

BLACK HILLS STATE UNIVERSITY
Department of Mathematics
Math 102 College Algebra
Fall 2009

Course Prefix, Number, Title and Credit Hours:
 Math 102 - College Algebra - 3 Credit Hours

Semester and Year: Fall 2009

Course Meeting Times and Locations:

SECTION	INSTRUCTOR	TIME	LOCATION
B002	Swenson	MWF 10 - 10:50 am	BJA 306
B003	Nag	MWF 1 – 1:50 pm	BJA 304
B004	Gayle	MWF 2 – 2:50 pm	BJA 306
B005	Stillson	TTh 12:30 – 1:45 pm	BJA 306
B006	Alsup	MWF 9 – 9:50 am	BJA 202
B007	Barrus	MWF 8 – 8:50 am	BJA 107
B008	Harvard	TTh 8 – 9:15 am	BJA 105
B009	Barrus	TTh 2 – 3:15 pm	BJA 308

Instructor Contact Information:

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Office hours will be announced by your instructor.

Course Description:

Equations and inequalities; polynomial functions and graphs, exponents, radicals, binomial theorem, zeros of polynomials, systems of equations; exponential, logarithmic, and inverse functions, applications and graphs. Other topics selected from sequences, series, and complex numbers.

Course Prerequisites:

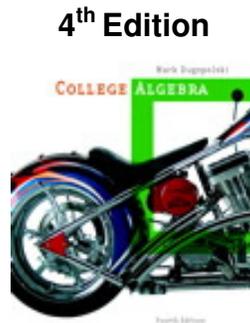
It is assumed that the student possesses algebra skills at the intermediate level or above, and that this has been demonstrated by either successful completion of an intermediate algebra course, or by being placed in college by the current placement process. If a student has not been placed in college algebra or has not passed an intermediate algebra course, it is the student's responsibility to inform the instructor within the first week of class.

Instructional Methods:

Lecture and class discussion, supplemented by online resources such as MyMathLab.

Course Requirements:

Text and Software: Mark Dugopolski. *College Algebra 4/e*, 2007. Pearson Addison-Wesley. An electronic version of the text and software are available when you purchase MyMathLab Standalone ISBN 032119991X. A copy of MyMathLab can be purchased at the Bookstore.



This is the ISBN for the standalone version of MyMathLab (also referred to as CourseCompass). You will receive the **course ID** for your section of Math 102 from your instructor. You will need the course ID when enrolling in MyMathLab

Class attendance policy:

By university policy, enrollment in a class implies the responsibility for attending each class section.

Cheating and plagiarism policy:

In this course you are expected to perform to the utmost of your abilities in an honest and sincere manner. Cheating & plagiarism will not be tolerated. Academic misconduct will be dealt with per BOR regulations.

Make-up policy:

Except in the case of a documented emergency, or a missed assignment/exam caused by a university-sponsored activity, no makeup exams or quizzes are allowed. The burden of proof regarding the absence rests with the student. No late assignments will be accepted.

Calculator Policy:

Students must have a TI-82, TI-83/83 Plus, or TI-84 graphing calculator. Students will **not be allowed** to use cell phones, calculators that do symbolic manipulation (such as the TI-89 or TI-92), or personal digital assistants (such as Palms) on any exam.

Course Objectives:

This course meets the requirements for the Board of Regents General Education Goal #5.

General Education Goal #5: *Students will understand and apply fundamental mathematical processes and reasoning.*

Student Learning Outcome 1: Use mathematical symbols and mathematical structure to model and solve real world problems;

- Students will identify, discuss the merits of, and use appropriate models to explain real world math concepts and principles related to polynomials, exponential functions, and logarithmic functions on exams and on MyMathLab.
- Students will demonstrate appropriate levels of reasoning skills to use mathematical models to solve real world problems at the college algebra level on exams and on MyMathLab.

Student Learning Outcome 2: Demonstrate appropriate communication skills related to mathematical terms and concepts.

- Students will identify and contrast important differences between functions and relations on exams and on MyMathLab.
- Students will determine the domain and range of given functions on exams and on MyMathLab.
- Students will solve for zeros, intersections and local extremes of polynomial functions on exams and on MyMathLab.
- Students will demonstrate key operations involving exponential functions and logarithms on exams and on MyMathLab.
- Students will demonstrate a basic understanding of elementary probability skills including counting principles, combinations and permutations on exams and on MyMathLab.

Student Learning Outcome 3: Demonstrate the correct use of quantifiable measurements of real world situations.

- Students will recognize inverse functions and the importance of inverse functions in solving everyday problems on exams and on MyMathLab.
- Students will identify, practice and use problem solving skills appropriate to the college algebra level math on exams and on MyMathLab.

