

Wichita State University
Department of Mathematics & Statistics
Math 011 Beginning Algebra
Course Syllabus
Fall 2018

Credit Hours: 5 hours

Instructor Name: Matt Tucker

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Office Hours: MWF: 11:45am-1:15pm (Room 325 in Jabara)
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Catalog Description:

Math 011 Beginning Algebra

Content consists of algebra topics usually covered in the first year of a standard high school algebra course. Graded Cr/NCr. Not applicable to degree.

Prerequisites:

None, but the course assumes a knowledge of basic arithmetic. Students deficient in arithmetic should take Math 007 Arithmetic before Math 011 Beginning Algebra.

Course Purpose:

The course will prepare the student to take Math 012 Intermediate Algebra.

Measurable Student Learning Outcomes:

Upon successful completion of this course, students will be able to:

- Chapter 1: Real numbers and expressions behave largely like natural (counting) numbers.
 - 1.2: Evaluate expressions by substituting values for variables.
 - 1.3: Translate expressions between mathematics and words.
 - 1.2: Classify a number as natural, whole, integer, rational, and/or real.
 - 1.2: Determine whether an inequality is true or false.
 - 1.2: Find the absolute value of a number.
 - 1.4-6: Add, subtract, multiply, and divide real (positive and negative) numbers.
 - 1.7: Identify algebra properties (associative, commutative, etc.)
 - 1.7: Given an expression, write many equivalent expressions using algebra properties.
 - 1.7: Expand and collect expressions using the distributive property.
 - 1.3: Evaluate numbers raised to powers.
 - 1.3,7: Evaluate expressions using the order of operations.
- Chapter 2: Solving an equation always means listing all the values that will make the equation true.
 - 2.1: Determine whether an equation is true or false.
 - 2.1-3: Solve linear equations using the addition and multiplication principles.
 - 2.6: Solve formulas for a variable.
 - 2.4-7: Solve application problems using equations.

- 2.8: Solve inequalities.
- Chapter 3: Linear relationships between two variables are very common and easily classifiable.
 - 3.2: Find solutions of linear two-variable equations.
 - 3.1: Draw a graph. (Axes, labels, tick marks with scale, arrows, neatness)
 - 3.1: Plot points in the Cartesian plane.
 - 3.2: Graph general equations.
 - 3.2: Graph horizontal and vertical lines.
 - 3.3: Recall the slope formula. (Memorize!)
 - 3.3: Calculate the slope of a line given two points on the line.
 - 3.3: Estimate slope of lines, and sketch lines with a certain slope.
 - 3.6: Solve application problems with physical slope and linear data.
 - 3.4,5: Find the $y=mx+b$ form of a line based on clues.
 - 3.2,5: Graph linear equations using any method. (intercept, standard, general)
 - 3.3,4: Determine whether two linear equations have parallel or perpendicular graphs.
 - 4.5: Graph two-variable inequalities.
- Chapter 4: Linear systems solve problems involving two facts about two unknowns.
 - 4.1: Determine if an ordered pair solves a system of linear equations.
 - 4.2,3: Solve systems using either substitution or elimination.
 - 4.4: Solve application problems with systems.
 - 4.5: Solve systems of linear inequalities
- Chapter 5: Polynomials are expressions that behave like several-digit numbers.
 - 5.1-3: Evaluate and simplify expressions using the laws of exponents.
 - 5.4: Rewrite numbers in scientific notation and back.
 - 5.5: Determine whether an expression is a polynomial.
 - 5.5: Identify parts of a mono/polynomial. (Degree, coefficient, etc.)
 - 5.5: Evaluate polynomials for values of the variable.
 - 5.5: Collect like terms of a polynomial and arrange in descending order.
 - 5.5: Add and subtract polynomials.
 - 5.6: Multiply polynomials.
 - 5.5,6: Add, subtract, and multiply polynomials in several variables.
 - 5.7: Long divide polynomials.
- Chapter 6: Every number and expression has a unique prime factorization.
 - 6.1: Completely factor numbers.
 - 6.1: Find the GCF of two or more numbers.
 - 6.1: Factor the greatest common factor out of expressions.
 - 6.1: Factor by grouping.
 - 6.2,4,5: Factor trinomials.
 - 6.5: Factor differences of squares.
 - 6.5: Factor expressions until completely factored.
 - 6.7: Solve quadratic and polynomial equations.
- Chapter 7: Rational expressions behave just like rational numbers (fractions).
 - 7.1,2: Multiply, divide, enlarge, and simplify rational expressions.
 - 7.3: Find the LCM of two or more expressions.
 - 7.4: Add and subtract rational expressions.
 - 7.5: Simplify "complex RE's" into true RE's.
 - 7.6,7: Solve rational equations.
 - 7.8: Create and evaluate equations of direct and inverse variation.
- Chapter 8: Radical expressions have strange rules, but they are consistent with the laws of exponents.

