Precalculus I
MTH 129-001
Fall 2020
Sugar Grove Campus, APC 110 B/C
MW 8am-9:15am

Instructor Contact Information and Availability

Name and Title:	Dr. Steve Kifowit, Instructor of Mathematics (Pronouns: He/Him/His)
Waubonsee Email:	skifowit@waubonsee.edu
Office Location:	Sugar Grove Campus, BDE 249
Office Hours:	Sugar Grove Campus, BDE 249 -- MW 9:30am-10:30am, TTh 11am-12pm, or by appt. Aurora Downtown Campus, DWNTN 356 -- MW 3:30pm-4pm or by appt.
Phone Number:	(630) 466-6698
Preferred Contact Method:	Email or in-person
Response Time:	During weekdays, please allow for up to 24 hours for email response.

Course Description

This course is designed to provide the STEM student with basic algebraic concepts needed to continue on to MTH 131 (Calculus with Analytic Geometry I). Topics include: real numbers, complex numbers, algebraic methods to find solutions of inequalities and equations, coordinate systems, functions, polynomials, rational functions, radical functions, absolute value of functions, and graphing and transformations of functions. While there may be overlap with topics from College Algebra, this course develops these topics in a rigorous manner and should not be considered equivalent to Algebra for Business and Social Science (MTH 109).

Prerequisite(s)

MTH 072 (Intermediate Algebra II) and MTH 075 (Elementary Geometry), both with C's or better, or placement by appropriate measures

Illinois Articulation Initiative (IAI) Code

None

Course Materials

Textbook (optional)

Coburn & Coffelt (2014). *College Algebra* (3rd ed.). McGraw-Hill, ISBN: 9781264340347.

Class Materials and Resources (required)

1. ALEKS access w/ Coburn & Coffelt *College Algebra* (3rd ed.) ebook
2. Graphing scientific calculator

(Unless you opt out, the cost of ALEKS access is included in your course fees as part of Waubonsee's MyMaterials Inclusive Access program. The TI 83/84Graphing Calculator is the recommended calculator for this course.)

Important Class Notes

Students planning to take Calculus for Business and Social Science (MTH 211) should NOT register for this course. This course does not fulfill the mathematics requirement for some Associate's Degree programs.

Recommended Corequisite: MTH 130 (Precalculus II)

Course Delivery Mode: Face-to-face

Credit Hours: 3.0

Course Objectives

Throughout this course, the student will learn to:

1. determine the domain and range of a function;
2. calculate and interpret the slope of a linear function;
3. solve linear equations;
4. perform regression for the purpose of mathematical modeling;
5. compute and analyze sums, differences, products, quotients, and compositions of functions;
6. complete the square of a quadratic expression;
7. use factoring and the quadratic formula to solve quadratic equations;
8. analyze the graph of a quadratic function including its intercepts, vertex, and end behavior;
9. perform transformations on functions;
10. identify key features of functions including symmetry, intercepts, maxima, and minima;
11. solve equations involving absolute value, radicals, polynomials, and rational expressions;
12. factor higher-order polynomials using techniques such as division and the Rational Zeros Theorem;
13. determine key features of the graphs of rational functions including asymptotes, intercepts, and end behavior.

Student Learning Outcomes

Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. solve equations using algebraic methods; and
2. explain the behavior of polynomial, rational, radical, and absolute value functions.

College Learning Outcomes

This course contributes to the following college learning outcomes:

☒ Critical Thinking
Examine information in order to propose or develop solutions or construct arguments.

☐ Communication
Use clear language to communicate meaning appropriate to various contexts and audiences.

☒ Quantitative Literacy
Make judgments or draw appropriate conclusions based on the quantitative analysis of data.

☐ Global Awareness
Describe the interconnectedness of issues, trends or systems using diverse perspectives.

☐ Information Literacy
Use technology to ethically research, evaluate or create information.

