Central Connecticut State University
Department of Mathematical Sciences
Math 116 – Precalculus
Fall 2021

Professor: Wojciech Kolc
Email: kolc_wo@ccsu.edu

Office: MS 211
I check my e-mail frequently!

Office Hours: TR 4:00 – 4:25 pm MS 211 or MS 219
TR 8:05– 9:40 pm MS 211 or MS 219
Office Hour locations & times are subject to change. Check Blackboard for the most up-to-date information.

Class Meetings: TR 4:30 pm – 5:45 pm in WD W205

Attendance will be taken!!

Prerequisite: MATH 103 (College Algebra) with a grade of C– or higher or Placement Examination (Level 3). No credit given to students with credit for MATH 119, 124, 125, 135 or 152.

Calculator Use: The recommended calculator for this course is the TI-84+. Similar calculators such as the TI-83, TI-83+, TI-84, and TI-86 are also acceptable and may be used for the calculator active section of each examination. Calculators with a symbolic capability such as the TI-89 and TI-92 are not allowed on examinations at all. Telephone calculators are not permitted in class or on examinations. If you are wondering whether your calculator is acceptable, please ask.

Cell phones and other communication devices: Must be turned off and put away at all times during class. No texting allowed in class.

To Register for MyMathLab: www.mymathlab.com
Student: Register now
Course ID: kolc64355

University Policies:
1. You must take the final cumulative examination at the time specified by the University Exam Schedule: Tuesday, December 14, 5:30-7:30 pm.
2. If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible. My e-mail and office hours are given above. I will need a copy of the accommodation letter from Disability Services in order to arrange your class accommodations. Contact Disability Services, room 201, Willard-DiLoreto Hall, if you are not already registered with them. Disability Services maintains the confidential documentation of your disability and assists you in coordinating reasonable accommodations with your faculty.
3. All students are expected to demonstrate integrity in the completion of their coursework. Academic integrity means doing one's own work and giving proper credit to the work and ideas of others. It is the responsibility of each student to become familiar with what constitutes academic dishonesty and plagiarism and to avoid all forms of cheating and plagiarism. Students who engage in plagiarism and other forms of academic misconduct will face academic and
possibly disciplinary consequences. Academic sanctions can range from a reduced grade for the assignment to a failing grade for the course. From a disciplinary standpoint, an Academic Misconduct Report may be filed and a Faculty Hearing Board may impose sanctions such as probation, suspension or expulsion. For further information on academic misconduct and its consequences, please consult the Student Code of Conduct (http://www.ccsu.edu/StudentConduct) and the Academic Misconduct Policy (http://www.ccsu.edu/AcademicIntegrity). This policy is rigorously enforced by the Department of Mathematical Sciences.

4. **November 17**: Last day to withdraw from full semester courses without permission.

**Course Overview**

**Course Description**: This course is a pre-requisite for Calculus I (MATH 152). Calculus I is required for students pursuing a BA in mathematics or a BS with certification to teach secondary school mathematics. In addition it is required for students majoring in computer science, earth science, chemistry, and physics and for students in the engineering transfer program. This course is also suited for students who are pursuing an elementary mathematics major (BS). Other students may elect this course to fulfill a general education requirement in Skill Area II. Students required to take both MATH 115 and MATH 116 may elect instead to take MATH 119, Pre-Calculus with Trigonometry, a four credit course. Properties of the real numbers, relations and functions, exponential and logarithmic functions, polar coordinates and vectors, systems of equations and inequalities, and analytic geometry are covered in MATH 116.

The major goals of this course are to prepare students for further study in mathematics, particularly calculus, in particular to:

a. solidify students’ knowledge of a wide range of functions, specifically exponential, power, periodic, polynomial, logarithmic, and rational functions

b. teach students how to apply their knowledge in a range of real world applications

c. introduce students to a range of approaches to tackle mathematical notions, specifically symbolic, graphical, numerical, and verbal

d. better prepare students for calculus.

