

**MATH 101 - COLLEGE ALGEBRA      FALL 2014**  
**KANSAS ALGEBRA PROGRAM (KAP)**

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**Instructor: Ingrid Peterson**

Strong 323E  
Hours: by appointment  
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**KAP Office:**

Strong 323  
Hours: 9 - 12 & 1 - 4 MTWRF  
Email: [kapmath@ku.edu](mailto:kapmath@ku.edu)  
Phone: 864-7317

**Help Room/Lab & Testing**

Strong 323 / Strong 324  
MTWR 8:00 am - 8:00 pm  
F 8:00 am - 5:30 pm  
Phone: 864-3908

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### **Course Description**

Math 101 is a first-level course in the fulfillment of the mathematics requirement for graduation at the University of Kansas. Success in College Algebra fulfills the Critical Thinking & Quantitative Literacy KU Core Goal 1, Learning Outcome 2, and prepares students for subsequent work in a second-level mathematics course (i.e. calculus sequence or statistics). The course is designed to reinforce basic skills and deepen conceptual understanding of the algebraic principles fundamental to mathematical reasoning.

### **Instructional Approach**

The course will focus on the study of functions through multiple representations - verbal, graphic, symbolic, and numeric. Students will make connections between the graphs of functions, their associated equations and inequalities, and related applications. The basic function families studied will include: linear, absolute value, polynomial (square, square root, cube, cube root, higher degree), rational, exponential, and logarithmic. Additional topics studied include systems of linear equations and matrices.

Course delivery is a hybrid format with regular class discussions and activities building on class preparation to be completed prior to class meetings. These preview assignments will include readings and videos. Both in-class and online homework are required. Daily class participation and "doing math every day" are key to success in the course. Take advantage of the resources offered by the Kansas Algebra Program via the drop-in help room, study groups, and opportunities to meet individually with your class discussion leader or the Program Directors.

### **Enrollment**

- The prerequisite for the course is two years of algebra and a score of 22 or higher on the mathematics portion of the ACT exam (540 on the SAT).
- Successful completion of Math 002 or its equivalent is also acceptable.
- The Math Department strictly enforces course prerequisites. If you do not meet the prerequisites, you will be disenrolled from the course.
- If you question your placement in this or any mathematics course, you may take a placement exam. Refer to the Math Department information on the [Placement Exam](#) for details.

## Add/Change/Drop Information

- Enrollment into Math 101 will be strictly enforced for students who fall under the CLAS Early and Continuous Enrollment in English and Math policy.
- Any add or change of sections *after* the on-line period allowed by the university must be approved by the KAP office, Strong 323.
- The Kansas Algebra Program adheres to the university-wide drop policy. See the KU Registrar's site for deadlines. Students who consider dropping the course during the second withdrawal period are encouraged to discuss their academic performance with one of the KAP Directors or the Advising Specialist before taking action.

## Course Objectives/Topics

There are five units in the course.

1. Foundations, Solving Equations & Inequalities
  - (a) Number systems, coordinate graphs, distance, midpoint, and circles.
  - (b) Analytical and graphical solutions to linear, literal, quadratic, absolute value, factorable polynomial, and quadratic-in-form equations.
  - (c) Analytical and graphical solutions to linear, quadratic, and absolute value inequalities.
2. Functions and Graphs
  - (a) Analyzing basic functions & their characteristics: domain/range, symmetry, increasing/decreasing/constant intervals, and intercepts.
  - (b) Making new functions from known functions by transformations, piecewise-defined, and arithmetic combinations and compositions.
3. Polynomial & Rational Functions:
  - (a) Analysis of quadratic and higher degree polynomial functions and their graphs.
  - (b) Analytical methods for finding roots of higher degree polynomials including the Intermediate Value, Remainder, Factor, and Rational Zeros Theorems, and the Fundamental Theorem of Algebra.
  - (c) Graphs of rational functions
4. Exponential, & Logarithmic Functions
  - (a) Inverse functions.
  - (b) Exponential and logarithmic functions, equations and graphs.
  - (c) Applications of exponential growth and decay.
5. Systems of Equations & Matrices
  - (a) Linear systems in two and three variables
  - (b) Matrix row-operation solutions to systems

## Required Materials

- **Graphing Calculator**, TI-83 or TI-84 series.
- **Text:** The course utilizes the MyMathLab (MML) online homework system which requires the purchase of the MyLabsPlus Access Code. Class discussions and in-class submitted homework will require regular access to the text as well.

1. **Text/access code package:**

*A Graphical Approach to College Algebra, 6e*, Hornsby, Lial & Rockswold, Prentice Hall, 2015, a la carte version packaged with the *MyLabsPlus (MLP) Access Kit*. Available *only* at the KU Bookstore.

This option is for students who prefer to have a hardbound copy of the text or may not have consistent access to the internet.

