COURSE TITLE: Modern Geometry
COURSE NUMBER: MTG 3212

COURSE DESCRIPTION (with prerequisites):
This course presents the axioms, basic concepts, proofs and constructions of Euclidean geometry involving line segments, angles, triangles, polygons, circles, parallel lines and similarity. Constructions are made using both compass and straightedge and interactive geometry software. The course also presents basic concepts of non-Euclidean geometries including hyperbolic and spherical. 3 semester hours credit
Prerequisite: MAC 2312

NAME(S) OF INSTRUCTORS:
Dr. Irma Cruz-White

EFFECTIVE ACADEMIC YEAR:
2011-12

REQUIRED TEXTBOOKS AND INSTRUCTIONAL SUPPLIES:

GRADING POLICY:
The standing of a student in each course is expressed by one of the following letters and corresponding grading system:
A – 90 – 100
B – 80 – 89
C – 70 – 79
D – 60 – 69
F – 59 or less
The Chipola Catalog provides policies and procedures regarding the grading system. A student’s Grade Point Average is derived from the grading system/quality point scale.

ATTENDANCE AND WITHDRAWAL POLICIES:
Chipola College expects regular attendance of all students. Students who are absent from classes for any reason other than official college activities must satisfy the instructor concerned that the absence was due to illness or other clearly unavoidable reasons. Otherwise, the student may suffer grade loss at the discretion of the instructor. Chipola policy allows each instructor to specify in the Instructor First Day

Handout whether or not an absence is excusable and what affect the absence or tardy may have on the grade.

A student is allowed to repeat a course a maximum of three (3) times. **On the third attempt a student (1) must bear the full cost of instruction (unless waived by Student Services), (2) cannot withdraw, and (3) must receive a grade.**

**MAKE-UP POLICY:**
Chipola allows each instructor to specify in the Instructor First Day Handout the makeup policy.

**ACADEMIC HONOR CODE POLICY:**
Students are expected to uphold the Academic Honor Code. Chipola College’s Honor Code is based on the premise that each student has the responsibility to (1) uphold the highest standards of academic honesty in his/her own work; (2) refuse to tolerate academic dishonesty in the college community; and (3) foster a high sense of honor and social responsibility on the part of students. Further information regarding the Academic Honor Code may be found in the Chipola Catalog, Student Governance section.

**STUDENTS WITH DISABILITIES POLICY:**
Chipola College is committed to making all programs and facilities accessible to anyone with a disability. Chipola’s goal is for students to obtain maximum benefit from their educational experience and to effectively transition into the college environment. Students with disabilities are requested to voluntarily contact the Office of Students with Disabilities to complete the intake process and determine their eligibility for reasonable accommodations.

**LIBRARY AND ON-LINE REFERENCE MATERIALS:**
The library is a comprehensive learning resource center providing information in print, electronic, and multimedia format to support the educational objectives of the College. On-line catalogs, e-books and electronic databases can be accessed by using the LINCCWeb icon on the Chipola Library website at [www.chipola.edu/library](http://www.chipola.edu/library). If you have questions about database usage consult the “How to Use the Chipola Databases” on the Library website or call the Library at 850/718-2274 during regular hours. Library hours are posted each semester at the building entrance and on the Library website. See your Instructor First Day Handout for individual instructor recommendations and resources.

**TECHNOLOGY RESOURCES:**
The Information Technology Center, located in the library, is equipped with computer workstations. Lab hours are posted each semester at the building entrance and on the Library website. The ACE Lab, located in Building L, is available for tutoring and is equipped with computer workstations. Lab hours are posted each semester at the room entrance. The college’s learning management system is Desire 2 Learn (d2l). Classes become available on d2l on the first day of the semester. It is the student’s responsibility to log onto the d2l system the first day of class to establish the first day of
attendance and to check announcements. For further information, contact your instructor or the Director of Online Learning.

