

PRINCIPLES OF GEOMETRY G-MA 153 A



McPherson College, Department of Mathematics, Fall 2015

Course Information

- Department of Mathematics
- G-MA 153 A, Principles of Geometry
- 3 hour course
- Fall 2015
- MWF 10:00 am in Melhorn 111 Lab in Melhorn 141 on some Fridays

Instructor Information

- Mark Hunter
- 620-245-0801 (cell/text)
- hunterm@mcpherson.edu
- Office location: Melhorn 123
- Office hours: MWF 11am-12pm & M 2-4 pm Other times by appointment.

Course Description:

A coverage of the basic principles of Euclidean/Hilbert geometry. Topics include points, lines, segments, rays, angles, congruence, parallel lines, polygons (special attention is given to triangles and quadrilaterals), geometric similarity, properties of right triangles, area of various plane regions, solid geometry, and an introduction to trigonometry.

Prerequisites:

ID 119 Intermediate Algebra, or a mathematics ACT score of 17 or greater.

Course Student Learning Objectives:

- 1. Students will communicate mathematics intelligently, interpret graphical and numerical data, think creatively, and reason logically. More specifically:
- 2. Students will identify the properties of planar and solid geometric shapes and use these properties to solve common applications.
- 3. Students will distinguish between definitions, axioms and theorems in a logical system.
- 4. Students will solve applications by means of the properties of coordinate geometry.
- 5. Students will demonstrate knowledge of trigonometric functions and use these functions to find the measures of sides and/or angles in a given triangle.
- 6. Students will communicate mathematical ideas both in written and oral form for a variety of audiences.

General Education Student Learning Objective:

Students will understand and use mathematical properties, processes, and symbols.

Teacher Education Program Goals

This course is a required course for KSDE licensure. Candidates will become familiar with content knowledge, a variety of material, and/or specific instructional methods applicable to the teaching profession

The mission of the Teacher Education Program of McPherson College is to develop service-oriented educators who effectively blend the art and science of teaching. Following are the goals identified in McPherson College's conceptual framework. The objectives and dispositions supporting these goals can be found in the Teacher Education Policies and Procedures Manual.

- Goal I. The candidate has the knowledge bases necessary to be an effective in her/his field.
- **Goal II.** The candidate can apply effective teaching strategies to meet the needs of all learners.

Goal III. The candidate fosters relationships and collaborates with school constituencies

Contact During Non-Office Hours:

Feel free to contact me if you have questions about the material, course concerns, upcoming absences, or just to chat. I will be on campus at various times throughout the week so you can schedule an appointment or just drop by. E-mail or text me anytime and try to call during reasonable hours. We can schedule additional office hours and appointment times as needed.

Texts and Resources:

A resource fee of \$25 is being charged for this class to cover expenses of the book, online work, and other materials used during the semester. Payment must be paid to the business office using the forms supplied in class. Books will be handed out in class.

Online Components of the Course:

I will only keep attendance on LMS (E-Learning). Your grade will be entered on LMS at 5weeks, Midterm, and Finals. You will receive individual assignment grades and grade summaries at class. I may send you emails with announcements and an update on your current grades to your campus email address. If you do not regularly check your campus email then you should forward your campus email to an email account you do check often.

There will be online homeworks and quizzes in this course which will be accessed at: www.webcoursework.com

We will also be working in the Melhorn Computer Lab (Room 141) on some Fridays. This will be announced in class on Monday and Wednesday prior to the lab (also posted on door).

The lectures do not provide enough time to cover all material, so you are expected to read the textbook and posted online resources to supplement lectures and clarify concepts.

Evaluation:

Your grade will be based on daily homework, weekly in-class quizzes, chapter tests, attendance, and a cumulative final. Each homework assignment will be worth 20 points. You will earn 5 points for turning an assignment in on time, and the remaining 15 points will be based on your solutions to selected problems (all online work will be graded.) To earn full credit for solutions handed in on paper, you will have to show your work. Your attendance grade will be a straight percentage of days attended out of the total number of class meetings, with no penalty for excused absences, up to 9 unexcused absences. However, more than 9 unexcused absences may result in automatic failure of the course.

Grading:

Total	100%
Final	10%
Attendance/Participation	10%
Quizzes	20%
Homework	30%
Exams	30%

Expectations:

- 1. Attendance: YOU ARE EXPECTED TO ATTEND CLASS EVERY DAY. The work we do together in class every day will be crucial to your success in the course.
- 2. Late homework will be accepted only in the case of excused absences. Under normal circumstances, I will only accept late homework your first day back in class after an excused absence. I will make exceptions for extended illnesses and personal emergencies on a case-by-case basis. DOING HOMEWORK IS ABSOLUTELY KEY TO SUCCEEDING IN THIS CLASS! Without practice, you are very unlikely to score well on quizzes, exams, and the Final.
- 3. You may make up missed quizzes and exams only in the case of excused absences. Please speak with me no later than your first day back from an excused absence in order to schedule a makeup quiz or exam.
- 4. <u>Phones must remain unused, silent, and out of sight in class.</u> Please let me know if you have an important reason to use your phone in class. <u>They may not be used as calculators on an exam.</u>
- 5. