# Prairie View A&M University
## Brailsford College of Arts and Sciences
## Department of Mathematics
### *Spring 2016*

**Course Title:  College Algebra**
**Course Prefix:** Math          **Course No.:** 1113          **CRN:** 20070          **Section No.:** P03

**Instructor Name:** Elizabeth Stoerkel
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**Office Hours:**          MTWRF 8 – 9 AM in BNKS 302H
                           MW 1 – 2 PM, 3 – 4 PM in BNKS 302H
                           MW 2 – 3 PM in BNKS 303
                           T 2 – 3 PM in BNKS 302H
**Virtual Office Hours:**  MTWRF 8 – 9 AM in BNKS 302H
                           MW 1 – 2 PM, 3 – 4 PM in BNKS 302H
                           T 2 – 3 PM in BNKS 302H

**Course Location:**     BNKS 211
**Class Meeting Days and Times:**     MWF 12:00 – 12:50 PM

**Catalog Description:** College Algebra (3-0) Credit 3 semester hours. Quadratic equations, systems of equations, logarithms, exponential and logarithmic equations, binomial theorem, progressions, permutations, combinations, and probability.

**Prerequisites:** Must have made at least a C in Math 0133 or a TSI Math Score of 350.

**Required Text:** Three items are required:     1. The text – either a paper copy or an electronic version,
                                                 2. WebAssign – an online homework package, and
                                                 3. A graphing calculator such as TI-83, or TI-84.
*College Algebra*, 9th   Edition; by Ron Larson
ISBN: 978-1-133-96302-8, Cengage, 2015

## Go to http://www.webassign.net/login.html to register.

## Class Key: pvamu 4386 5296

A 14-day grace period of non-purchase of WebAssign code is granted to all students at the beginning of the semester.  At the end of the grace period, the student must purchase WebAssign.

**Access to Learning Resources:** | PVAMU Library:
       phone: 936 261-1500
       web: http://www.tamu.edu/pvamu/library
University Bookstore:
       phone: 936 261-1990
       web: https://www.bkstr.com/Home/10001-10734-1?demoKey=d

**Course Goals:**
The goals of this course are to enable the student to:

|  | Goal | Alignment with Academic Program | Alignment with Core Curriculum |
|---|---|---|---|
| 1. | Write definitions, recognize and use basic mathematical concepts. | 1,2,3 | 1,2,3 |
| 2. | Simplify polynomial, radical, rational, exponential, and logarithmic expressions. | 3 | 3 |
| 3. | Solve linear, quadratic, rational, radical, absolute value, exponential and logarithmic equations with one variable. | 3 | 3 |
| 4. | Solve inequalities. | 3 | 3 |
| 5. | Solve systems of equations. | 3 | 3 |
| 6. | Graph polynomial, rational, exponential and logarithmic functions. | 1,2 | 1,2 |
| 7. | Give an elementary function evaluation of polynomial, rational, radical, absolute value, exponential and logarithmic functions. To include finding the domain and range, interval of increase and decrease composition, even, odd or neither, one-to-one, and inverse of functions. | 1,2 | 1,2 |
| 8. | Develop problem-solving skills. | 1,2,3 | 1,2,3 |

**Course Outcomes/Objectives**
    At the end of this course, the student will:
        1. Be able to demonstrate mastery of the course goals listed above.

**Program Learning Outcomes**
- Demonstrate basic mathematical computational skills and distinguish uses of concepts in Calculus, Algebra, and Applied Mathematics.
- Demonstrate the ability to write mathematically rigorous proofs.
- Demonstrate the ability to perform advanced mathematical computations.
- Demonstrate a breadth and depth of knowledge in mathematics.

## Course Requirements and Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

**Pretest/Posttest** – The pretest and posttest measure the student's overall progress in the class. The Pretest will be available online in **ecourses** to all students during the first two weeks of school and the Posttest will be available in **ecourses** the last two weeks before final exams. The Pretest and Posttest are completion grades.

**Attendance** – Absences are accumulated beginning with the **first day** of class. The percentage of classes attended will be the grade.

**Examinations** – All exams will consist of essay type written tests designed to measure knowledge of presented course material. The midterm exam and the final exam are to be done in class according to the schedule. Graphing calculators are allowed and a formula sheet will be provided. An exam will not be retaken.

