Course Description: This course covers the following topics:

- Linear and Quadratic Equations
- Radicals
- Exponents and Logarithms
- Rational Expressions
- Systems of Linear Equations
- Functional Notation
- Graphing Functions

Prerequisite: MATH 102 Intermediate Algebra, placement by math placement test or instructor approval.

Course Objectives: The student will be introduced to the topics above which require certain techniques for solutions. We will develop ideas and methods for applying these techniques leading to a solution or resolution of the question. During the course the student will be exposed to the use and application of the graphics calculator in the appropriate areas.

Class Schedule: MTRF 7:45am - 8:35am

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<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
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<tr>
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Instructor: Tracy Chisholm

Office: Thatcher 1104, Learning Center – main floor of Thatcher Hall  
Phone: (701) 228-5601  
E-mail: tracy.chisholm@dakotacollege.edu  
Office Hours: Students are welcome to visit me in my office at any time outside of class. I do not have designated office hours as this is the only class I teach on campus.
Tentative Course Outline:

<table>
<thead>
<tr>
<th>Module</th>
<th>Topics</th>
<th>Module Due</th>
<th>Assessment Due</th>
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</thead>
<tbody>
<tr>
<td>Module 1</td>
<td>Properties of Real Numbers, Algebraic Expressions, Exponents, Factoring Polynomials</td>
<td>Sept. 4</td>
<td>Sept. 6</td>
</tr>
<tr>
<td>Module 2</td>
<td>Radicals &amp; Rational Expressions</td>
<td>Sept. 11</td>
<td>Sept. 13</td>
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<tr>
<td>Module 3</td>
<td>Linear Equations &amp; Inequalities, Absolute Value Equations &amp; Inequalities, Complex Numbers</td>
<td>Sept. 18</td>
<td>Sept. 20</td>
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**TEST:** September 20, 2012

| Module 4   | Solving Quadratic Equations, Solving Other Types of Equations          | Sept. 25    | Sept. 27       |
| Module 5   | Graphing Linear Equations, Rectangular Coordinates, Linear Graphs and Rates of Change | Oct. 2      | Oct. 4         |
| Module 6   | Functions, Function Notation, Graphs of a Function                     | Oct. 9      | Oct. 11        |

**MIDTERM EXAM:** October 12, 2012

| Module 7   | Toolbox Functions & Transformations, Piecewise-defined Functions        | Oct. 23     | Oct. 25        |
| Module 8   | Quadratic Functions, Synthetic Division                                | Oct. 30     | Nov. 1         |
| Module 9   | Zeroes of Polynomial Functions, Graphing Polynomial & Rational Functions | Nov. 6      | Nov. 8         |

**TEST:** November 8, 2012

| Module 10  | One-to-one & Inverse Functions, Exponential Functions, Logarithms & Logarithmic Functions | Nov. 13     | Nov. 15        |
| Module 11  | Properties of Logarithms, Solving Exponential Logarithmic Equations     | Nov. 23     | Nov. 26        |
| Module 12  | Linear Systems in Two Variables, Nonlinear Systems of Equations & Inequalities | Dec. 3      | Dec. 4         |

**FINAL EXAM:** December 6, 2012
**Required Text:** *College Algebra 2nd Edition* by John W. Coburn with ALEKS online learning software; McGraw Hill Publishing

*ALEKS Learning Software Website:* [www.aleks.com](http://www.aleks.com)

ISBN: 0077419774

**Course Requirements:**

The sequential nature of mathematics deems it necessary for students to attend class on a regular basis, therefore one of the course requirements is regular attendance. Grades will be based on completion of the ALEKS MyPie Modules, 4 exams, and progress assessments in ALEKS.

A = 90-100%
B = 80-89%
C = 70-79%
D = 60-69%

**General Education Goals/Objectives:**

- **Goal 2:** Demonstrates knowledge and application of technology.
  - **Objective 2:** Uses electronic resources for course related assignments and information
    - **Skill 1:** Selects appropriate program on the graphing calculator to solve problems

- **Goal 3:** Demonstrates the ability to convert, calculate, and analyze a variety of mathematical problems
  - **Objective 1:** Utilizes mathematical equations to solve problems
    - **Skill 1:** Solves equations and problems using the appropriate method
  - **Objective 2:** Applies practical application of mathematics to everyday life
    - **Skill 3:** Solves word problems
**Relationship to Campus Theme:** The student will use the graphing calculator to model application problems in nature, economics, science, psychology, etc. Communication with others will be emphasized.

**Classroom Policies:** Please refrain from any behavior that would disrupt the class. Cell phones can only be used in emergency situations and they must be turned to vibrate. The academic environment is an open and harassment free environment. Participation is encouraged.

**Academic Integrity:** The academic community is operated on the basis of honesty, integrity and fair play. It is the expectation that all students, as members of the college community, adhere to the highest levels of academic integrity. This means that:

- Students are responsible for submitting their own work. Student work must not be plagiarized.
- Students must not cooperate on oral or written examinations or work together on evaluated assignments without authorization.
- If there is evidence of cheating on an exam the student will receive an F on the respective exam.

**Disabilities and Special Needs:** If you have a disability for which you need accommodation, contact the Learning Center to request disability support services: phone 701-228-5477 or toll-free 1-888-918-5623.