Related Technology Outcomes:

- Students will use graphing calculators to graph mathematical equations related to lines, parabolas, circles, polynomials and rational functions on exams and on MyMathLab.
- Students will use calculators to solve problems related to logarithmic and exponential functions on exams and MyMathLab.
- Students will use graphing calculators to solve problems of appropriate complexity on exams and on MyMathLab.

Student Evaluation Procedures:

Grades: Final grades will be based on the results of the MyMathLab homework, the MyMathLab quizzes, MyMathLab Chapter Tests, a proctored written midterm exam, and a written comprehensive final examination, according to the following weights:

15%	MyMathLab homework assignments
10%	MyMathLab quizzes
15%	MyMathLab Chapter Tests
20%	Midterm exam
40%	Comprehensive final exam

Grading will be by letter grades according to the following percentages:
90 -- 100 => A; 80 -- 89 => B; 70 -- 79 => C; 60 -- 69 => D; 59 or less => F.

Homework Guidelines: Homework problems will be **required** via MyMathLab for each assigned section. You will be assigned approximately 20-25 problems per section. You will receive instantaneous feedback from MyMathLab, step-by-step examples to assist you on objectives you are struggling with, and references to the page in the textbook that can provide further assistance. You will want to log into MyMathLab frequently to see if new assignments have been posted. No late assignments will be accepted. You can attempt a particular homework problem over and over until you get it correct (after getting it wrong three times, you will need to select “similar exercise” in order to continue working on that problem number) and repeat the assignment as often as you like prior to the due date. Only your highest score will count, so homework scores are expected to be high. The average of all the homework will be used in computing your final semester grade.

Since internet access can be unavailable at times, **DO NOT WAIT UNTIL “SHORTLY BEFORE” THE DUE DATE/TIME** to begin working on an assignment. Internet access being unavailable is not a valid excuse for failing to complete an assignment.

Quizzes Guidelines: There will be approximately 16 equally weighted quizzes throughout the semester, which will be taken via MyMathLab on your own time. Quizzes will be required every one to two sections (see the tentative schedule below). You will not be allowed to take a quiz over a particular section(s) until you have successfully completed the homework (receive at least 75%) on MyMathLab associated with that quiz. You will have a designated number of attempts to take each quiz (3-5 attempts). The **highest score** will be taken for a grade. The average of all the quizzes will be used in computing your final semester grade.

Tests & Exams: There will be online Chapter Tests after each chapter, a written midterm, and a written comprehensive final exam. The midterm and comprehensive final will be composed of questions similar to those assigned in the homework sets and the online quizzes. They will focus on problem solving skills and conceptual understanding. The midterm will be a proctored evening exam. The course will end with a proctored comprehensive closed book final exam. Approximately one-fourth of the final will test material covered prior to the midterm exam. Approximate dates for the midterm and final exams are given in the schedules at the end of this document.

IMPORTANT DATES:

Sept 10—last day to drop without a transcript entry

Nov 16—last day to drop with an automatic “W” versus an “F”

ADA Statement:

“Reasonable accommodations, as arranged through the Disabilities Services Coordinator, will be provided students with documented disabilities. Contact the BHSU, Disabilities Services Coordinator, Mike McNeil, at 605-642-6099, (Jacket Legacy Room in the Student Union) or via email at (mikemcneil@bhsu.edu) for more information. Additional information can also be found at <http://www.bhsu.edu/StudentLife/Learning/DisabilityServices/tabid/162/Default.aspx>”

Academic Freedom and Responsibility:

“Under Board of Regents and University policy student academic performance may be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Students should be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. Students who believe that an academic evaluation reflects prejudiced or capricious consideration of student opinions or conduct unrelated to academic standards should contact the chair of the department in which the course is being taught to initiate a review of the evaluation.”

Tentative Course Outline:

Below is a tentative course outline. Your instructor will notify you if there are any changes to this schedule.

Unit I: Prerequisites (Sections P.4 & P.7)

Equations, Inequalities, and Modeling (Sections 1.1 – 1.7)

Functions and Graphs (Sections 2.1 – 2.5)

Polynomial and Rational Functions (Sections 3.1 – 3.3)

Unit II: Polynomial and Rational Functions (Sections 3.3 – 3.6)

Exponential and Logarithmic Functions (Sections 4.1—4.4)

Systems of Equations and Inequalities (Sections 5.1 – 5.3, 5.5)

Sequences, Series and Probability (Sections 8.1 – 8.6)

