The mission of Motlow State Community College is to enrich and empower its students and the community it serves.

MATH 1420 XXX - Geometry for Elementary Education
Fall or Spring 20XX
This Course Outline is subject to change with notice.

Credit Hours: 3.0

Prerequisites:
Documented eligibility for collegiate mathematics; one high school credit each in algebra I, algebra II, and geometry. Pre-requisite or Co-requisite: MATH 1410 or equivalent

Catalog Description:
Topics include measurement, congruence, similarity, and graphing; constructions, theorems, and proofs in both non-coordinate and Cartesian settings; historical development of geometry as a tool. Activities include creating models and manipulatives. A minimum grade of "C" is required in this course the meet the requirement of the AST degree. (Formerly MAT 1240)

Group for Whom the Class is Intended:
This course is intended for students pursuing the following degrees and programs of study:
Special Education Modified (K – 12) A. S.
Elementary Education (K – 6) A. S. (Transferring to Lipscomb University)
Teaching A. S. T. (K – 5)

Instructor Information:
Name: John Smith, Instructor
Office Location: Adjunct Office XXX Campus
Office Hours: as Posted
Academic Advising Hours: as Posted
Phone Number: XXX-XXX-XXXX
Email Address: XXX@mscc.edu

Required Texts:

Required Materials:
Scientific calculator with fraction capabilities, protractor, compass, straight edge

Program Learning Outcomes:
After completing the requirements of the Mathematics Program, students will be able to...
- solve problems and determine if the solutions are reasonable
- model real world behaviors and apply mathematical concepts to the solution of real-life problems.
- make meaningful connections between mathematics and other disciplines.
- use technology for mathematical reasoning and problem solving.
- apply mathematical and/or basic statistical reasoning to analyze data and
Student Learning Outcomes
By the end of the course, students will be able to:
• to prepare prospective elementary school teachers in the areas of non-coordinate and coordinate geometry with basic skills and understanding needed to teach these topics
• To acquaint future teachers with models and manipulatives commensurate with presentation of geometric ideas such as measurement, congruence, similarity, and graphing

Course Objectives:
Throughout the course, students will have the opportunity to:
• Recall and state the undefined terms of geometry;
• Relate the historical foundation of geometry;
• Use correct terminology and notation associated with lines, rays, and line segments;
• Recognize angles, including vertices, classifications, angle pairs, and angle measurement;
• Recognize and reproduce parallel and perpendicular lines and the angles associated with them;
• Apply the four steps of problem solving in geometric situations;
• Recognize the parts of a circle;
• Name polygons and differentiate between concave and convex polygons;
• Use formulas to find polygonal figures;
• Define and reproduce regular and semi-regular tilings;
• Analyze properties of 3-dimensional figures;
• Apply Euler’s formula to edges, vertices, or faces of polyhedral;
• Analyze figures to determine symmetry;
• Use the American Standard and the International System units of measure in problem solving situations;
• Use the Pythagorean Theorem;
• Find area and perimeter of 2-dimensional figures;
• Use Pick’s Theorem to find area on the geoboard;
• Calculate volume and surface area of 3-dimensional figures;
• Define congruence mapping of polygons;
• Determine congruent pairs of triangles based on the 5 congruency postulates;
• Perform basic constructions using a straight-edge, compass and/or Mira;
• Identify the centroid, incenter, circumcenter, and orthocenter of a triangle and relate properties for each;
• Perform translations, reflections, and rotations of polygons;
• Explore tilings of non-polygonal shapes;
• Perform similarity mappings;
• Find missing sides of similar triangles;
• Calculate measures of central tendency to include mean, median, and mode;
• Recognize a normal distribution and identify skewness;
• Calculate standard deviation and weighted average;
• Calculate experimental probability;
• Use counting techniques to find the number of elements in a set;
• Use permutation and combination processes for counting; and
• Find theoretical probabilities

