M 121 (College Algebra)   Fall 2017   Course Coordinator: Regina Souza

Section	MWF	Room	Instructor (Click for Email)	Office	Phone
1	9 am	LA 203	Bonnie Spence	Math 004A	243-4808
2	10 am	MATH 211	Bonnie Spence	Math 004A	243-4808
3	11 am	MATH 108	Nhan Nguyen	Corbin 364	---
4	12 pm	MATH 305	Kevin Palencia	Corbin 361	---
5	1 pm	GBB 205	Rick Darnell	Math 002	243-6812

Walk-in Tutoring Centers: Math Learning Center (MLC) and Math@Mansfield (click for location/hours).

Office Hours (for all instructors): TBA(click for link)

Course Coordinator: Dr. Souza: Room MA 104, 243-2166, Email: Regina.Souza@umontana.edu
Office Hours for Dr. Souza: Mo, Wed: 2-2:50pm; Tue: 4-4:50pm, Th: 10-10:50am, or by appointment.

Text book:
Functions Modeling Change 5E Custom eText for UM, by Connally, Wiley Custom (available at the bookstore). Click Vital Source if you'd prefer an EBook. (If you are planning to take M122, do not buy the regular 5th edition, buy the UM custom edition. The UM custom edition includes an extra chapter in trigonometry.)

Graphing Calculator
A graphing calculator is required. Class demos will be given with a TI-83 or TI-84.

Course Description
The central theme of College Algebra is functions as models of change. This course fulfills the prerequisites for M 122 (College Trigonometry) and for M 162 (Applied Calculus). Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.

Learning Outcomes
Upon completion of this course students will be able to:
- Use factoring to solve equations and to find zeros of polynomial functions.
- Solve linear, quadratic, exponential and logarithmic equations and use them to solve applied problems.
- Use function notation; identify domain, range, and intervals of increasing/decreasing/constant values.
- Find zeros, asymptotes, and domain of rational functions.
- Evaluate and sketch graphs of piecewise functions and find their domain and range.
- Use algebra to combine functions and form composite functions.
- Identify one-to-one functions, find and verify inverse functions, and sketch their graphs.
- Identify and graph linear, polynomial, power, rational, exponential and logarithmic functions.
- Use linear, polynomial, rational, power, exponential, and logarithmic functions of a real variable to model real-world phenomena and solve applied problems.

General Education Learning Outcome: Upon completion of the mathematical literacy requirement, a student will be able to apply effectively mathematical or statistical reasoning to a variety of applied or theoretical problems.

Course Content
1. *Graphs, Functions, Applications* (Function Notation, Linear Functions, Equations of Lines, Applications, Solving Linear Inequalities, Increasing, Decreasing, and Piecewise Functions, Algebra of Functions, Composition of Functions, Symmetry and Transformations; Quadratic Functions)
2. *Exponential and Logarithmic Functions* (Inverse Functions, Exponential and Logarithmic Functions and their Graphs, Exponential and Logarithmic Equations, Applications)
3. *Polynomial and Rational Functions* (Short-run Behavior, Graphs, Comparing Power, Exponential and Logarithmic Functions, Fitting Exponentials and Polynomials to Data, Applications.)

Grading Policies

Your course grade will be based on 3 midterm exams, a common final exam and other activities. A tentative schedule was distributed in class, here is a link to the pdf document (download before printing).

Assignments	Points and Percentages
Three midterm exams (100 points each; Sept 29, Oct 27 & Nov 20)	300 points (50%)
Other activities (homework, quizzes, in-class activities, projects, etc.)	150 points (25%)
Cumulative Final Exam (all sections Th, Dec 14, 5:30-7:30 pm)	150 points (25%)

Grading scale:

≥ 93%	≥ 90%	≥ 87%	≥ 83%	≥ 80%	≥ 75%	≥ 70%	≥ 65%	≥ 62%	≥ 58%	≥ 55%	< 55%
A	A−	B+	B	B−	C+	C	C−	D+	D	D−	F

M121 must be completed **with a C- or better** to fulfill the math literacy requirement. Taking M121 with the Credit/NoCredit option will not fulfill prerequisite requirements either.

Some Strategies to Complete This Course Successfully

- **Check you have the prerequisites:** M095, or an Aleks placement level 4, or M02 ≥ 12, or consent of instructor.
- **Regular attendance:** give support to and get support from your classmates and instructor during class.
- **Read the textbook both before and after the topics are covered in class:** read the authors' introductory remarks to get a feel for the material, take the reading assessment if your instructor provides one, or use the ``Check Your Understanding" problems at the end of each chapter. Redo examples on your own and then compare your solution with the authors' approach. Read the ``Summary'' or create your own summary before you start your homework.
- **"Do math":** One of the best ways to learn mathematics is to do mathematics. Each class will have both written homework and online WeBWorK assignments. Expect at least 2 hours of work outside class every day.
- **Get some one-to-one interaction:** take advantage of your instructor's regular office hours (also available by appointment), meet with tutors or with your classmates at the Math Learning Center (in the Math building, Room Math 011) or Math@Mansfield, create a study group or find a study partner. For some of us this is the most effective (and most fun) way to learn math.
- Use course webpages and login to the Moodle supplement for more information.

Some General University Policies

- **Make-ups:** Exam make-ups will be given only under special circumstances (illness, UM-sponsored travel, family emergency, etc.) Please make arrangements as soon as you know you will miss an exam. Early finals (December 13 or earlier on Thursday, December 14) will be given only under exceptional circumstances; and need the approval of the course coordinator.
- **Disabilities:** Students with disabilities are welcome to discuss accommodations with me. More information can be found at the website of the Disabilities Services for Students (DSS) (http://www.umt.edu/dss/). Disability Services now requires one week's notice for scheduling exams.
- Important Dates/Deadlines (click for links): Petitions to drop between November 2nd and December 11 must be approved by the Dean of the student's major. Incompletes may be given only if a student has been in attendance and doing passing work up to 3 weeks before the end of the semester. See these and other policies in the student catalog.
- **Misconduct:** All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. See Student Conduct Code.