



Precalculus I, MTH 129-002
Fall 2019

Aurora Downtown, DWNTN 315
MW 12:30pm-1:45pm

Instructor

Name: Steve Kifowit

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Office Location: Sugar Grove, BDE 249

Office Hours:

Sugar Grove, BDE 249, MW 9:30am-10:30am, TTh 11:00am-12:00pm

Aurora Downtown, DWNTN 356, MW 12:00pm-12:30pm

Course Materials

| Required Materials | Cost |
|--|-------------|
| Text: ALEKS access w/ College Algebra ebook, 3rd edition, Coburn | About \$126 |
| Calculator: TI-83/84 Graphing Calculator | About \$100 |

| Optional Materials | Cost |
|--|-------------|
| Hardcopy of textbook: ALEKS access w/ College Algebra, 3rd edition, Coburn | About \$300 |

Disclaimer

This course syllabus and schedule are subject to change. Updates and other revisions to course policies will be communicated in class, on the class website, and/or via college (waubonsee.edu) email.

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).

Important Course 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.

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

Recommended Corequisite: MTH 130 (Precalculus II)

Course Delivery Mode: Face-to-face

Course IAI Code: None

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;

Course Objectives (continued)

- 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.

Course 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 purpose 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.

Course Grade Calculation

Total Points: 500 points

| 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 --- 90% and above
- B --- 80% - 89%
- C --- 70% - 79%
- D --- 60% - 69%
- F --- below 60%

You may estimate your current grade at any time during the semester by computing the following percentage: $100\% * (\text{Total points accumulated}) / (\text{Total points possible})$. Please feel free to discuss your grade at any time during the semester. **Final percentages will be rounded to the nearest whole number.** Throughout the semester, grades will be posted online in Blackboard.

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.

Withdrawal

Waubonsee Community College reserves the right to administratively withdraw students who are not actively attending. Students may withdraw themselves from this course up through November 25. Visit the [Tuition Refunds](#) page of the WCC website for more details.

ALEKS Homework

We will be using the ALEKS computer system for this course. Using this program, 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. **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 obtain your ALEKS access code, register, and complete the Initial Knowledge Check as soon as possible. Week 1 Topics are due Sunday, Aug 25. If you cannot immediately purchase your access code, you can obtain a Financial Aid Access Code for temporary (2-week) access to ALEKS. (Request the code from your instructor.) Temporary access cannot be extended, and it does not lengthen the term of your normal access.

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 counts for 20% of your grade. Please take it seriously! 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 use these during class periods, but not during tests.

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.

Important Institutional Policies

Diversity 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.

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](#).

Cheating/Plagiarism Policy

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.

*** Please see the [Student Handbook](#) for other course policies and procedures.

Resource Links

The following are useful resources that are available to students at Waubonsee Community College:

- [Access Center for Disability Resources](#)
- [Bursar](#)
- [Campus Police and Authority](#)
- [Career Development Center](#)
- [Counseling, Advising and Transfer Center](#)
- [Financial Aid and Scholarships](#)
- [Learning Assessment and Testing Services](#)
- [Library](#)
- [Online Support for Students](#)
- [Registration and Records](#)
- [TRIO/Student Support Services](#)
- [Tutoring Centers](#)

Class Website

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



Grades will be posted in Blackboard. All other course information will be available on the class website.

Course Schedule

| | | | |
|---------|-----------------|--|---|
| Week 1 | Aug 19 & Aug 21 | Course Information, Sections 1.1 & 1.2 | Linear equations and inequalities (ALEKS Topics due 8/25.) |
| Week 2 | Aug 26 & Aug 28 | Sections 1.2 & 1.3 | Linear & absolute value equations and inequalities (ALEKS Topics due 9/1.) |
| Week 3 | Sep 4 | Sections 1.4 & 1.5 | Complex numbers, Quadratic equations (ALEKS Topics due 9/8.) No class on Sep 2. |
| Week 4 | Sep 9 & Sep 11 | Sections 1.5 & 1.6 | Quadratic and other equations (ALEKS Topics due 9/15.) |
| Week 5 | Sep 16 & Sep 18 | Section 1.6, Test 1 | Test 1 covers sections 1.1-1.6 (ALEKS Topics due 9/22.) |
| Week 6 | Sep 23 & Sep 25 | Section 2.1 | Rectangular coordinates (ALEKS Topics due 9/29.) |
| Week 7 | Sep 30 & Oct 2 | Sections 2.2 & 2.3 | Graphs and forms of linear equations (ALEKS Topics due 10/6.) |
| Week 8 | Oct 7 & Oct 9 | Section 2.4 | Functions (ALEKS Topics due 10/13.) |
| Week 9 | Oct 14 & Oct 16 | Section 2.5, Test 2 | Analyzing graphs (ALEKS Topics due 10/20.) Test 2 covers sections 2.1-2.5. |
| Week 10 | Oct 21 & Oct 23 | Section 3.1 | Functions and transformations (ALEKS Topics due 10/27.) |
| Week 11 | Oct 28 & Oct 30 | Sections 3.1, 3.2, & 3.4 | Common types of functions (ALEKS Topics due 11/3.) |
| Week 12 | Nov 4 & Nov 6 | Sections 3.5 & 3.6 | Operations on functions, Modeling (ALEKS Topics due 11/10.) |
| Week 13 | Nov 11 & Nov 13 | Section 4.1, Test 3 | Quadratic functions (ALEKS Topics due 11/17.) Test 3 covers sections 3.1-3.6. |
| Week 14 | Nov 18 & Nov 20 | Sections 4.2, 4.3, & 4.4 | Polynomials: Zeros and graphing (ALEKS Topics due 12/1.) |
| ***** | Nov 25 & Nov 27 | Thanksgiving Break | No Class |
| Week 15 | Dec 2 & Dec 4 | Sections 4.5 & 4.6 | Rational functions, Polynomial and rational inequalities (ALEKS Topics due 12/13.) |
| Week 16 | Dec 9 & Dec 11 | Review, Final Exam | Final exam is comprehensive with emphasis on course objectives |

November 25 is the last day for students to withdraw themselves. Please check the current Waubonsee [Academic Calendar](#) for other important dates.

Waubonsee Community College Campus Information:

Sugar Grove Campus

Route 47 at Waubonsee Drive
 Sugar Grove, IL 60554-9454
 (630) 466-7900

Aurora Downtown Campus

18 South River Street
 Aurora, IL 60506-4178
 (630) 801-7900

Aurora Fox Valley Campus

2060 Ogden Avenue
 Aurora, IL 60504-7222
 (630) 585-7900

Plano Campus

100 Waubonsee Drive
 Plano, IL 60545-2276
 (630) 552-7900