**Mathematics 1111 A1 (CRN 471)**

 College Algebra

 Fall Semester 2020

 Class location: Online

Instructor: Dr. S. Karmakar

Office: Instructional Complex 231

Office Hours: 12:30-2:30 MW

 10:00-12:00 TR

 All office hours are online

 Please contact by email

Office Phone: 678-359-5833

**All students are required to wear face masks in classrooms and buildings on campus.**

**Class Format: Online**

**For more information related to COVID-19, visit** [**https://www.gordonstate.edu/corona-virus/index.html**](https://www.gordonstate.edu/corona-virus/index.html)

E-mail: s\_karmakar@gordonstate.edu

Web Page: <http://www.gordonstate.edu/Faculty/s_karmakar/>

Prerequisite: Exemption from or Completion of Learning Support Mathematics

Credit: 3-0-3

Calculator: A scientific calculator (for example, Texas Instruments, TI-30XIIS) is allowed. **Graphing calculators are NOT allowed**.

Text: Sullivan, Michael. 2019. Algebra & Trigonometry. 11th edition. Pearson Prentice Hall. Access Card for MyLab Math ISBN : 9780321199911

 **Course Description**

This course is a functional approach to algebra that incorporates the use of appropriate technology. Emphasis will be placed on the study of functions, and their graphs, inequalities, and linear, quadratic, piece-wise defined, rational, polynomial, exponential, and logarithmic functions. Appropriate applications will be included. A primary goal of this course is to encourage students to think and to improve their logical reasoning abilities. The course emphasizes the use of algebraic skills and mathematical reasoning in problem solving.

This course will emphasize student preparation, critical thinking, and problem solving. To do well in the course, you must do ***the homework assignment ahead of time***, do problems from the text and prepare for tests by reviewing those homework problems. College Algebra demands your time and effort!

 **Course Objectives**

This objective is directed toward the following general education expected outcome of the college:

**Mathematical Skills:** Students will demonstrate a basic knowledge of the fundamentals of college-level mathematics.

Upon completion of College Algebra, students should have an understanding of:

1. Solving linear, quadratic, rational, radical, and absolute value equations and their applications.

2. Solving linear, quadratic, rational, radical, and absolute value inequalities and their applications.

3. The rectangular coordinate system and graphing equations in two variables.

4. Finding equations of, and graphing, lines and circles and their applications.

5. Fundamental concepts of functions, including composition of functions, and their application as mathematical models.

6. Fundamental properties of polynomials, the factor and remainder theorems, and the number of real zeros of a polynomial.

7. Solving systems of linear equations in two or three variables and applications.

8. The properties of exponential and logarithmic functions and their application to compound interest.

9. Solving exponential and logarithmic equations.

 **Method of Evaluation**

1. Homework will be completed on-line via [MyLabMath](http://www.pearsonmylabandmastering.com/northamerica/mymathlab/). The homework assignments are listed there. **Our course ID number is karmakar53055**. Please login to [MyLab Math](http://www.pearsonmylabandmastering.com/northamerica/mymathlab/) as soon as possible. The due dates of the homework assignments are given in MyMathLab and will NOT be extended. There are no exceptions to this policy. Please make your plans accordingly.
2. There will be quizzes (online via [MyLabMath](http://www.pearsonmylabandmastering.com/northamerica/mymathlab/)) approximately every Monday. Quizzes are open book, and open notes. ***There will be NO make-up quizzes***. However, I will drop your lowest two quiz grades.

 C. There will be **four (4) tests (online via** [**MyLabMath**](http://www.pearsonmylabandmastering.com/northamerica/mymathlab/) **)** given during the semester. These tests are open book and open notes.

 There will also be a **comprehensive Final Examination. More information regarding the final exam will be given later.** Gordon College policy states the Final Examinations must be taken at the scheduled time with the following exception. Students who have three or more finals on the same day may petition to take the third and/or fourth exam on another day or days. Student Petition forms are available in the Academic Affairs Office (Lambdin Hall 347). Please make your plans accordingly.

1. The student’s final grade will be computed as follows:

 Homework 10%

 Quizzes 10%

 Tests 60%

 Final 20%

E. If your grade on the Final Exam is higher than your highest test score, then the grade on the Final Exam will replace your lowest test score.

F. The following grading scale will be used.

89.5 or above A 59.5 to 69.49 D

79.5 to 89.49 B Below 59.5 F

69.5 to 79.49 C

 **Class Procedures**

A. COVID-19 Statement

 Creating a Healthy Environment:

 At Gordon State College, we are committed to the health and safety of our students, faculty and staff. Since March 2020, our campus has been addressing the impact of the Coronavirus (COVID-19) on a daily basis. The return to campus will be based on a new reality where adjustments will be made to every facet of the “on-campus” experience. This will truly be a “Power of WE!” moment, as the safety of the entire campus will depend on our institutional values.