- 8.1: Evaluate square roots of numbers.
- 8.2,4: Multiply, factor, and simplify radical expressions.
- 8.5: Divide radical expressions and rationalize denominators
- 8.3: Add and subtract radical expressions.
- 8.6: Solve radical equations.
- Chapter 9: Quadratic expressions are very common and easily classifiable.
 - 9.1: Solve quadratic equations with the zero product and square root properties
 - 9.3: Solve quadratic equations using the quadratic formula (memorize!)
 - 9.3: Solve quadratic applications.
 - 9.5: Find the vertex and x-intercepts of the graph of a parabola.
 - 9.5: Graph quadratic equations.
 - 9.6: Determine whether a correspondence is a function.
 - 9.6: Evaluate functions for given values.
 - 9.6: Graph functions.

Textbook and Required Material:

ALEKS 360 subscription for online student and faculty support as well as student work.
(Students will receive access to an eBook along with their purchased subscription)

Class Protocol:

Participation: The lesson format will vary from day to day with students expected to read and write in and outside of class, speak within problem solving groups, and to address the class, and listen to the ideas of others.

Attendance: Attendance is required and daily participation will be graded. If you cannot attend class, notify the instructor prior to your return to class to make arrangements to be prepared for the next class. No makeup tests will be given.

Cell phone use: Use of cell phones is prohibited during class time by [university policy](#) and students found in violation of this policy forfeit their participation points for the class with additional penalties levied at the discretion of the instructor.

Technology Requirement:

The student is expected to have daily internet access for use in communication and for use of ALEKS. If home equipment is not available, the student may use computer laboratories in Jabara Hall, in Corbin Education Center, the library, and other campus buildings.

Students are not required to own a graphing or scientific calculator. Note: These are learning tools and will not be available on the final examination.

Assessment:

The student's performance will be assessed and the class grade determined by accumulated points based on a variety of sources including work in ALEKS, class participation and exams. A listing of homework and test dates follows at the end of the syllabus.

Department Final, 1 p.m., Saturday, December 8, 2018. This exam will count 20% of the course grade. The math department will prepare this exam, and the exam will also act as a separate assessment tool to determine if each student is ready to advance. The final exam attempts to measure a student's total mathematical ability, and therefore may include some

problems on material we do not actually cover in class. For the same reason, there is no practice final for this course. The math department does not allow calculators on the final exam.

Grading:

This is a credit/no credit class, however we will keep track of progress via the following:

ALEKS	–	20%
Attendance/Participation	–	10%
Exams (eight in total)	–	50%
Comprehensive Final	–	20%

The following grading scale will be used for the class:

93-100 A	73-76 C
90-92 A-	70-72 C-
87-89 B+	67-69 D+
83-86 B	63-66 D
80-82 B-	60-62 D-
77-79 C+	0-59 F

*In order to advance to Math 012 Intermediate Algebra, a student must achieve a minimum score on the final exam.

The grade scale above is for the student's reference only. This class is graded credit or no credit, and a score of at least 70% is necessary to receive credit.

Assistance:

Students will be offered several forms of assistance to reach success.

1. The instructor will be available for assistance at posted office hours or by appointment when needed.
2. Technology assistance through ALEKS: an interactive textbook, section videos, homework help tools, etc.
3. The Mathematics Department has a tutor lab available on the third floor of Jabara Hall. It is generally open 8am-7pm Monday through Thursday and 8am - 1pm on Friday.
4. Students are encouraged to form study groups or work with a study partner.
5. Online resources, such as the brief videos at Khan Academy, are available that might supplement the lectures.

Important Academic Dates:

For fall semester 2018, classes begin August 20, 2018 and end December 6, 2018. The last date to drop a class and receive a W (withdrawn) instead of F (failed) is October 30, 2018. There are no classes on September 3, October 13 – 16 and November 21 – 25, 2018. The final exam period is December 8, 2018.

Academic Honesty:

Students are responsible for knowing and following the [Student Code of Conduct](#) and the [Student Academic Honesty policy](#). Any breach of academic integrity will result in a zero for the affected assignment(s) – serious breaches may result in more serious consequences like failing the course or being dismissed from the University.

Accommodations for Students with Disabilities:

If you have a physical, perceptual, psychiatric/emotional, medical, or learning disability that may impact your ability to carry out assigned course work, contact the Office of Disability Services

(DS), Grace Wilke Annex, room 173. (Voice/TDD 978-3309). ODS will review your concerns, confirm your disability, and determine, with you, what accommodations are necessary. All information and documentation of your disability is confidential and will not be released by DS without your written permission.

