

# Math 143: College Algebra Spring 2015

## Course Description and Foundational Studies Program Objectives

Boise State's Foundational Studies Program provides undergraduates with a broad-based education that spans the entire university experience. Math 143: College Algebra satisfies three credits of the Foundation Program's Disciplinary Lens-Mathematics (DL-M) requirement. It supports the following University Learning Outcomes, along with a variety of other course-specific goals.

ULO 7. Apply knowledge and the methods of reasoning characteristic of mathematics, statistics, and other formal systems to solve complex problems.

Math 143: College Algebra is designed to introduce students to the principles, techniques and applications of polynomials, exponential functions, logarithmic functions, inverse functions and composition of functions. This course helps to achieve the goals of the Foundations program by focusing on the following course learning outcomes. After successful completion of this course, you will be able to:

- Solve standard mathematical problems relating to algebraic functions including but not limited to polynomials, logarithms and exponential functions and make reasonable assessment to the accuracy of solutions.
- Convert data relating algebraic functions into appropriate graphical and symbolic representations and be able to state appropriate conclusions regarding the data with emphasis on data from science and business.
- Choose appropriate polynomial equations of degree one through four, logarithms and exponential functions to solve problems related to business and science.
- Explain why the algebraic equation is appropriate to the solution and how the solution addresses the problems questions.
- Apply mathematical strategies, both graphical and symbolic, for solving problems based in business and/or science.
- Use technology to interpret data sets from business and science to solve problems and interpret results.

## Instructor

Your instructor will email you with his/her contact information.

If you have further questions, please contact: Dr. Gary Hagerty, Director of the Math Learning Center  
garyhagerty@boisestate.edu

## Text

ALEKS (One semester 18-week stand-alone access code). This is available at the BSU bookstore and also online.

The course is based on the following text but it is an optional purchase. *Precalculus*, Second Edition; John Coburn, McGraw-Hill, 2010.

## Calculators

Calculators are required and we highly recommend you purchase a TI-84.

## **Tutoring**

Free tutoring is available in the Math Learning Center. For hours of operation visit:  
<https://math.boisestate.edu/math-learning-center/hours/>

## **Grading Scheme**

Weekly Topic Goal 18% of total grade  
Weekly Time Goal 8% of total grade  
Attendance and Group Activities 7% of total grade  
In-Class Exams and Quiz 33% of total grade  
Final Exam 30% of total grade  
Notebooks 4% of total grade

A+ - 98%    B+ - 88%    C+ - 78%    D+ - 68%  
A - 92%    B - 82%    C - 72%    D - 62%  
A- - 90%    B- - 80%    C- - 70%    D- - 60%

Any final grade lower than 60% will be recorded as an F. To use Math 143 to meet a prerequisite in another course, then the student must earn a grade of C- or better to move to the next course.

The MLC staff members have access to all students' ALEKS and Blackboard account information. The MLC staff members are here to promote student success. If you are struggling, then it is likely that MLC staff will reach out to you, and you are encouraged to seek help with all concerns regarding your course.

## **Homework**

Homework will be completed using ALEKS. This is a software based approach. You will be asked to complete virtually the same set of problems as if you were assigned problems out of a textbook. The advantages to ALEKS as an online homework system include:

- 1) Improved assistance when you need it.
- 2) The opportunity to work at your pace and complete the work necessary for you to be successful.
- 3) An opportunity to develop a complete understanding before moving ahead. This means that you will not be asked to perform work that for which you are not ready (as would happen in a traditional environment where everybody does the same thing).

Grading of Homework is based on your commitment to success. It has been found that once a student has been properly placed in a curriculum, their success is based on their willingness to put forth time and effort into the class. The grading of the homework will be based on time and effort as follows:

- 1) Time: Time: 6 hours on ALEKS learning math each week. If you spend 4.5 hours on ALEKS, then you would receive a 75% on that assignment.
- 2) Effort: After the first week, you are expected to complete the number of objectives needed necessary each week in order to complete all of the topics by the end of the semester. (This will be explained frequently throughout the course and your instructor will give you your assignment on an individual basis.) The two lowest weeks' time scores and the two lowest weeks' topic scores will be dropped from the weighted grade column on BlackBoard at the end of the semester.

## **Attendance and Group Activities**

Class attendance will be taken daily and computed into your grade. One of the strongest indicators of student success is attendance. Attendance has the strongest correlation of any indicator when considering student success. Thus, we have placed attendance at a high level of importance in this class. One meeting per week will be focused on Group Activities found on the MLC web page. You will be responsible for printing each week's activity and bringing it to class. These will be counted as part of your attendance score for the week. The two lowest weeks' attendance scores will be dropped from this category in the weighted grade column on BlackBoard at the end of the semester. Please see an explanation of the Attendance Policy at the end of the syllabus. Class attendance is earned by being in class and appropriately participating.

## **Notebooks**

Success in math (as well as all other endeavors) is greatly improved by following steps prescribed by the instructor. This implies keeping careful notes and writing step-by-step solutions. We are asking that you keep these notes and the problems you work in a notebook, using correct mathematical notation. You will find that this greatly enhances your ALEKS experience and your success in future courses. This notebook will be graded based on organization and completion/content. There is a rubric to help you included at end of this syllabus. If you need additional help setting up your notebook, then talk to your instructor.

## **Assessments**

The ALEKS program prepares students for the next course by periodically assessing a student's memory. Assessments take the place of a traditional in class quiz. It is the student's responsibility to take the assessment like it is a test. There should be no help from notes, friends, tutors, internet websites, cell phones, etc. If a student's assessment or topics appear to be completed with assistance, the instructor may require the student to take a new assessment under the supervision of the Math Learning Center. It is also the student's responsibility to make up any topics that are placed back onto the pie in any given week which means it is a good idea to work ahead of the goal and not wait till the last minute to finish time or topics. Assessments will not be canceled.