 You will be expected to follow “The Healthy Highlander Way“ as you participate in classes that require class attendance. Posters describing the Healthy Highlander Way are displayed in each building on campus and can be found in the “Return to Campus Guide” linked to the GSC home page.

 If you have one of the symptoms of COVID-19, you should notify your professor, stay home, and contact your personal physician prior to returning to campus. Commuter students should also notify the Student Health Center at healthcenter@gordonstate.edu. In addition, residential students should contact their Community Assistant and schedule an appointment with the Student Health Center at 678-359-5456.

 One of the most effective ways to stop the spread of the virus is wearing a face covering. You must wear a face covering at all times when in public on any Gordon State College campus. Anyone not using a face covering when required will be asked to wear one or leave the area. Repeated refusal to comply with the requirement may result in discipline through the applicable code of conduct for students.

 If you are a student with one of the underlying medical conditions identified in the “Return to Campus Guide” and you would like to apply for accommodations due to being at a higher risk for severe illness with COVID-19, please contact Counseling & Accessibility Office at 678-359-5585 or email the Director of Counseling and Accessibility Services Alicia Dorton at aliciad@gordonstate.edu.

 Making a commitment to The Healthy Highlander Way will allow our campus to remain as safe as possible during this semester.

 Being prepared for Class during the Pandemic:

 All students should be prepared at a minimum to:

 Meet an online class session synchronously (at the time of the class or a set time with the professor)

 Take a proctored exam using an outside proctor

 All students should, as a minimum, have access to:

 A laptop or desktop computer (5 or fewer years old). Tablets, Chromebooks, and phones will not be sufficient.

 Operating system:

 Windows 10 Home or Pro (“streamlined” versions such as Windows 10S are not supported), or

 macOS 10.13 or higher

Webcam with a working microphone (often this is integrated/included with laptops but USB webcams can also be utilized)

Access to a broadband Internet connection (& access to an Ethernet cable, preferably)

Microsoft Office Suite (Word, PowerPoint, Outlook, etc.). [Download it here for free (via Gordon State College. Make sure to create your account using your Gordon email.)](https://www.gordonstate.edu/departments/computer-services/office-365/index.html)

A working Internet browser that is compatible with D2L: Microsoft® Edge, Mozilla® Firefox®, Google® Chrome™, Apple® Safari®. Students can check their devices’ compatibility via [this checker](http://www.usg.edu/usgweb/d2lchecker/).

Other suggested features include:

Processor: minimum Intel Core i3 or equivalent

RAM/Memory: 8GB or higher

Storage: 128GB internal hard drive or larger (256+GB solid state drives preferred, but not required)

Be aware that your individual course may have other technology requirements.

Finally, it is highly recommended that you download the Brightspace by D2L Pulse App for your smartphone or tablet.

B. **Academic Honesty:** Each student must do his or her own work on exams without any assistance from any outside source not specifically authorized by me. The student handbook details school policies on academic honesty.

C. **Calculator Policy:** A scientific calculator (for example, Texas Instruments, TI-30XIIS) is allowed. **Graphing calculators are NOT allowed**. I will not provide calculators for your use. Also, sharing calculators during a test will be considered cheating.

D. **ADA and 504:** If you have a documented disability as described by the Americans with Disabilities Act (ADA) and the Rehabilitation Act of 1973, Section 504, you may be eligible to receive accommodations to assist in programmatic and/or physical accessibility.  The Counseling and Accessibility Services office located in the Student Center, Room 212 can assist you in formulating a reasonable accommodation plan and in providing support in developing appropriate accommodations to ensure equal access to all GSC programs and facilities.  Course requirements will not be waived, but accommodations may assist you in meeting the requirements.  For documentation requirements and for additional information, contact Counseling and Accessibility Services at 678-359-5585.

E. **Title IX:** Gordon State College is committed to providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic violence, dating violence and stalking. If you (or someone you know) has experienced or experiences any of these incidents, know that you are not alone. All faculty members at Gordon State College are mandated reporters. Any student reporting any type of sexual harassment, sexual assault, dating violence, domestic violence or stalking must be made aware that any report made to a faculty member under the provisions of Title IX will be reported to the Title IX Coordinator or a Title IX Deputy Coordinator. If you wish to speak with someone confidentially, you must contact the Counseling and Accessibility Services office, Room 212, Student Life Center. The licensed counselors in the Counseling Office are able to provide confidential support.

 Gordon State College does not discriminate against any student on the basis of pregnancy, parenting or related conditions. Students seeking accommodations on the basis of pregnancy, parenting or related conditions should contact Counseling and Accessibility Services regarding the process of documenting pregnancy related issues and being approved for accommodations, including pregnancy related absences as defined under Title IX.

