Math 104, Precalculus, 4 credits
Semester 1 and 2 course
Instructor: James Schwab
Room: 114
Phone: (608) 862 - 3135 X2114
Email: james.schwab@albany.k12.wi.us

Required Texts:

Scientific Calculator Requirement:
A scientific calculator is required for this course. Students who desire may purchase a graphing calculator, but this is not required. The recommended calculator is TI36X PRO Scientific Calculator.

Prerequisite: Algebra 2 with a grade of C or better; minimum Math placement scores of Math Basics 376, Algebra 446, and Trigonometry 150; Minimum ACT of 24.

Course description:
In this course, we will cover topics including functions, graphs, data analysis and modeling of real world problems, equations and inequalities, polynomial, rational functions, exponential and logarithmic functions, basic circular functions and their inverses, trigonometric identities and equations, triangle trigonometry, law of Sines and law of Cosines.
Methods of Evaluation

Tests:
Tests will be given at the midterm and end of each quarter. All tests are cumulative, meaning ALL material covered in the course up to a test may be assessed. Tests will always be announced at least four (4) days in advance. Tests will always contain problems that require you to defend your results using standard written language and mathematical language. All tests will have calculator and non-calculator sections. Reference materials (notes, textbook, assignments, etc…) will NOT be allowed to be used during tests. Tests will comprise 50% of your quarter grade.

Quizzes:
Quizzes will be given periodically throughout each unit. Quizzes will be composed of roughly fifty percent current topics and fifty percent review topics. Quizzes may not be retaken to improve your UW Oshkosh grade but may be retaken to improve your high school grade. Reference materials (notes, textbooks, assignments) may be used on ALL quizzes. Quizzes will be 40% of your quarter grade.

Assignments, Homework, Investigations:
Problem sets will be assigned 3 to 4 times per week. It is the student’s responsibility to make any arrangements to turn in homework if they are absent for a due date. Late work will not be accepted. The homework is designed to support the formulation of student understanding of the content. Homework will be 10% of your quarter grade.

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<tr>
<th>Term Grade Calculation</th>
<th>Semester Grade Calculation</th>
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<tbody>
<tr>
<td>● 10% Homework</td>
<td>● 45% Quarter 1</td>
</tr>
<tr>
<td>● 40% Quizzes</td>
<td>● 45% Quarter 2</td>
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<tr>
<td>● 50% Tests</td>
<td>● 15% Semester Final</td>
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<tr>
<th>CAPP Grade Calculation</th>
<th>Grading Scale:</th>
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<tbody>
<tr>
<td>● 50% Semester 1</td>
<td>UW Green Bay Grading Scale</td>
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<tr>
<td>● 50% Semester 2</td>
<td>100 – 92 = A</td>
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<td></td>
<td>91 – 89 = AB</td>
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<td>89 – 82 = B</td>
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<td>81 – 79 = BC</td>
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<td>78 – 70 = C</td>
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<td>69 – 60 = D</td>
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<td>Below 60 = F</td>
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Course policies
Academic Integrity Policy: Integrity is one of the Core Values of UW Oshkosh. All students and faculty share the responsibility for academic honesty and integrity. The University expects its
students to do their own academic work. In addition, it expects active participation and equitable contributions of students involved in group assignments. The following acts of academic dishonesty are not acceptable:

- **Cheating**: using or attempting to use unauthorized materials, information, or study aids in any academic exercise (e.g. an exam).
- **Facilitating Academic Dishonesty**: helping or attempting to help another to commit academic dishonesty (e.g. allowing another to copy from your test or use your work).
- **Plagiarism**: representing the words or ideas of another as one’s own in any academic exercise (e.g. failing to cite references appropriately or taking verbatim from another source), whether it is done with the intention of being dishonest or not.
- **Fabrication**: unauthorized falsification or invention of any information or citation in an academic exercise (e.g. a paper reference).

Cheating on an exam, plagiarizing or any other form of academic dishonesty will be dealt with in accordance with the current UWO Student Discipline Code. The instructor reserves the right to assign a grade of F for the course should circumstances warrant.
Course content

· Semester 1
Chapter 1: Topics from Algebra
1-1: Real Numbers
1-2: Exponents and Radicals
1-3: Algebraic Expressions
1-4: Equations
1-5: Complex Numbers
1-6: Inequalities
1-7: Rectangular Coordinate Systems
1-8: Lines

Chapter 2: Functions
2-1: Definition of Function
2-2: Graphs of Functions
2-3: Quadratic Functions
2-4: Operations on Functions
2-5: Inverse Functions
2-6: Variation

Chapter 3: Polynomial and Rational Functions
3-1: Polynomial Functions of Degree Greater Than 2
3-2: Properties of Division
3-3: Zeros of Polynomials
3-4: Complex and Rational Zeros of Polynomials
3-5: Rational Functions
Additional Section: Function Discontinuities

Chapter 4: Exponential and Logarithmic Functions
4-1: Exponential Functions
4-2: The Natural Exponential Function
4-3: Logarithmic Functions
4-4: Properties of Logarithms
4-5: Exponential and Logarithmic Equations

Chapter 9: Sequences, Series, and Probability
9-1: Infinite Sequences and Summation Notation
9-2: Arithmetic Sequences
9-3: Geometric Sequences
9-4: Mathematical Induction
9-5: The Binomial Theorem
Chapter 5: The Trigonometric Functions

5-1: Angles
5-2: Trigonometric Functions of Angles
5-3: Trigonometric Functions of Real Numbers
5-4: Values of Trigonometric Functions
5-5: Trigonometric Graphs
5-6: Additional Trigonometric Graphs
5-7: Applied Problems

Chapter 6: Analytic Geometry

6-1: Verifying Trigonometric Identities
6-2: Trigonometric Equations
6-3: The Addition and Subtraction Formulas
6-4: Multiple-Angle Formulas
6-5: Product-to-Sum and Sum-to-Product Formulas
6-6: The Inverse Trigonometric Functions

Chapter 7: Applications of Trigonometry

7-1: The Law of Sines
7-2: The Law of Cosines
7-3: Vectors
7-4: The Dot Product

Chapter 8: Systems of Equations and Inequalities

8-1: Systems of Equations
8-2: Systems of Linear Equations in Two Variables
8-3: Systems of Inequalities
8-4: Linear Programming
8-5: Systems of Linear Equations in More Than Two Variables

Chapter 10: Topics from Analytic Geometry

10-1: Parabolas
10-2: Ellipses
10-3: Hyperbolas