**Suggested Method for Calculating the Final Grade:**

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<thead>
<tr>
<th>Task</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Test 1</td>
<td>100 points</td>
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<td>Test 2</td>
<td>100 points</td>
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<td>Test 3</td>
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<td>Test 5</td>
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<tr>
<td>Test 6</td>
<td>100 points</td>
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<tr>
<td>Final Exam</td>
<td>200 points</td>
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**Grading Policies:**

*Grading Scale (based on points):*

- **A** 720 – 800 points
- **B** 640 – 719 points
- **C** 560 – 639 points
- **D** 480 – 559 points
- **F** Below 480 points

**Course Policies:**

*Academic Misconduct Policy:*  
Plagiarism, cheating, and other forms of academic dishonesty are prohibited. Students guilty of academic misconduct, either directly or indirectly, through participation or assistance, are immediately responsible to the instructor of the class. Based on their professional judgment, instructors have the authority to impose the following academic sanctions: (a) require the student to repeat the assignment for full or partial credit; (b) assign a zero, an F, or any other grade appropriate for the assignment or examination; (c) assign an F for the course. In addition, disciplinary sanctions may be imposed through the regular institutional procedures.
Classroom Misconduct Policy:
The instructor has the primary responsibility for maintenance of academic integrity and controlling classroom behavior, and can order temporary removal or exclusion from the classroom of any student engaged in disruptive conduct or conduct that violates the general rules and regulations of the institution for each class session during which the conduct occurs. Extended or permanent exclusion from the classroom, beyond the session in which the conduct occurred, or further disciplinary action can be effected only through appropriate procedures of the institution.

Disruptive behavior in the classroom may be defined as, but not limited to, behavior that obstructs or disrupts the learning environment (e.g., offensive language, harassment of students and professors, repeated outbursts from a student which disrupt the flow of instruction or prevent concentration on the subject taught, failure to cooperate in maintaining classroom decorum, etc.), text messaging, and the continued use of any electronic or other noise or light emitting device which disturbs others (e.g., disturbing noises from beepers, cell phones, palm pilots, lap-top computers, games, etc.)

Class Cancelation Policy:
If class is cancelled for any reason, you will be notified utilizing the email address used in creating your MyLab account. Additionally, students are advised to take advantage of the Motlow Alert system in order to receive text messages when Motlow State is closed. Click here for information on Motlow alert [new window].

Inclement Weather Policy:
If Motlow State is officially open, this class will meet as scheduled. If Motlow State is officially closed, this class will not meet. Students should, however, make every attempt to work from home to maintain their pace and continue progressing through the course.

Emergency Procedures Policy:
In case of a medical emergency we will immediately dial 9-911 and report the nature of the medical emergency to emergency response personnel. We will try to stay with the person(s) in need and maintain a calm atmosphere. We will talk to the person as much as possible until response personnel arrive on campus, and we will have someone go outside to meet emergency personnel and direct them to the appropriate location.

In the event of an emergency (drill or actual), a signal will be sent. Based on that signal, students will follow the procedures below for that specific type of emergency:

Loud warbling sound throughout Building (FIRE)
Collect purses and coats and proceed immediately out of your room and exit through the closest emergency exit. Proceed to the Designated Assembly Area closing windows and doors as you exit. Remain there until the "All Clear" Signal is given by an Emergency Management Team member. (Instructors- Provide your Designated Assembly Area, and its location to students!)
**Tornado Siren (SEVERE WEATHER):**
Proceed to the closest designated severe weather shelter on the 1st floor and proceed all the way into the shelter. Crouch down on the floor with your head between your knees facing away from the outside walls. Remain there until the "All Clear" Signal is given. (Instructors- Provide the recommended room number or hallway location to students)

**(INTRUDER/HOSTAGE):**
Ensure door is closed, locked and lights turned off. If your door will not lock, move some tables and chairs in front of the door quickly. Move immediately to the rear of the room away from the door and sit on the floor- out of sight if possible. Remain calm and quiet and do not respond to any inquiries at the door unless you have been given the "All Clear" and a member of law enforcement or your campus Emergency Management Team member makes face-to-face contact at your door.

**Classroom Locked-door Policy:**
In order to adhere to MSCC Emergency Preparedness Policy and to facilitate effective classroom management, the classroom door will remain closed and locked for the duration of the class period.