Counseling and Testing:

The WSU Counseling and Testing Center provides professional counseling services to students, faculty and staff; administers tests and offers test preparation workshops; and presents programs on topics promoting personal and professional growth. Services are low cost and confidential. They are located in room 310 of Grace Wilkie Hall, and their phone number is (316) 978-3440. The Counseling and Testing Center is open on all days that the University is officially open. If you have a mental health emergency during the times the Counseling and Testing Center is not open, please call COMCARE Crisis Services at (316) 660-7500

Diversity and Inclusion:

Wichita State University is committed to being an inclusive campus that reflects the evolving diversity of society. To further this goal, WSU does not discriminate in its programs and activities on the basis of race, religion, color, national origin, gender, age, sexual orientation, gender identity gender expression, marital status, political affiliation, status as a veteran, genetic information or disability. The following person has been designated to handle inquiries regarding nondiscrimination policies: Executive Director, Office of Equal Employment Opportunity, Wichita State University, 1845 Fairmount, Wichita KS 67260-0138; telephone (316) 978-3186.

Intellectual Property:

Wichita State University students are subject to Board of Regents and [University policies](#) regarding intellectual property rights. Any questions regarding these rights and any disputes that arise under these policies will be resolved by the President of the University, or the President's designee, and such decision will constitute the final decision.

Shocker Alert System:

Get the emergency information you need instantly and effortlessly! With the Shocker Alert System, we will contact you by email the moment there is an emergency or weather alert that affects the campus. Sign up at www.wichita.edu/alert

Statement on Credit Hours:

Success in this 5 hour credit course is based on the expectation that students will spend, for each unit of credit, a minimum of 75 hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction and preparation/studying or course related activities for a total of 375 hours.

How to use this syllabus

This syllabus provides you with information specific to this course, and it also provides information about important university policies. This document should be viewed as a course overview; it is not a contract and is subject to change as the semester evolves.

Student Health Services

WSUs Student Health clinic is located in 209 Ahlberg Hall. Hours are 8:00am to 7:00pm (8:00 am to 5:00 pm on Fridays), though the clinic may be closed occasionally on Wednesdays from noon to 1:30pm. The telephone number is (316) 978-3620. In addition to outpatient and

preventive care (including immunizations, a prescription service, and testing/counseling for sexually transmitted infections), Student Health can handle minor injuries. All services are confidential. For more information see www.wichita.edu/studenthealth.

Title IX

Title IX of the Educational Amendments of 1972 prohibits discrimination based on sex in any educational institution that receives federal funding. Wichita State University does not tolerate sex discrimination of any kind including: sexual misconduct; sexual harassment; relationship/sexual violence and stalking. These incidents may interfere with or limit an individual's ability to benefit from or participate in the University's educational programs or activities. Students are asked to immediately report incidents to the University Police Department, (316) 978-3450 or the Title IX Coordinator (316) 978-5177. Students may also report incidents to an instructor, faculty or staff member, who are required by law to notify the Title IX Coordinator. If a student wishes to keep the information confidential, the student may speak with staff members of the Counseling and Testing Center (316) 978-3440 or Student Health Services (316) 978-3620. For more information about Title IX, go to: <http://www.wichita.edu/thisis/home/?u=titleix>

The Heskett Center and Campus Recreation

Whether you are wanting to be active on campus, relieve the stress from classes or take care of your body, Wichita State Campus Recreation is the place for you. Campus Recreation, located inside the Heskett Center, contributes to the health, education, and development of Wichita State University students, faculty, staff, alumni, and community members by offering quality programs and services. With many programs and facilities which are free to all students and members, Campus Recreation offers its members limitless opportunities. For more information about our services see www.wichita.edu/heskett.

Video and Audio Recording

Video and audio recording of lectures and review sessions without the consent of the instructor is prohibited. Unless explicit permission is obtained from the instructor, recordings of lectures may not be modified and must not be transferred or transmitted to any other person, whether or not that individual is enrolled in the course.

Schedule of Activities:

Objectives for each week in ALEKS **will be due every Sunday at 11:59pm.**

The schedule below is subject to change.

Tentative Calendar (MTWRF)					
Week of	M	T	W	R	F
August 20	Syllabus	1.2/1.3	1.3/1.4	1.5/1.6	1.7
August 27	Exam 1	2.1	2.2	2.2/2.3	2.4/2.5
September 3	<i>No Class</i>	2.5/2.6	2.6/2.7	2.8	Exam 2
September 10	3.1/3.2	3.2	3.2	3.4	3.4/3.5
September 17	3.5	3.6	4.5	Review	Exam 3
September 24	5.1/5.2	5.3/5.4	5.5	5.6	5.6
October 1	5.7	5.7	6.1	6.2	Exam 4
October 8	6.3	6.4	6.4/6.5	6.5	6.7
October 15	<i>No Class</i>	<i>No Class</i>	6.7	7.1	7.2
October 22	Review	Exam 5	7.3	7.4	7.4/7.5
October 29	7.6	7.6	7.7	7.8	Exam 6
November 5	4.1/4.2	4.2/4.3	4.3	4.4	4.5
November 12	8.1	8.2	8.3	8.4/8.5	8.5
November 19	8.6	Exam 7	<i>No Class</i>	<i>No Class</i>	<i>No Class</i>
November 26	9.1/9.3	9.3	9.5	9.5	9.6
December 3	9.6	Review	Exam 8	Final Review	<i>No Class</i>
Final: Saturday, December 8 from 1:00-2:50pm					