Tentative Classroom Schedule

Week of Aug 31	Orientation Section P.4 (Complex Numbers) Section P.7 (Rational Expressions)
Week of Sept 7	Section 1.1 (Equations in One Variable) Section 1.2 (Constructing Models to Solve Problems) 9/10: Last date to drop this class without a transcript entry
Week of Sept 14	Section 1.3 (Equations and Graphs in Two Variables) Section 1.4 (Linear Equations in Two Variables) Section 1.5 (Scatter Diagrams and Curve Fitting) Section 1.6 Quadratic Equations
Week of Sept 21	Section 1.7 (Linear and Absolute Value Inequalities) Review of Chapter 1 Section 2.1 (Functions)
Week of Sept 28	Section 2.2 (Graphs of Relations) Section 2.3 (Families of Functions, Transformation, and Symmetry) Section 2.4 (Operations with Functions)
Week of Oct 5	Section 2.5 (Inverse Functions) Review of Chapter 2 Section 3.1 (Quadratic Functions and Inequalities)
Week of Oct 12	Section 3.2 (Zeros of Polynomial Functions) Section 3.3 (The Theory of Equations)
Week of Oct 19	Section 3.4 (Miscellaneous Equations)

	Section 3.5 (Graphs of Polynomial Functions) Section 3.6 (Rational Functions and Inequalities) 10/22: Midterm exam (Time and location TBA)
Week of Oct 26	Review of Chapter 3 Section 4.1 (Exponential Functions and Their Applications) Section 4.2 (Logarithmic Functions and Their Applications)
Week of Nov 2	Section 4.3 (Rules of Logarithms) Section 4.4 (More Equations and Applications) Section 5.1 (Systems of Equations in Two Variables) Section 5.2 (Systems of Equations in Three Variables)
Week of Nov 9	Section 5.3 (Nonlinear Systems of Equations) Section 5.5 (Inequalities and Systems of Inequalities in Two Variables)
Week of Nov 16	Review of Chapters 4 and 5 Section 8.1 (Sequences) Section 8.2 (Series) 11/16: Last date to drop this class with an automatic "W"
Week of Nov 23	Section 8.3 (Geometric Series and Sequences) Section 8.4 (Counting and Permutations)
Week of Nov 30	Section 8.5 (Combinations, Labeling, and the Binomial Theorem) Section 8.6 (Probability) Review of Chapter 8
Week of Dec 7	Catch up and/or review for the final
Tuesday, Dec 15th	Final exam – 1:15-2:45 pm (See your instructor for location)

**MATH 102 Tentative Schedule of Online Due Dates (See MyMathLab for official dates)
FALL SEMESTER 2009**

HOMEWORK, QUIZZES, AND TESTS DUE BY THE END OF THE DAY LISTED

Monday	Tuesday	Wednesday	Thursday	Friday
8/31	9/1	9/2	9/3	9/4 P.4 due
9/7 Labor Day Holiday	9/8	9/9 P.7 due	9/10 Last Drop Day QUIZ 1 due	9/11 1.1 due
9/14 1.2 due	9/15 QUIZ 2 due	9/16 1.3 & 1.4 due	9/17 QUIZ 3 due	9/18 1.5 due
9/21 1.6 due	9/22 QUIZ 4 due	9/23 1.7 due	9/24	9/25 TEST Chapter 1
9/28 2.1 due	9/29	9/30 2.2 due	10/1 QUIZ 5 due	10/02 2.3 due
10/5 2.4 due	10/6 QUIZ 6 due	10/7 2.5 due	10/8	10/9 TEST Chapter 2
10/12 Native America Day Holiday	10/13	10/14 3.1 due	10/15	10/16 3.2 due QUIZ 7 due
10/19 3.3 due	10/20	10/21 3.4 due	10/22 QUIZ 8 due MIDTERM EXAM	10/23 3.5 due
10/26 3.6 due	10/27 QUIZ 9 due	10/28 TEST Chapter 3	10/29	10/30 4.1 due
11/2 4.2 due	11/3 QUIZ 10 due	11/4 4.3 due	11/5	11/6 4.4 due QUIZ 11 due
11/9 5.1 & 5.2 due	11/10 QUIZ 12 due	11/11 Veteran's Day Holiday	11/12	11/13 5.3 due
11/16 5.5 due Last Date to Withdraw	11/17 QUIZ 13 due	11/18 TEST Chapters 4 & 5	11/19	11/20 8.1 due
11/23 8.2 due	11/24 QUIZ 14 due	11/25 8.3 due	11/26 Thanksgiving Holiday	11/27 Thanksgiving Holiday
11/30 8.4 due	12/1 QUIZ 15 due	12/2 8.5 due	12/3	12/4 8.6 due QUIZ 16 due
12/7 TEST Chapter 8	12/8	12/9	12/10	12/11
12/14	12/15 FINAL	12/16 EXAMS	12/17 WEEK	12/18