**Homework** – All homework problems are to be done using WebAssign to enhance the understanding of the material. The publisher has supplements freely available online. **Go to http://www.webassign.net/login.html** to register and do the homework. A 14-day grace period of non-purchase of WebAssign code is granted to all students. At the end of the grace period, students must purchase the WebAssign code (also called Class Key) for continued access of the program. The WebAssign code (Class Key) for this section is: pvamu 4386 5296. In-class activities which give quick feedback on at student's understanding of the concept(s) presented in class. WebAssign quizzes will be done in WebAssign to measure progress toward understanding of presented concepts.

**Grading:**
The course grade will be determined using the following matrix.

**Grading Matrix**

| Instrument | Total |
|---|---|
| Pretest    (given during 1$^{st}$  week of class) | 2.5% |
| Homework  online (WebAssign) | 20% |
| Exam 1      online (WebAssign) | Exam 1 or Exam 2 |
| Exam 2      online(WebAssign) | 12.5% |
| Midterm Exam  (Exam 3) In class | 20% |
| Exam 4      online (WebAssign) | Exam 4 or Exam 5 |
| Exam 5      online (WebAssign) | 12.5% |
| Posttest online (ecourse) | 2.5% |
| Attendance | 5% |
| Final Examination  In class | 25% |
| **Total:** | 100% |

**Midterm grades** will be computed as follows:

Midterm score =
$$\frac{0.025 \times \text{Pretest} + 0.1 \times \text{ Hmwk avg } + 0.125 \times (\text{Exam 1 or Exam 2}) + 0.2 \times \text{ Midterm } + 0.025 \times \text{Att}}{0.475}$$

where $0.475 = 0.025 + 0.1 + 0.125 + 0.2 + 0.025$ is the sum of the weights through midterm.

**Course average** will be computed as follows (sum of the weights = 1):

Final score $= 0.025 \times \text{Pretest} + 0.2 \times \text{ Hmwk avg } + 0.125 \times (\text{Exam 1 or Exam 2}) + 0.2 \times \text{ Midterm } + 0.125 \times (\text{Exam 4 or Exam 5}) + 0.05 \times \text{Att } + 0.025 \times \text{Posttest} + 0.25 \times \text{ Final}$

**Grade Determination:** The final scores will be rounded up and letter grades will be assigned as follows:

A = 90 – 100%;
B = 80 –  89%;
C = 70 –  79%;
D = 60 –  69%;
F =   0 –  59%

## Course Procedures and Policies

All classes will begin and end on time. There will be no early dismissal or unapproved cancellation of classes. Students will be treated with respect and a good record of class attendance will be maintained.

**Attendance Policy:**
*Prairie View A&M University requires regular class attendance. Excessive absences will result in lowered grades. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or in assignment of a grade of "F". Absences are accumulated beginning with the first day of class. Students are strongly encouraged to let the instructor know the reason for the absence so the absence can be excused.*

**Electronic Devices:** The use of cell phones in this class is absolutely prohibited unless the instructor allows the use. All cell phones must be out of sight during class. Electronic devices are allowed during class.

**Submission of Assignments:** Assignments and other resources will be distributed and submitted through WebAssign and ecourse. Directions for accessing your online course will be provided in WebAssign. Additional assistance can be obtained from the Office of Distance Learning or the WebAssign website. Homework assignments, quizzes, and other activities will be done and submitted online using WebAssign and ecourse. In-class activities will be submitted in class. No assigned work will be accepted after the due date.

**Exam Policy:** There will be three major exams and a final exam. Exams will be administered according to the schedule. Once the exam begins, you may not leave the room. Hats, purses, backpacks, or bags are not allowed on the desk. No sharing of calculators is allowed. No makeup exams will be allowed except under documented emergencies (See Student Handbook and description below). All exams, except the midterm and final exam, will be graded and returned to students within a week. If you perform below your expectations or fail any test, please set up a conference with the instructor as soon as possible. A student cannot retake an exam.

**Make-up Policy: Any missed exam for which a make-up is necessary requires prior approval by the Department Head.** An exam can be made up if the student has a valid excuse or emergency. Valid excuses include *documented* illness, school or business trips, or family crises. Without proper documentation, there will be no makeup exam. Written documentation after email notification must be provided by a university official, doctor, police officer, justice of the peace, or coach. A student who will be representing the school at an event must notify me of the absence before attending the event. **If granted a make-up, you have a period of three (3) class days to schedule your make-up exam. After that point, the grade becomes a zero**.

