, March 16**	
20% **Exam 3**	in-class on	**Thursday, April 21**	
20% **Comprehensive Final Exam**	**8 - 10 AM**	**Thursday, May 19**	
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

(*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).

CANVAS   Homework solutions, occasional handouts, grade information, and other class announcements can be found on CANVAS. Some videos will be posted in CANVAS if class is unable to meet.

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 will not be graded, but it is highly recommended that you practice doing 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 help me determine how the class is doing.
<mark>** I post my worked-out solutions to the homework to help if you get stuck.**</mark>

Attendance is expected at every class meeting. If you become ill, I expect you to make a reasonable effort to keep up with was taught by checking CANVAS, following in your book, and making every attempt to do the homework. If a serious illness or emergency cause you to miss class on the day of a Quiz or Exam, it is necessary that you inform me as soon as possible of your situation. No graded Quizzes or Exams will be returned to students until it is determined if and when absent students be allowed to make up the Quiz or Exam.
<mark>** Missing class on the day of a Quiz or Exam could likely result in a score of zero! **</mark>
If there are extenuating circumstances, let me know as soon as possible.

Quizzes are worth 20 points each and should take no more than 15-20 minutes. Quizzes will usually occur at the end of the class period, after a short lesson has been taught. Quizzes give you an opportunity to get feedback on your work for the types of questions I deem important. There are no retakes allowed on Quizzes.

Exams are worth 100 points and will take the entire class period. You may not have extra time to complete an exam unless you have applied for and been granted accommodations through the DATC office (see procedure below). There are no retakes allowed on Exams.

Incompletes: A course grade of "Incomplete" may be given if circumstances arise which are beyond the student's control and the student is unable to complete the course. However, the student must have had a passing grade in the course when the circumstances arose.   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 and Assistive Technology Center website: https://www.uwsp.edu/datc/Pages/default.aspx

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 DATC 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

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

STEM Tutoring

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

- The **STEM Drop-In Tutoring Center in CBB 190** opens on <mark>Monday, January 31</mark>. Students do not need to make an appointment or register in advance; they can simply "drop-in" when there are tutors available for their class. The drop-in schedule can be found here and will be posted by the 1st week of class. Please note that we are not able to offer this service virtually.

- **STEM One-on-One Tutoring** begins on <mark>Monday, January 31</mark>. 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. Students may request in-person or virtual appointments, but availability of virtual appointments may be limited.

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 ALB 018 (library basement), email (tlctutor@uwsp.edu), or call (715) 346-3568.

STEM Tutoring – Spring 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	ALB 018 or Virtual*	By appointment. Complete online request form here: https://www.uwsp.edu/tlc/Pages/Mathandscischedules.aspx	Free

Availability of virtual tutoring appointments may be limited

G. Renfert --- Spring 2022	Monday	Tuesday	Wednesday	Thursday	* Friday
8:00 - 8:50					
9:00 - 9:50					
10:00 - 10:50	Math 109.2 SCI A210	Math 109.2 SCI A210	Math 109.2 SCI A210	Math 109.2 SCI A210	
11:00 - 11:50	Math 109.1 SCI A208	Math 109.1 SCI A208	Math 109.1 SCI A208	Math 109.1 SCI A208	
12:00 - 12:50		Lunch			
1:00 - 1:50		Office Hour	Office Hour	Office Hour	
2:00 - 2:50	Math 118.1 SCI A207	Math 118.1 SCI A207	Math 118.1 SCI A207	Math 118.1 SCI A207	
3:00 - 3:50					

Week	Dates	Sections	Topic
1	January 24 - 27	1.1	Introduction; Real Numbers
		1.2	Exponents
		1.2	Radicals
		1.3	Algebraic Expressions
2	Jan 31 - Feb 3	1.4	Rational Expressions
		1.5	Equations
		1.8	Inequalities
		1.8	The Boundary Point Method
3	February 7 - 10	1.9	The Coordinate Plane; Graphs of Equations; Circles
		1.10	Lines
		1.11	Solving Equations & Inequalities Graphically
		2.1 & **Quiz 1**	Functions; **Quiz 1**
4	February 14 - 17	2.2	Graphs of Functions
		2.3	Getting Information from the Graph of a Function
		2.4	Average Rate of Change of a Function
		2.5	Linear Functions & Models
5	February 21 - 24	2.6	Transformation of Functions
		2.7	Combining Functions
		2.8	One-to-One Functions & Their Inverses
		2.8 & **Quiz 2**	One-to-One Functions & Their Inverses; **Quiz 2**
6	Feb 28 - March 3	Review	Review Chapter 1-2
		Exam 1	**Tuesday, March 1**
		3.1	Quadratic Functions & Models
		3.2	Polynomial Functions & Their Graphs
7	March 7 - 10	3.3	Dividing Polynomials
		3.4	Real Zeros of Polynomials
		3.6	Rational Functions
		3.6 & **Quiz 3**	Rational Functions (continued); **Quiz 3**
8	March 14 - 17	3.7	Polynomial & Rational Inequalities
		Review	Review Chapter 3
		Exam 2	**Wednesday, March 16**
9	March 28 - Apr 1	4.1	Exponential Functions
		4.2	The Natural Exponential Function
		4.3	Logarithmic Functions
		4.4	Laws of Logarithms
10	April 4 - 7	4.5	Exponential & Logarithmic Equations
		4.5 & **Quiz 4**	Exponential & Logarithmic Equations (continued); **Quiz 4**
		10.1	Systems of Linear Equations in Two Variables
		10.2	Systems of Linear Equations in Severable Variables
11	April 11 - 14	10.7	Partial Fractions
		10.3	Matrices & Systems of Linear Equations **(Graphing Calculator)**
		Quiz 5	**Quiz 5**
12	April 18 - 21	10.7	Partial Fractions
		Review	
		Exam 3	**Thursday, April 21**
13	April 25 - 28	Chpt 11 & 1.9	Intro to the Conic Sections; Circles
		11.2	Ellipses
		11.3	Hyperbolas
		11.1	Parabolas
14	May 2 - 5		Completing the Square
		11.4	Shifted Conics
		12.1	Sequences & Sigma Notation
		12.2	Arithmetic Sequences
15	May 9 - 12	12.3	Geometric Sequences
		12.6	The Binomial Theorem
		Quiz 6	**Quiz 6**
		Review	Chapters 1-4, 10 & 11
	Thurs, May 19th	**Final Exam**	**Time:** 8:00 - 10:00 AM **Room:** SCI A207 (Our classroom)