## **Exams**

There will be two in-class exams. Sixty percent of the score will come from an online portion, thirty-six percent of the score will come from a written portion, and four percent will come from a single written question based on the activities. These will be given in the weeks of Feb 15<sup>th</sup> and April 5<sup>th</sup>. Your instructor will provide more information as to the exact dates. You may be required to present valid BSU ID at each exam. Late tests can be made up in MB121 on the Friday directly following the missed test. Tests can begin as early as 12pm and must begin no later than 4pm. The Final exam will be comprehensive and given at the specified time, during finals week. The Final will be on paper only with ninety-six percent coming from the course material and four percent coming from a single written question based on the activities. Make sure you obtain the exact location, date, and time from your instructor. If you finish your pie early, then speak to Dr. Gary Hagerty, the director of the Math Learning Center, about your testing options. Early finals may be given to students who have been attending class and are passing the course at the time of the early completion.

You will also have a 4-point quiz that will count in the exam category. The quiz will be over regressions, interpreting data, and using your calculator, related to your group projects. It will happen around the 10<sup>th</sup> week.

## **Cheating**

Exams must be taken in class or in an approved proctored administration area. All other test scores will be discarded. Visiting websites other than ALEKS during a test will result in the score being discarded. Scratch paper must be turned into the instructor or proctor immediately after the test has been submitted without additional notes being made, otherwise partial credit will not be given on the test. All devices which allow access to the internet such as cellphones, ipods, etc. must be turned off prior to taking any test. All notes and notebooks must be put away out of sight during testing. Notecards or any other form of notes are not allowed on exams.

## **Partial Credit**

You will be given scratch paper for your test. The only way to earn partial credit on a test for answers you wish to challenge is to have the work supporting your answers on your scratch paper neat and organized, based on mathematically approached standards. Your notebooks should reflect these standards as well.

## **Disability Resources**

The instructor will work with the Disabilities Resource Center to provide reasonable accommodations to students upon request. Students making such requests are required to provide documentation from the Disability Resource Center, located on the first floor of the Lincoln parking garage.

## **General comments regarding classroom etiquette and expectations:**

**Classroom Technology Etiquette:** Technology is becoming prevalent in the classroom. As the access to technology grows, we must ensure that a quality educational environment is maintained. Students must understand that visiting electronic sites that do not pertain to the purpose of the classroom is at some level a distraction to the student and often to the class as a whole. While it is understood that visiting sites such as Facebook and YouTube and activities such as texting are a distraction, we must also point out that visiting homework pages for the math classes at times when working on homework is not the focus of the class is also a distraction. In order to maintain a proper distraction free environment, it is the obligation of the instructor to ensure that students only visit electronic sites pertaining to the task at hand. The instructor may do this on an individual basis or ask the entire class to put away all electronic devices. This decision needs to be respected. If you have any concerns with this policy, then please discuss your concerns with Dr. Hagerty, Director of the Math Learning Center.

**Attendance Policy:** Attendance points are earned at the discretion of the instructor. Students receiving full attendance points are attending class for the full amount of time and remaining on task during that time. The instructor has the right to deny attendance points to any student who does not attend the full amount of time or to a student who does not participate. Using technology in an inappropriate form is considered non-participation. If you have any concerns with this policy, then please discuss your concerns with Dr. Hagerty, Director of the Math Learning Center.

Success means putting forth the time, effort, and energy required to complete this course. Based on the past several years of analyzing student success, we have found that appropriate work completion and attendance are the biggest keys to success. Following these simple guidelines should ensure success:

- 1) Homework completion. More than 95% of the students who complete 80% or more of the homework pass the course. Aim to complete your work at 100%.
- 2) Make sure you are learning. When you obtain help, make sure that you are learning and able to do the work without help.
- 3) Review for every test. The biggest difference we see in test scores is between students who review and those who don't.
- 4) Put forth the effort to attend every class. This may be one of the best signals we have to a student being successful.

**Students who spend at least 12 hours working on ALEKS in the first two weeks are significantly more likely to pass the course than students who spend less than 6 hours in the first two weeks.**

If you are doing all of the above and struggling, make an appointment with Dr. Hagerty, Director of the Math Learning Center. He will work with you to find the best possible path to creating your success.

Notebook Rubric:

	Unacceptable	Novice	Competent	Proficient
Regular use	Does not have a dedicated notebook.	Often absent from class or doesn't bring notebook. Lots of work missing from notebook.	Sometimes absent from class or doesn't bring notebook. Dates are missing or inconsistent.	Always brings notebook to class. All ALEKS work is in notebook. Dates are clearly and consistently labeled.
Topic formatting	Looks like "chicken scratch".	No obvious organization.	Obvious where one topic stops and another starts.	Each topic is labeled with topic name and pie slice.
Problem formatting within each topic	Does not contain at least one: problem, explanation or example.	Can't tell where one problem stops and another starts.	Obvious where one problem stops and another starts.	Obvious where one problem stops and another starts. Answer is easy to find and marked correct or incorrect.
Mathematical notation	Non-sequential work. Instructor struggles to follow logic.	Works math horizontally. "Loses" pieces of the problem.	Mixed horizontal and vertical math. Doesn't appear to be losing parts of the problems.	Using vertical math almost exclusively. No obvious notation errors.
	0 points each	15 points each	20 points each	25 points each