**ELECTRONIC DEVICE USAGE:**
All electronic devices such as cell phones, beepers, pagers, and related devices are to be silenced prior to entering classrooms and/or laboratories to avoid disruption. Should it become necessary for a student to leave his/her “device” on to send or receive an emergency call and/or text message, the student must inform the instructor prior to class. If the student finds it necessary to send and/or receive an emergency call and/or text message during class/lab time, he/she is instructed to take all books and belongings and step outside the classroom to deal with the situation. To minimize classroom disruption and the distraction to classmates, the student will not be permitted to reenter the classroom during that class period. Any time a test is being administered, all such devices must be turned off and put away. If a device is seen or heard during an exam, a score of zero will be given for that exam. Initial and repeated infractions may result in disciplinary action.

**DISCIPLINE SPECIFIC COMPETENCIES / LEARNING OUTCOMES:**

MTG 3212 is not a General Education core course.

---

**LINKING COURSE-LEVEL STUDENT LEARNING OUTCOMES WITH DISCIPLINE-SPECIFIC COMPETENCIES AND ASSESSMENT METHODS**

<table>
<thead>
<tr>
<th>STUDENT LEARNING OUTCOMES FOR MTG 3212</th>
<th>NCTM Standards Secondary Mathematics</th>
<th>Florida Competencies and Skills: Mathematics 6-12</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will learn to formulate counterexamples, conjectures, simple proofs. They will also learn to make constructions in Euclidean and simple non-Euclidean geometry by using both compass and straightedge, and interactive geometry software.</td>
<td>2.1, 2.2, 2.3, 11.1, 11.2, 11.7</td>
<td>3.16, 3.17, 3.18, 11.1, 12.1, 12.2, 12.3</td>
<td>UT, H, PS</td>
</tr>
<tr>
<td>Students will learn the relationships among points, lines and planes. They will study parallelism in the plane and in space, as well as orthogonality concepts for lines and planes.</td>
<td>11.2, 11.3, 11.5</td>
<td>3.3, 3.4, 3.15</td>
<td>UT, H, PS</td>
</tr>
</tbody>
</table>
Students will study angles and triangles by using trigonometry, the Pythagorean Theorem and the Congruence Theorems for triangles.

| 11.6, 11.7 | 3.10, 3.11, 5.4, 5.5 | UT, H, PS |

Students will study polygons, circles and regular solid regions. They will study the measures of angles inside a polygon, apply special properties of quadrilaterals and they will study the Circle Theorems. They will also determine the area and volume of regular solid regions and study some transformations of solids.

| 11.3, 11.4 | 3.1, 3.5, 3.6, 3.7, 3.8, 3.9, 3.12, 3.13, 3.14, 3.19, 4.5 | UT, H, PS |

The student will learn about coordinate geometry and vectors in the plane and in space. They will also learn basic concepts of hyperbolic and spherical geometries.

| 11.1, 11.5 | 2.11, 4.5 | UT, H, PS |

Students will learn historical facts concerning the material presented in each chapter.

| 11.8 | | DB |

**Assessment Codes**

- T = Tests
- Pre/Post = Pre- and Post-Tests
- OT = Objective Tests
- UT = Unit Tests
- Q = Quizzes
- F = Final Examination
- CF = Cumulative Final Exam
- EX = Departmental Exam
- SE = Nat'l or State Standardized Exam
- RPT = Report/Presentation
- SP = Skills Performance
- SD = Skills Demonstration
- W = Writing Assignments
- E = Essays
- DE = Documented Essays
- RP = Research papers
- J = Jury
- R = Recital
- Proj. = Projects
- Exp. = Experiments
- Cap. Proj. = Capstone Project
- Cap. Course = Capstone Course
- Prac. = Practicum
- Intern. = Internship
- H = Homework
- PS = Problem Solving
- DB = Discussion Board
- BO = Behavioral Observation
- Clin. = Clinicals
- CS = Case Study
- CP = Case Plan
- Port. = Portfolio
- Obs. = Teacher Observation
- Sk. Check = Skills Check-off
- Port. = Portfolio
- JP = Judged
- Performance/Exhibition

**MEANS OF ACCOMPLISHING STUDENT LEARNING OUTCOMES:**

- Teacher facilitated: The teacher will be leading class discussions on the material contained in the text during class periods.
- Student-centered: The students will take notes, practice solving problems, and make several presentations during class periods.
- Office Hours: The instructor will be available during office hours for individual assistance.

**ASSIGNMENT AND/OR COURSE OUTLINE**

See your Instructor First Day Handout for individual instructor assignment schedule.