# Course Syllabus
# Math 1113-LA2 and LXA: Precalculus (4 credit hrs.)
**Fall Semester, 2019**
University of West Georgia

**Instructor:**   Dr. David G. Robinson, Hum #221, 678-839-4137
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Office Hours: MW 12:15 – 1:45 p.m., Fri. 10 – 10:50 a.m., 1 – 2:10 p.m.

**Class Meetings: M W 3:30 – 4:45 p.m., F 2:25 – 3:15 p.m., Boyd #306**
These will consist primarily of lectures and problem sessions. All reading and exercises will be assigned in advance of the meeting thereon. (See schedule.)

**Text/Resources:** Hard copy or (free) downloadable PDF version of *Algebra & Trigonometry*, OpenStax College, Rice University, 2015 (Chs. 3 - 10)

Graphics calculator (**TI-83/84** or equivalent)

**Prerequisites:**   College Algebra (Math 1111) with a grade of C or better, or SAT Math score of 500 or higher, or ACT Math score of 20 or higher

**General Course Description:** This course is an intensive study of algebraic and transcendental functions, designed to prepare students for calculus, physics and related technical subjects.

**Topics:**      *Functions* and their Graphs (Ch. 3): Definition of  function, function notation and evaluation, domain and range of a function, interval notation, graph of a function, basic functions, average rate of change of a function, transformations of functions (translation, reflection, dilation), operations on functions, composition, iteration and inversion of functions.
   *Polynomial and Rational Functions* (Chs. 4 – 5): linear functions, slope and equation of a line, linear models, quadratic functions, parabolas, graphs of polynomials, factors and zeros of polynomial functions, polynomial division, rational functions, asymptotes.
   *Exponential and Logarithmic Functions* (Ch. 6): General exponential and logarithmic functions and their graphs, laws of exponents and logarithms, exponential and logarithmic equations, exponential growth and decay problems.
   *Trigonometric Functions* (Chs. 7 - 8): Angle measure, right triangle and unit circle definitions of trig functions, elementary identities, graphs of trig functions, harmonic motion, inverse trig functions.
   *Analytic and Applied Trigonometry* (Chs. 9 - 10): Advanced identities - angle sum/difference, double/half-angle, sum-to-product, etc.; trigonometric equations; laws of sines and cosines, applications to geometrical figures; polar coordinates, polar curves - cardiods, limaçons, rose curves, lemniscates, etc.

**General Objectives:** Besides developing and deepening your understanding of the topics mentioned above, there are some general skills you should improve upon along the way in order to be able to carry what you learn in this course into future courses of study and future work situations.  These include:
- use of appropriate mathematical terminology and notation
- construction and use of tables, graphs and formulas
- recognition of function types
- equation-solving (by hand and by machine)
- curve sketching (on paper as well as on a calculator)
- translation of practical problems into mathematical models and vice versa

**Evaluation Procedures:** Your understanding of the material and your progress toward the aforementioned objectives will be evaluated on the basis of your performances on *five written tests and a comprehensive final exam.* (See attached schedule for details.)
 Homework problems from the text or from class will be assigned regularly. These are for practice, self-evaluation and class discussion. (Nearly all test questions will be based directly on the HW exercises!) Be prepared to discuss them as soon as possible after they are assigned.

**Evaluation Criteria:** Grades on all work will be based upon
- accuracy of information (including calculations and use of mathematical notation and terminology)
- depth and breadth of solutions
- logic and clarity of arguments
- neatness and clarity of presentation
- correctness of grammar and spelling
- thoroughness and timeliness of work
- intellectual honesty and creativity
- achievement of personal potential
- relative difficulty of the assignment/test

**Grades:** My scale for converting numerical grades (i.e., percentage points) to letter grades will be as follows:

*89-100* A, *77-88* B, *65-76* C, *50-64* D, *below 50* F

Your final grade will be based on your *five test scores (15% each) and your final exam score (25%).* However, you may also earn up to *five* points of 'extra credit' by maintaining a *superior record of attendance*, i.e., *one point per period of zero absences from class meetings between successive tests.* [Note: An *absence* here means a class day in which you are not present - in body or mind! - for the duration of the class meeting, *regardless of the reason.*]

## Important Policies and Reminders:
- Attendance is important! However, should you find for some reason that you must miss a class meeting, remember that you are still responsible for any and all material you may have missed during your absence.
- Cell phones should be turned *off* during class meetings. If you need to make or receive a call/text, please excuse yourself from the class and take care of your business outside the classroom.
- *All work submitted for a grade must be your own work and must be turned in on time to be graded.*
- *Tests must be taken at the prescribed times (see attached schedule), except by prior permission from the instructor, which will only be given under the direst of circumstances (serious illness, e.g.). In order for you to obtain such permission, I must be notified of your "dire circumstances", by e-mail, phone, or otherwise, before the test is over. Otherwise you will almost certainly receive a score of zero for that test.*
- *The Math Tutoring Center is in Boyd #205 and is open daily at the posted times.*
- *All electronic correspondence between student and instructor about matters pertaining to this course should be by way of your UWG e-mail account.*
- I assume you will abide by the *SUWG Honor Code*. So will I! Anyone caught cheating - which means *representing someone else's work as your own* - will receive a grade of zero for that assignment/test.
- Please carefully read the information at the following link, as it contains important material pertaining to your rights and responsibilities in this class: https://www.westga.edu/UWGSyllabusPolicies/

**Disabilities Act/Accessibility for the Course:** If you are a student who is disabled as defined under the Americans with Disabilities Act and require assistance or support services, please notify me and provide me with a copy of your packet from Student Services.  The university will provide you with resources for any audio/visual needs that you may have with the learning management system or course content. Please contact UWG Accessibility Services for more information.