**Communication Expectations:** All emails will receive a response from the instructor within 48 hours. A student can send email anytime that is convenient for him/her, but the instructor will check her emails during the day throughout the work-week (Monday through Friday). The instructor will respond to emails during the work-week by the close of business (5:00 pm) on the day following her receipt of them. Emails that are received on Friday will be responded to by the close of business on the following Monday and on Saturday or Sunday will be responded to by the close of

business on the following Tuesday.

**Study Hints:**
*1. Attend class regularly.*
*2. Do the homework.*
*3. You should read the material from the textbook before coming to class. The weekly outline below shows the text material for each week. If you miss a class, you are expected to find out which material was covered and to familiarize yourself with it. Please ask questions if you have any.*
*4. Form study groups with classmates.*
*5. Make use of office hours.*
*6. Make use of the Math Tutorial Lab in WR Banks, Room 303 and the Library tutoring services.*
*7. Study regularly instead of cramming for test.*
*8. Make use of supplementary materials provided by WebAssign.*

# <u>University Rules and Procedures</u>

**University Mission Statement:**
Prairie View A&M University is a state-assisted, public, comprehensive land grant institution of higher education. The university was designated in a 1984 amendment to the Texas Constitution as an "institution of the first class." It is dedicated to achieving excellence and relevance in teaching, research, and service. It seeks to invest in programs and services that address issues and challenges affecting the diverse ethnic and socioeconomic population of Texas and the larger society including the global arena. The university seeks to provide a high quality educational experience for students who, upon completion of bachelors, masters, or doctorate degrees, possess self-sufficiency and professional competence. The experience is imbued by the institution's values including, but not limited to, access and quality, accountability, diversity, leadership, relevance, and social responsibility.

*Attendance Policy: Prairie View A&M University requires regular class attendance. Excessive absences will result in lowered grades. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or in assignment of a grade of "F". Absences are accumulated beginning with the first day of class.*

**Disability statement (See Student Handbook):**
Students with disabilities, including learning disabilities, who wish to request accommodations in class should register with the Services for Students with Disabilities (SSD) early in the semester so that appropriate arrangements may be made. In accordance with federal laws, a student requesting special accommodations must provide documentation of their disability to the SSD coordinator.

**Academic misconduct (See Student Handbook):**
You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with your Student Handbook, especially the section on academic misconduct. Students who engage in academic misconduct are subject to university disciplinary procedures.

**Forms of academic dishonesty:**
1. Cheating: deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not mastered; giving or receiving aid unauthorized by the instructor on assignments or examinations.

2. Academic misconduct: tampering with grades or taking part in obtaining or distributing any part of a scheduled test.

3. Fabrication: use of invented information or falsified research.

4. Plagiarism: unacknowledged quotation and/or paraphrase of someone else's words, ideas, or data as one's own in work submitted for credit. Failure to identify information or essays from the Internet and submitting them as one's own work also constitutes plagiarism.

**Nonacademic misconduct (See Student Handbook)**
The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either (1) the instructor's ability to conduct the class, (2) the inability of other students to profit from the instructional program, or (3) campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. Such incidents will be adjudicated by the Dean of Students under nonacademic procedures.

**Sexual misconduct (See Student Handbook):**
Sexual harassment of students and employers at Prairie View A&M University is unacceptable and will not be tolerated. Any member of the university community violating this policy will be subject to disciplinary action.

**Student Academic Appeals Process**
Authority and responsibility for assigning grades to students rests with the faculty. However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

# Technical Considerations for Online and Web-Assist Courses

**Minimum Hardware and Software Requirements:**
·Pentium with Windows XP or PowerMac with OS 9
·56K modem or network access
·Internet provider with SLIP or PPP
·8X or greater CD-ROM
·64MB RAM
·Hard drive with 40MB available space
·15" monitor, 800x600, color or 16 bit
·Sound card w/speakers
·Microphone and recording software
·Keyboard & mouse
·Netscape Communicator ver. 4.61 or Microsoft Internet Explorer ver. 5.0 /plug-ins
Participants should have a basic proficiency of the following computer skills:
·Sending and receiving email
·A working knowledge of the Internet
·Proficiency in Microsoft Word
·Proficiency in the Acrobat PDF Reader
·Basic knowledge of Windows or Mac O.S.

**Netiquette (online etiquette):** Students are expected to participate in all discussions and virtual classroom chats when directed to do so. Students are to be respectful and courteous to others in the discussions. Foul or abusive

language will not be tolerated.   When referring to information from books, websites or articles, please use APA standards to reference sources.

