MATH 3190
Departmental Course Syllabus

Math 3190 Algebra and Geometry for Teachers
3 Credit Hours Nevins Hall
Mathematics Department
Valdosta State University

Prerequisite: MATH 2261 or MATH 3180 with a minimum grade of C.

Required Text: Billstein, Libeskind, and Lott. (2010). *A Problem Solving Approach to Mathematics for Elementary Teachers* (11th Ed.), New York, NY: Addison-Wesley. Book may not be the most current – see your instructor.
Other: Three-ring notebook or folder, colored pencils or markers, graphing calculator, ruler (12 inches and 30 cm), scissors, compass, protractor.

Course Description: Prerequisite: Grade of "C" or higher in either MATH 2261 or MATH 3180. An in-depth study of concepts and processes underlying the middle and secondary school mathematics curriculum with special emphasis placed upon the integrated algebra, geometry and analytical geometry. Problem solving and historical context serve as unifying strands.

Student Learning Outcomes:

By the time a student finishes this course, they should be able to do the following:

1. Solve problems and build new mathematical knowledge through problem solving;
2. Model and explain basic measurement concepts and how they are connected;
3. Understand and apply the properties of parallel and perpendicular lines;
4. Further develop their understanding of plane and solid figures;
5. Model and explain basic measurement concepts related to plane and solid figures;
6. Demonstrate an understanding of transformations and apply the concepts involved with transformations to solve real world problems;
7. Determine the area and the perimeter plane figures and apply the concepts involved with area and perimeter to solve real world problems;
8. Determine the surface area and the volume of solid figures and apply the concepts involved with surface area and volume to solve real-world problems;
9. Use ideas pertaining to coordinate geometry to solve problems;
10. Use geometric patterns (e.g., tessellations) and solve problems involving geometric patterns;
11. Use algebraic reasoning to solve routine and non-routine problems.

Course Overview: Content and processes of mathematics will be treated in an environment that encourages pre-service teachers to view mathematics as a fascinating and stimulating intellectual endeavor which provides skills, insights, and modes of thinking that are essential in the twenty-first century. Students will see the connections between the various aspects of mathematics and between mathematics and other fields.

Assessment: There will be examinations, Web assignments, homework assignments, in-class participation, and a ***mandatory comprehensive final examination*** (worth 20% of the available points).

Grading Scale

90% – 100%	**A**
80% – 89%	**B**
70% – 79%	**C**
60% – 69%	**D**
Below 60%	**F**

Examinations and Makeup Policy

NO MAKEUP EXAMS WILL BE GIVEN after the test has been administered to the class. If you know in advance you must miss an exam day, let the instructor know **in advance** so potentially arrangements can be made to take the exam early. It is **NOT** your right to take an exam early. This is done at the discretion of the instructor.

Your **lowest exam** score of the four exams will be **replaced by your final exam score** (if it helps). If you miss one exam, the missed exam will be your low score (grade of zero) and your final exam score will be used for that exam. Each subsequently missed exam will receive a score of zero. **All exams should be taken with a strong effort each time.**

Each of the examinations is a closed-book, closed note, individual exam. The content of the exams comes from the material presented in the course through readings (text and additional readings), text exercises, assignments, in-class notes, and in-class activities.

The final exam is a **mandatory comprehensive final** and will make up **20% of your overall grade** for the course.

Daily In-Class Work, Homework Assignments, and Makeup Policy

The in-class experiences and out-of-class assignments are integral parts of the course. You can expect to:

1) ***In-class activities***. Complete in-class activities with a good work ethic and a positive attitude.
2) ***Text exercises or instructor made homework***. Text exercises or instructor made problems or exercises will generally be given for homework at each class meeting. Be certain to review **ALL** of the text exercises that are given (doing any exercise is up to you). Formative quizzes over some of the material will be provided.
3) ***Reading Assignments.*** Reading assignments are given on the tentative class schedule. Instructor class notes can be printed by students prior to class for a given section if desired. In general, the instructor will not provide copies of notes for students. Reading assignments prior to each class meeting will enrich your classroom experience and help you to formulate questions for clarification more readily. Do **NOT** rely on the notes nor skip the reading!
4) ***Web Assignments.*** Complete Web assignments following instructions located on either the course Web page or in WebCT as directed **(See Tentative Course Schedule for Due Dates)**. Please note and adhere to the due dates for the Web assignments as **NO LATE WORK** will be accepted.
5) **Make-Up Work:** Make up work or alternative assignments will be **determined by the professor and at the sole discretion of the professor. These assignments may or may not exactly duplicate the** original and will not entitle other students to the same alternatives since they may not have experienced the same situations.
6) Detailed information for individual assignments may be provided separately.

Attendance & Tardiness: It is very important that you attend every class session on time. Roll will be taken each day by the instructor. If you are late it is your responsibility to notify the instructor at the end of that

specific class meeting to be sure the attendance is amended to tardy. **Failure to notify the instructor that day will result in your being counted absent.** You may not make "corrections" to your absences or tardiness after the fact at a subsequent class meeting. The amount of time you are tardy will count against the number of days you can miss for the course. **Every three times you are tardy will be counted as one absence.** Excessive tardiness or absences may result in the notification of your major chair and/or the filing of a Departmental Concern Form.