**Class Schedule**

<table>
<thead>
<tr>
<th>Wk 0-1</th>
<th>Overview of Course Outline Review Elem Algebra</th>
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<tr>
<td></td>
<td>Online homework will be available after each class, and is due every Tuesday 4:00 pm.</td>
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<tr>
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<td><strong>Written</strong> homework will be assigned in class (will be posted on BlackboardLearn as well) and is to be submitted every Tuesday at 4:30 pm.</td>
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<td><strong>Note</strong>: You are responsible for being able to solve all problems in the problem sets of the chapters that are covered in this class. Material covered in all problems will be included on exams.</td>
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<tr>
<td></td>
<td>Sections A1, A3, A5</td>
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| Wk 2 | Functions and Lines |
|      | Sections 1.4, 2.1 |

| Wk 3 | Families of Functions |
|      | Sections 2.4 |

| Wk 3 | Graphs of Function |
|      | Sections 2.2 - 2.3 |
Transformations

Wk 4 Mathematical Models & Review

Sections 2.5

Sections 2.6

September 23 (Thursday) Exam #1

Wk 5 Linear Modeling Sections 3.1, 3.2
Quadratic Functions Section 3.3

Wk 6 Quadratic Modeling Section 3.4
Polynomial Functions Section 4.1

Wk 7 Zeros of Polynomial Functions & Synthetic Division Sections 4.2, A3, A4
Complex #'s Section A7

Wk 8 Complex Zeros & Review Section 4.3

October 22 (Thursday) Exam #2

Wk 9 Rational Functions Section 4.4
Rational Functions cont. Section 4.5

Wk 10 Composite Functions Section 5.1
Inverse Functions Section 5.2

Wk 11 Exponential Functions Section 5.3
Logarithmic Functions Section 5.4

Wk 12 Properties of Logarithms & Review Section 5.5, 5.6

November 18 (Thursday) Exam #3

Wk 13 Applications of logarithms and Thanksgiving Break

Wk 14 Applications of Logarithms Section 5.7
e and Natural Logs Sections 5.7, 5.8

Wk 15 Introduction to Limits Sections 14.1, 14.5
• When unforeseen circumstances arise, it may be necessary to alter this schedule.

**Grading:**

- Examinations: 45% (15% each)
- Class attendance and participation: 15%
- Homework: 20%
- Final Exam: 20%

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<tr>
<th>Grade</th>
<th>Percentage</th>
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<tr>
<td>A</td>
<td>93%</td>
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<tr>
<td>B+</td>
<td>87%</td>
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<tr>
<td>C+</td>
<td>77%</td>
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<tr>
<td>D+</td>
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<td>A-</td>
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<td>B</td>
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<td>C</td>
<td>73%</td>
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<td>B-</td>
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<td>C-</td>
<td>70%</td>
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<tr>
<td>D-</td>
<td>60%</td>
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**Course Requirements:** Attend and participate in class regularly; complete homework assignments; take quizzes and tests, as scheduled. A general rule for any college course is that you are expected to put in at least 2 hours of work outside of class for every hour in class. **For this course, the expectation is at least 6 hours of work per week outside of class.**

**Make-Up Policy:** There is NO make-up policy. If you miss any assignments, or tests you will NOT be able to make them up unless extraordinary circumstances appear (e.g. certified illness, death in the family, religious observances). If this happens, contact me immediately.
Student Registration Instructions

To register for Math 116:

2. Under Register, select Student.
3. Confirm you have the information needed, then select OK! Register now.
4. Enter your instructor’s course ID: kolo64355, and Continue.
5. Enter your existing Pearson account username and password to Sign In.
   You have an account if you have ever used a MyLab or Mastering product.
   If you don’t have an account, select Create and complete the required fields.
6. Select an access option.
   • Enter the access code that came with your textbook or that you purchased separately from the bookstore.
   • If available for your course,
     • Buy access using a credit card or PayPal.
     • Get temporary access.
   If you’re taking another semester of a course, you skip this step.
7. From the You’re Done! page, select Go To My Courses.
8. On the My Courses page, select the course name Math 116 to start your work.

To sign in later:

2. Select Sign In.
3. Enter your Pearson account username and password, and Sign In.
4. Select the course name Math 116 to start your work.

To upgrade temporary access to full access:

2. Select Sign In.
3. Enter your Pearson account username and password, and Sign In.
5. Enter an access code or buy access with a credit card or PayPal.