Methods of Evaluation of Student Learning, Grading Criteria, and Scale

Your performance in this course will be evaluated based on the following components:

Grading Criteria

Total points: 500

Grading Components	Score	Quantity	Subtotal	Percent
Tests	100	3	300 points	60%
Weekly ALEKS Homework	varies	15	100 points	20%
Comprehensive Final Exam	100	1	100 points	20%

Grading Scale

A ≥ 89.50% B ≥ 79.50% C ≥ 69.50% D ≥ 59.50% F < 59.50%

You can estimate your current grade at any time during the semester by computing the following percentage: 100% * (Total points accumulated) / (Total points possible). Please feel free to

discuss your grade at any time during the semester. Throughout the semester, current grades will be available in our Canvas course shell.

Attendance, late work, and make-up policy

Regular class attendance is an essential component of successful learning. Students are responsible for prompt attendance and participation in all class meetings. If you miss class, you will not be allowed to make up any tests, quizzes, or assignments that you may have missed (**but you may reschedule a test or quiz, or submit an assignment, in advance of a missed class period**). All material covered in class is the student's responsibility.

Description and Details of Assignments

ALEKS Homework

We will be using the ALEKS web-based learning system for this course. Using this system, you will be doing most of your serious learning outside of the classroom. In class, we will have typical discussion, lecture, and problem solving, but you are responsible for using the ALEKS program (outside of class) to determine your initial knowledge base and to work through your "pie".

Work on your ALEKS Topics ("pie") is worth 20% of your grade (a total of 100 points). Weekly ALEKS work is due on Sunday evenings at 11:59pm (except for week 15). **There will be no extensions. Past-due work must be completed in order for you to make progress, but you will not get credit for it.** You must complete the Initial Knowledge Check as soon as possible. Week 1 Topics are due Sunday, August 30.

The required ALEKS materials for this course are delivered through the MyMaterials (Inclusive Access) Program and are available immediately. The MyMaterials program is offered through the Bookstore to ensure that students receive the best price available for their course materials. To access your materials, login to CANVAS and access your course.

When you registered for the course, a charge for the materials was automatically placed on your student account. If you drop the course within the add drop period, the charge for MyMaterials will be credited to your account. If you would like to purchase an optional print loose-leaf text, they will be available in the bookstore at a discounted price. If for any reason you would like to opt out of the Inclusive Access Program you have the option to do so.

Tests

Test problems will be similar to class examples, textbook problems, and ALEKS problems. In addition to computational problems, tests may include multiple choice, true/false, short answer, and/or writing problems. You must show all work on all tests to receive full credit. **You must work individually on all tests.** No make-up tests will be given (unless scheduled prior to the

test). At the end of the semester, your lowest test score will be replaced by your final exam score (if this helps you).

Final Exam

The final exam is comprehensive and will be worth 100 points toward your final grade. The final exam is scheduled for our last class period.

Calculators

The TI-83/84 graphing calculator is required for this course. There are graphing calculator emulators available for smart phones and tablets--you may you these during class periods, but not during tests. If you would like to use a graphing calculator other than the TI-83/84, please discuss your options with your instructor.

Phones/Tablets/Laptops

Electronic devices may be used for taking notes and computing during lectures, but they may not be used on in-class tests. These devices must be silenced and put away during tests. Students in special circumstances who require their phones to be readily available must discuss their situations with the instructor.

Institutional Policy

Withdrawal

Waubonsee Community College reserves the right to administratively withdraw students who are not actively attending.

Students may withdraw themselves from this course until the date noted on the Tuition Refunds page.

*** Please see the Student Handbook for other course policies and procedures.

Institutional Statements

Academic Integrity

Waubonsee Community College believes that all members of the community (students, faculty, staff, and administrators) have a responsibility to participate in learning with honesty, respect, and integrity. We must commit to engage in learning both in and out of the classroom, value each member in our learning community, demonstrate original thought, and help foster ethical, open, safe learning environments for all. For more information, please see the Waubonsee Community College Plagiarism Statement section in the Student Handbook.

Accessibility and Disability Statement

Accessibility is a value of our institution. We are committed to creating environments that are welcoming and that support all students' learning. If you experience barriers to your learning in this course please notify the instructor as soon as possible to discuss options. Students who experience barriers due to disability may contact the Access Center for Disability Resources to begin this conversation or establish accommodations.