If you miss more than 20% of the class meetings (>**6** days), you will receive an **F** in the course as per Valdosta State University Policy found in the VSU Undergraduate Catalog. Please note that there are **no** distinctions made between "excused" and "unexcused" absences. **All absences are counted equally no matter what the reason.** If you are absent, be certain to get class notes, handouts, and assignments from another student in the class. Getting the phone number and e-mail address of two or three classmates during the first week of class will be very helpful. It is **completely your responsibility** to get class materials for a session that you missed.

Students will receive points for class attendance and participation. Students will lose points for lack of participation (off task, sleeping, and so on), tardiness, and absences. These points **CANNOT** be made up – if you are not present you did not participate and thus cannot receive participation points.

New Limited Withdrawal Policy:

- Please remember that starting fall 2010 **undergraduate students are limited to 5 course withdrawals for the lifetime of their undergraduate record**.
- **DO NOT OVER-REGISTER!** Please make sure you are enrolled in courses you intend to complete.
- Please go to http://www.valdosta.edu/academic/WithdrawalPolicy.shtml and **read the entire policy and the FAQs**.

Professionalism: A professional demonstrates the ability to focus on the job at hand. We expect professional basketball players, surgeons, attorneys, etc. to focus on their work when working. Michael Jordan does not read the paper during his game, nor does he go to the game simply to chat. During the semester, you need to exhibit professional behavior by focusing on the job at hand – learning mathematics. If you will come to class with the mindset of putting learning first, then the following aspects of professionalism will naturally fall into place:

- Come to class every time it is scheduled, be on time, and do not leave early.
- Turn in assignments and other materials on time.
- Do not pack up your books early.
- Stay on task – learning mathematics.
    - Turn off/silence cell phones and all other electronic devices
    - No electronic devices are permitted except graphing calculators
    - Students who use electronic devices during class will lose participation points
- Be prepared.
- Do **NOT** cheat. Procedures for academic dishonesty will be followed if work presented as your own is not actually your own work. If you need help, please get the help BEFORE the examinations.
- Through your actions and words, display that the work you are doing is important.
- Be courteous to and respectful of others. All students have the right to hear in class lectures, so do NOT converse privately during class lectures.
- Clean up after yourself.
- Demonstrate a positive attitude.

Academic Integrity: "Academic integrity is the responsibility of all VSU faculty and students. Faculty members should promote academic integrity by including clear instruction on the components of academic integrity and clearly defining the penalties for cheating and plagiarism in their course syllabi. Students are responsible for knowing and abiding by the Academic Integrity Policy as set forth in the Student Code of Conduct and the faculty members' syllabi. All students are expected to do their own work and to uphold a high standard of academic ethics." Full information on Academic Honesty at VSU is available at http://www.valdosta.edu/academics/academic-affairs/vp-office/academic-honesty-at-vsu.php

Turnitin, a plagiarism prevention tool, is available to all faculty through BlazeVIEW, VSU's online course management system. All faculty should include the following announcement in their syllabi: "By taking this course, you agree that all required course work may be subject to submission for textual similarity review to Turnitin, a tool within BlazeVIEW. For more information on the use of Turnitin at VSU see Turnitin for Students at http://www.valdosta.edu/academics/academic-affairs/vp-office/turnitin-for-students.php.

Access Statement: Students with disabilities who are experiencing barriers in this course may contact the Access Office for assistance in determining and implementing reasonable accommodations. The Access Office is located in Farbar Hall. The phone numbers are 229-245-2498 (V), 229-375-5871 (VP) and 229-219-1348 (TTY). For more information, please visit VSU's Access Office or email: access@valdosta.edu.

Title IX Statement: Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including pregnancy status, sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, national origin, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: Maggie Viverette, Director of the Office of Social Equity, titleix@valosta.edu, 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31608, 229-333-5463.

Example Schedule

Tentative Calendar

Day	Assignment
Tues., Jan. 14	**8. Real Number and Algebraic Thinking, 8.2**
Thurs., Jan. 16	**8.2**
Tues., Jan. 21	**8.3**
Thurs., Jan. 23	**8.3**
Tues., Jan. 28	**8.4**
Thurs., Jan. 30	**8.5**
Tues., Feb. 4	**Exam 01**
Thurs., Feb. 6	**Introductory Geometry, 11-1**
Tues., Feb. 11	**11-2**
Thurs., Feb. 13	**11.3**
Tues., Feb. 18	**11-4**
Thurs., Feb. 20	**11-5**
Tues., Feb. 25	**Exam 02**
Thurs., Feb. 27	**14. Area, Pythagorean Theorem and Volume, 14-1**
Tues., March 4	**14-2**
Thurs., March 6	**14-3**
Tues., March 11	**14-4**
Thurs., March 13	**14.4**
Tues., March 18	**Spring Break**
Thurs., March 20	**Spring Break**
Tues., March 25	**13. Congruence and Similarity with Transformations, 13-1**
Thurs., March 27	**13-1**
Tues., April 1	**13-2**
Thurs., April 3	**13-3**
Tues., April 8	**13-4**
Thurs., April 10	**Exam 03**
Tues., April 15	**13. Congruence and Similarity with Constructions, 12-1**
Thurs., April 17	**12.2**
Tues., April 22	**12.3**
Thurs., April 24	**12.4**
Tues., April 29	**Exam 04**
Thurs., May 1	**Final Exam Review**
Friday, May 9	**FINAL EXAMINATION**