2. *Alternative to purchased text:* The online materials include an e-text. Students who are comfortable with online access only, and have reliable internet resources, may purchase the *MyLabsPlus* code by itself when logging in to the site through the My KAP Info link. A credit card or Paypal account is required.

**Temporary Access for online homework is available for 17 days from the beginning of the course.**

## Evaluation & Grading Scale

- There are 5 Units in the course. Each of Units 1-4 will include a unit exam and the Unit 5 material will be included in the comprehensive final exam. Homework and classwork are distributed across each of the 5 units.
- Students are expected to complete all assignments and exams.
- An adjustment to the final grade is built-in to allow for individual circumstances. Note the difference in the total points in the course compared to the grading scale.

Requirements		
Homework/Quizzes	In Class	100 pts
	Online	150 pts
Classwork		45 pts
Attendance		25 pts
Exams		400 pts
Final Exam		120 pts
<b>Total:</b>		<b>840 pts</b>

- The grading scale for the course will be:

Grading Scale		
800 - 720	A	90%
719 - 640	B	80%
639 - 560	C	70%
559 - 480	D	60%
479 - 0	F	<60%

## Special Needs

- The Academic Achievement and Access Center (AAAC) coordinates academic accommodations and services for all eligible KU students with disabilities. If you have a disability for which you wish to request accommodations and have not contacted the AAAC, please do so as soon as possible. They are located in 22 Strong Hall and can be reached at 785-864-4064 (V/TTY). Information about their services can be found at <http://www.disability.ku.edu>.
- Classroom or testing accommodations for Math 101 should then be arranged through the KAP office in ST 323.

## Academic Misconduct

- University Senate Rules and Regulations, Section 6, Academic Misconduct :  
'2.6.1 Academic misconduct by a student shall include, but not be limited to, disruption of classes; threatening an instructor or fellow student in an academic setting; giving or receiving of unauthorized aid on examinations or in the preparation of notebooks, themes, reports or other assignments; knowingly misrepresenting the source of any academic work; unauthorized changing of grades; unauthorized use of University approvals or forging of signatures; falsification of research results; plagiarizing of another's work; violation of regulations or ethical codes for the treatment of human and animal subjects; or otherwise acting dishonestly in research.'

## Intellectual Property

- Course materials prepared by the instructor, together with the content of all lectures and review sessions presented by the instructor are the property of the instructor.
- Video and audio recording of lectures and review sessions without the consent of the instructor is prohibited.
- Permission to make such recordings may be granted by the instructor on a case by case basis, on the condition that these recordings are used only as a study aid by the individual making the recording.
- Unless explicit permission is obtained from the instructor, recordings of lectures and review sessions 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.

	Dates		Topics	MML	Written HW	Exams
Week 1	8/25 - 8/29	8/29-last day online add/change	Lesson 1.1			
Week 2	9/2 - 9/5	Labor Day 9/1	Lesson 1.2	A1-A2	HW1.1	
Week 3	9/8 - 9/12		Lesson 1.3-1.4	A3-A5	HW1.2-1.3	
Week 4	9/15 - 9/19	9/15-end first drop period	Lesson 2.1	A6, Q1	HW1.4	Exam 1 9/17-9/18
Week 5	9/22 - 9/26	9/23-first day cr/no credit	Lesson 2.2-2.3	A7-A8	HW2.1	
Week 6	9/29 - 10/3		Lesson 2.3-2.4	A9-A10	HW2.2-2.3	
Week 7	10/6 - 10/10	10/6-end cr/no credit	Lesson 3.1	A11, Q2	HW2.4	Exam 2 10/8-10/9
Week 8	10/15 - 10/17	Fall Break 10/13-10/14	Lesson 3.2	A12	HW3.1	
Week 9	10/20 - 10/24		Lesson 3.3	A13-A14	HW3.2-3.3	Retakes 1/2 10/22-10/23
Week 10	10/27 - 10/31		Lesson 3.4	A15-A16	HW3.4	
Week 11	11/3 - 11/7		Lesson 4.1-4.2	A17, Q3		Exam 3 11/5-11/6
Week 12	11/10 - 11/14		Lesson 4.2-4.4	A18-A20	HW4.1-4.3	
Week 13	11/17 - 11/21	11/19-end 2nd drop period	Lesson 4.5	A21-A22	HW4.4-4.5	
	11/24 - 11/25	Thanksgiving Break 11/26-11/28	Lesson 5.1	Q4 (due 11/23)		Exam 4 11/24-11/25
Week 14	12/1 - 12/5		Lesson 5.2-5.3	A23-A24	HW5.1-5.3	
Week 15	12/8 - 12/11	Stop Day 12/12	Final Review	A25, Q5		Retakes 3/4 12/10-12/11
Week 16	12/15-12/19					Final Exam Dates-TBA