

Bismarck State College

As North Dakota's Polytechnic Institution, Bismarck State College focuses on student success through the delivery of affordable, flexible, high-quality, experiential learning enhanced by public-private partnerships.

Current Semester: Fall 2024

Course: Math 103 – College Algebra

Credit Hours: 4 credit hours

Instructor Contact Information:

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Course Materials:

Required Text with online access: *Algebra & Trigonometry* by Paul Sisson

This can be purchased from the school for \$110. It will be your book for the trigonometry class in the spring as well.

Required Calculator: You must have a graphing calculator, as it will be used extensively. I recommend a TI-83⁺ or TI-84⁺, as this is the model that will be used in video demonstrations.

NOTE: Calculators with a computer algebra system (TI-89, TI-Nspire, etc.), cell phone calculators, and downloadable apps for other electronic devices will not be allowed on exams.

Course Description: This course will cover solutions of linear and quadratic equations and inequalities, graphing functions and relations, polynomial and rational functions, systems of equations and inequalities, exponential and logarithmic functions, and complex numbers. *Prerequisite:* ASC 93, or qualifying ACT or placement score.

Course Outcomes:

Course Learning Outcomes	Program Learning Outcomes OR General Education Outcomes	Institutional Essential Learning Outcomes (IELOs)
Demonstrate algebraic facility with algebraic topics including linear, quadratic, exponential, and logarithmic functions	Select and utilize course content to solve problems at the appropriate level	Evaluative Thought
Produce and interpret graphs of basic functions of these types		Evaluative Thought
Solve equations and inequalities both algebraically and graphically	Model real world problems mathematically. Communicate mathematical results and arguments clearly	Evaluative Thought
Solve and model applied problems		Evaluative Thought

* BSC's institutional assessment framework can be found at

<https://bismarckstate.edu/uploads/13/BSCsInstitutionalAssessmentFramework.pdf>.

Unit Objectives:

As defined by the North Dakota University System, upon completion of the course, the learner will be able to:

1. Demonstrate an understanding of relations and functions as evidenced by classroom activities and objective tests.
2. Work with equations and inequalities as evidenced by classroom activities and objective tests.
3. Work with complex numbers as evidenced by classroom activities and objective tests.
4. Work with rational and polynomial expressions as evidenced by classroom activities and objective tests.
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5. Work with exponential and logarithmic functions as evidenced by classroom activities and objective tests.
6. Solve systems of linear equations as evidenced by classroom activities and objective tests.
7. Create and use matrices to solve systems of equations as evidenced by classroom activities and objective tests.

Active Learning: In addition to educational strategies such as reading, listening, and reflecting, when appropriate this class makes use of learning techniques commonly known as active learning. Students should expect to participate in active learning techniques such as discussions and presentations, small group activities, writing, problem-solving, movement, case studies, role-playing, etc. These activities promote analysis, synthesis, and evaluation of class content in order to improve student learning outcomes.

Assessment Methods: During the course you will be asked to do various assignments from within different groupings which have a different weight. Your final grade will be determined using the following categories.

1. **Homework (30%):** Each section covered will have an associated homework. Homework should be turned in on Fridays each week if you want feedback on it prior to the exam. Homework for the unit are due on the day before the unit exam (for example, homework 1.2, 2.1, ..., 2.6 will be due on the day before the first exam). No extensions will be granted; homework not completed prior to the exam will be given a grade of zero. *Do not fall behind on homework! It becomes overwhelming to catch up and leads to failure of the course.*
2. **Unit Exams (55%):** There will be 7 chapter exams throughout the semester.
3. **Final (15%):** A comprehensive exam will be given at the end of the course.

Grading: Grades based on the following scale:

A	90 – 100%
B	80 – 89%
C	70 – 79%
D	60 – 69%
F	0 – 59%

Attendance/Makeup: Attendance is expected of all students except in case of an emergency. If due to an emergency you must miss class, it is your responsibility to find out what you missed by contacting the instructor or another student. Be sure to go to the tutoring center if you need help with the material you missed.

Make-up Test Policy: You will receive a zero on tests if you are absent and I am not aware of the reason. Tests missed, with a valid excuse, can be made up within 1 week of the original exam date.

Course Outline: (Tentative)	Chapter 1	Weeks 1-2
	Chapter 2	Weeks 3-5
	Chapter 3 & 12	Weeks 5-8
	Chapter 4	Weeks 8-11
	Chapter 5	Weeks 11-13
	Chapter 6	Weeks 13-15
	Chapter 7	Weeks 15-17
	Final exam	Finals week

Institutional Syllabus: The Institutional Syllabus provides additional information related to courses at Bismarck State College. The Institutional Syllabus can be found at <https://bismarckstate.edu/uploads/33/InstitutionalSyllabus.pdf>

Additional Information

Online: This class has an online component on Google Classroom. Online you will be able to access your grade, get assignment sheets, refer to the syllabus, and get other important announcements regarding class. You will have online assignments on <https://learn.hawkeslearning.com/>

Supplies: TI-83, TI-83/84 Plus graphics calculator is required for this course. You will not be allowed to use a TI-89 or TI-92 on tests or quizzes.