**Educational Technology:**

**Accessing Campus Computers or the MSCC Library from off Campus:**
Your Username format is your First Initial, Last Name and Month and Day Birthday in the Format of MMDD. Example: Marcia Smith born on April 11, 1992 - Username: msmith0411. Your Pin will be the numeric pin you created when you initially applied to Motlow College with a capital letter for the first initial of the first name and lowercase first initial of last name. Example: pin of 149299 for Marcia Smith would be 149299Ms.

**Using D2L:**
For help with D2L including how to submit materials to a Dropbox, see the Tech Tube page [new window].

**Technical Support/Assistance:**
Students having problems logging into a course, timing out of a course, using course web site tools, or any other technical problems, should contact the MSCC Technology Help Desk at 931-393-1510 or toll free 1-800-654-4877, Ext. #1510 (or d2lhelp@mscc.edu)

**Disability Services/Accommodations:**
Motlow College is committed to meeting the needs of qualified students with disabilities by providing equal access to educational opportunities, programs, and activities in the most integrated setting appropriate. This commitment is consistent with the College’s obligations under Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act of 1990 (ADA). Together, these laws prohibit discrimination against qualified persons with disabilities. To this end, the Director of Disability Services for Motlow College coordinates services and serves as an advocate and liaison for students with disabilities attending Motlow College. Click here for the disability services page [new window].

**IMPORTANT NOTE:**
Students with disabilities who would need assistance in an emergency evacuation should self-disclose that need to the instructor no later than the second day of class or second group meeting.

Confidentiality of Student Records:
The education records of current and former students at Motlow State Community College are maintained as confidential records pursuant to The Family Educational Rights and Privacy Act (FERPA) of 1974 as amended.

Student Success:

Tutoring:
MSCC Instructors can guide students to specific resources regarding tutoring in their discipline. In particular, students may find help with math and essay writing via each campus’ Learning Support labs. Students should contact the labs on their campus to schedule appointments for help. Click here for student success information [new window].

Academic Advisement:
MSCC Instructors can guide students to specific resources regarding Advisement and other help needed for success. Click here for completion coach information [new window].

Students are encouraged to utilize the Mathematics Lab for additional help.

Class Schedule of Assignments:
The assignments are based on a 15 week schedule. The assignments given from the book are left to the discretion of the instructor.

Content to be covered

Week 1:
Section 9.1 – Figures in the plane
Section 9.1 – Curves and Polygons in the Plane

Week 2:
Section 9.3 – Figures in Space
Review Chapter 9

Week 3:
Test 1 over Chapter 9
Section 10.1 – The Measurement Process

Week 4:
Section 10.2 – Area and Perimeter
Section 10.3 – The Pythagorean Theorem

Week 5:
Section 10.4 – Volume
Section 10.5 – Surface Area
Review Chapter 10

Week 6:
Test 2 over Chapter 10
Section 11.1 – Rigid Motions & Similarity Transformations
Week 7:
Section 11.2 – Patterns and Symmetries
Section 11.3 – Tilings and Escher–like Diagrams
Review Chapter 11

Week 8:
Test 3 over Chapter 11
Section 8.3 – Connections Between Algebra & Geometry

Week 9:
Section 12.1 – Congruent Triangles
Section 12.2 – Constructing Geometric Figures

Week 10:
Section 12.3 – Similar Triangles
Review Chapter 12 and Section 8.3
Test 4 over Chapter 12

Week 11:
Section 13.1 – Organizing and Representing Data
Section 13.2 – Measuring the Center and Variation of Data

Week 12:
Section 13.3 – Statistical inference
Review Chapter 13
Test 5 over Chapter 13

Week 13:
Section 14.1 – Experimental Probability
Section 14.2 – Principles of Counting
Section 14.3 – Permutations and Combinations

Week 14:
Section 14.4 – Theoretical Probability
Review Chapter 14
Test 6 over Chapter 14

Week 15:
Final Exam

Instructor reserves the right to modify course policies.