Plagiarism

Waubonsee firmly upholds sound principles of academic integrity and responsibility. Plagiarism and cheating are serious infractions of academic integrity, and, as such, are considered breaches of the Code of Student Conduct. If a student has violated this policy, I will report the infraction to the Dean for Student Success and Retention and the student may fail the assignment or the course, depending on the severity or the number of infractions.

Student Support Services and Resources

Waubonsee Community College is committed to your success, and has many free supports, services, and resources available to you. Please see the Student Experience page for more information and to get connected with Academic Support, Career Development, Counseling and Advising, Disability Resources, Student Life, Student Services, Technical Assistance Center, the Veterans Program, and many more! If you're not sure what type of assistance you need, please talk to me and I will help get you connected.

Course Schedule

Week (Date)	**Sections**	**Topics & Assignments**
Week 1 Aug 24 & Aug 26	Course Information, Sections 1.1 & 1.2	Linear equations and inequalities (ALEKS Topics due 8/30.)
Week 2 Aug 31 & Sep 2	Sections 1.2 & 1.3	Linear & absolute value equations and inequalities (ALEKS Topics due 9/6.)
Week 3 Sep 9	Sections 1.4 & 1.5	Complex numbers, Quadratic equations (ALEKS Topics due 9/13.) **No class on Sep 7.**
Week 4 Sep 14 & Sep 16	Sections 1.5 & 1.6	Quadratic and other equations (ALEKS Topics due 9/20.)
Week 5 Sep 21 & Sep 23	Section 1.6, **Test 1**	Test 1 covers sections 1.1-1.6 (ALEKS Topics due 9/27.)
Week 6 Sep 28 & Sep 30	Section 2.1	Rectangular coordinates (ALEKS Topics due 10/4.)
Week 7 Oct 5 & Oct 7	Sections 2.2 & 2.3	Graphs and forms of linear equations (ALEKS Topics due 10/11.)
Week 8 Oct 12 & Oct 14	Section 2.4	Functions (ALEKS Topics due 10/18.)

Week (Date)	Sections	Topics & Assignments
Week 9 Oct 19 & Oct 21	Section 2.5, **Test 2**	Analyzing graphs (ALEKS Topics due 10/25.) Test 2 covers sections 2.1-2.5.
Week 10 Oct 26 & Oct 28	Section 3.1	Functions and transformations (ALEKS Topics due 11/1.)
Week 11 Nov 2 & Nov 4	Sections 3.1, 3.2, & 3.4	Common types of functions (ALEKS Topics due 11/8.)
Week 12 Nov 9 & Nov 11	Sections 3.5 & 3.6	Operations on functions, Modeling (ALEKS Topics due 11/15.)
Week 13 Nov 16 & Nov 18	Section 4.1, **Test 3**	Quadratic functions (ALEKS Topics due 11/29.) Test 3 covers sections 3.1-3.6.
Nov 23 & Nov 25	Thanksgiving Break	**No class**
Week 14 Nov 30 & Dec 2	Sections 4.2, 4.3, & 4.4	Polynomials: Zeros and graphing (ALEKS Topics due 12/6.)
Week 15 Dec 7 & Dec 9	Sections 4.5 & 4.6	Rational functions, Polynomial and rational inequalities (ALEKS Topics due 12/18.)
Week 16 Dec 14 & Dec 16	Review, **Final Exam**	Final exam is comprehensive with emphasis on course learning outcomes

November 13 is the last day for students to withdraw themselves. Please check the current Waubonsee Academic Calendar for important dates.

Class Website

Course information, including tests and answer keys, can be found on the class website at http://stevekifowit.com/classes/m129.htm.

Grades will be posted in our Canvas course shell. All other course information will be available on the class website.

Change of Delivery Mode

In the unlikely event that we must permanently discontinue our face-to-face class meetings, we will automatically transition to a synchronous online delivery mode. In this case, we will meet electronically at our scheduled days and times, and assignments will be submitted online.