F.. **House Bill 280:** For information regarding House Bill 280, see the University System of Georgia at the following link: <http://www.usg.edu/hb280>.

G**. Religious Holidays:** Gordon State College acknowledges that the academic calendar can sometimes conflict with major holidays from among our diverse religious traditions. If a student must miss class due to the observance of a religious holiday, that absence may be excused. To be excused, the student must inform his/her instructors before the absence and make alternate arrangements for any work due at the time of the absence. An excused absence for the observance of a religious holiday does not excuse student from responsibility for required course work.

H. **Hightower Collaborative Learning Center & Library:** The Hightower Collaborative Learning Center & Library offers Gordon State students specialized library research assistance. Students can meet with their personal librarians for one-on-one help in each discipline, major, or course to search and evaluate information sources effectively. Go to schedule an appointment by clicking the **Personal Librarian** tab or click on the **Presentation Practice Room** tab to make a reservation. For immediate help, call **678-359-5076** or stop by the Circulation/Check-Out Desk. You can also [Ask a Librarian](http://www.gordonstate.edu/library/112) or drop by the Circulation/Check-Out Desk. Check the library’s for [website](http://www.gordonstate.edu/library/home), [hours](http://www.gordonstate.edu/library/personnel-hours), [electronic resources](http://www.gordonstate.edu/library/electronic-resources), and [LibGuides](http://libguides.gordonstate.edu/) (subject- or class-specific research guides).

I. **Gordon E-mail:** Your Gordon e-mail address is where ***all*** official communication from Gordon College is sent. This includes registration information, etc. Please check your Gordon e-mail account periodically for important information. You should also delete junk e-mail to keep your mailbox from getting full. If your mailbox is full, you may not receive important e-mail notifications. Also, if I need to communicate with you via e-mail, I will send the message to your Gordon e-mail account.

 **Tentative Course Outline**

 MATH 1111 A1

 Fall Semester 2020

| **Week of**  | **Section** |  |
| --- | --- | --- |
| Aug 10 | 1.1: Linear Equations1.2: Quadratic Equations |  |
| Aug 17 | 1.2: Quadratic Equations |  |
|  | **Quiz 1** |  |
|   |  |  |
| Aug 24 | 1.4: Radical Equations; Equations Quadratic in Form; Factorable Equations |  |
|  | **Quiz 2** |  |
| Aug 31 | 1.5: Solving Inequalities |  |
|  | 1.6: Equations and Inequalities Involving Absolute Value |  |
|  | **Quiz 3** |  |
| **Wed, Sep 2** | **TEST I** |  |
|  |  |  |
| Sep 7 | 2.1: The Distance and Midpoint Formulas |  |
|  | 2.2: Graphs of Equations in Two Variables; Intercepts; Symmetry |  |
|  | **Quiz 4** |  |
| Sep 14 | 2.3: Lines |  |
|  | 2.4: Circles |  |
|  | **Quiz 5** |  |
| Sept 21 | 3.1: Functions  |  |
|  | 3.2: The Graph of a Function |  |
|  | **Quiz 6** |  |
| **Thu, Sep 28** | **TEST II** |  |
|  |  |  |
| Sept 28 | 4.1: Properties of Linear Functions and Linear Models |  |
|  | 4.3: Quadratic Functions and Their Properties |  |
|  | **Quiz 7** |  |
| Oct 5 | 5.1: Polynomial Functions and Models |  |
| Oct 12 |  |  |
| ***Mon, Oct 12 – Oct 13*** | ***Fall Break !!!*** |  |
|  | 5.5: Polynomial and Rational Inequalities |  |
| Oct 19 | **Quiz 8** |  |
|  | 5.6: The Real Zeros of a Polynomial Function |  |
| Oct 26 | 6.1: Composite Functions |  |
|  | **Quiz 9** |  |
| **Thu, Oct 29** | **TEST III** |  |
| Nov 2 | 6.3: Exponential Functions |  |
|  | 6.4: Logarithmic Functions |  |
|  | **Quiz 10** |  |
| Nov 9 | 6.5: Properties of Logarithms |  |
|  | 6.6: Logarithmic and Exponential Equations |  |
|  | **Quiz 11** |  |
| Nov 16 | 6.7: Financial Models |  |
|  | 12.1: Systems of Linear Equations: Substitution and Elimination |  |
|  | **Quiz 12** |  |
|  | 12.6: Systems of Nonlinear Equations |  |
| **Mon, Nov 30** | **TEST IV** |  |
|  | Review for Final Exam |  |
|  | Review for Final Exam |  |
|  |  |  |
| **TBA** | **FINAL EXAM** |  |