**Technical Support:** Students should call the Prairie View A&M University Helpdesk at 936-261-2525 for technical issues with accessing your online course.  The helpdesk is available 24 hours a day/7 days a week.  For other technical questions regarding your online course, call the Office of Distance Learning at 936-261-3290 or 936-261-3282

**Communication Expectations and Standards:**
All emails or discussion postings will receive a response from the instructor within 48 hours.

You can send email anytime that is convenient to you, but I check my email messages continuously during the day throughout the work-week (Monday through Friday).  I will respond to email messages during the work-week by the close of business (5:00 pm) on the day following ___*my receipt*___ of them.  Emails that I receive on Friday will be responded to by the close of business on the following Monday.

**Submission of Assignments:**
Assignments, Papers, Exercises, and Projects will distributed and submitted through your online course. Directions for accessing your online course will be provided.  Additional assistance can be obtained from the Office of Distance Learning.

**Discussion Requirement:**
Because this is an online course, there will be no required face to face meetings on campus.  However, we will participate in conversations about the readings, lectures, materials, and other aspects of the course in a true seminar fashion.  We will accomplish this by use of the discussion board.

Students are required to log-on to the course website often to participate in discussion.  It is strongly advised that you check the discussion area daily to keep abreast of discussions.  When a topic is posted, everyone is required to participate.  The exact use of discussion will be determined by the instructor.

**It is strongly suggested** that students type their discussion postings in a word processing application and save it to their PC or a removable drive before posting to the discussion board.  This is important for two reasons:  1) If for some reason your discussion responses are lost in your online course, you will have another copy; 2) Grammatical errors can be greatly minimized by the use of the spell-and-grammar check functions in word processing applications.  Once the post(s) have been typed and corrected in the word processing application, it should be copied and pasted to the discussion board.

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**MATH 1113 – College Algebra**
**Weekly Outline**

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| Week | Topics | |
|------|--------|---|
| 1 | Introduction to WebAssign, Pretest<br>1.1  Graphs of Equations<br>1.2  Linear Equations in One Variable | 3 hours |
| 2 | 1.3 Modeling with Linear Equations<br>1.4 Quadratic Equations and Applications | 3 hours |
| 3 | 1.5 Complex Numbers<br>1.6 Other Types of Equations<br>**Exam 1 online: Wed. Feb. 3 and Thu Feb. 4 Covers 1.1 – 1.6** | 3 hours |

| | | |
|---|---|---|
| 4 | 1.7 Linear Inequalities in One Variable<br>1.8 Other Types of Inequalities<br>2.1 Linear Equations in Two Variables | 3 hours |
| 5 | 2.2 Functions<br>2.3 Analyzing Graphs of Functions<br>**Exam 2 online: Wed. Feb. 17 and Thu Feb. 18 Covers 1.1 – 1.6** | 3 hours |
| 6 | 2.4 A Library of Parent Functions<br>2.5 Transformation of Functions | 3 hours |
| 7 | 2.6 Combination of Functions: Composite Functions<br>2.7 Inverse Functions | 3 hours |
| 8 | **Review, Midterm exam (Exam 3) in class (Covers Chapters 1 and 2)<br>Wed March 9, and Thu March 10** | 3 hours |
| 9 | **Spring Break** | |
| 10 | 3.1 Quadratic Functions and Models<br>3.2 Polynomial Functions of Higher Degree | 3 hours |
| 11 | 3.3 Polynomial and Synthetic Division<br>3.4 Zeros of Polynomial Functions | 3 hours |
| 12 | 4.1 Rational Functions and Asymptotes<br>4.2 Graphs of Rational Functions<br>**Exam 4 online: Wed. March.30 and Thu March 31 Covers 3.1 – 4.2** | 3 hours |
| 13 | 5.1 Exponential Functions and Their Graphs<br>5.2 Logarithmic Functions and Their Graphs | 3 hours |
| 14 | 5.3 Properties of Logarithms<br>5.4 Exponential and Logarithmic Equations<br>**Exam 5 online: Wed. April 13 and Thu April 14 Covers 3.1 – 4.2** | 3 hours |
| 15 | 5.5 Exponential and Logarithmic Models<br>6.1 Linear and Nonlinear Systems of Equations<br>6.2 Two-Variable Linear Systems | 3 hours |
| 16 | **Posttests, Review Comprehensive Final exam** | 3 hours |

NOTE: All online exams are to be done in WebAssign. This means lectures (or reviews) will proceed normally in the classroom on exam days except for the midterm and the final exams. So no lecture time is sacrificed for testing.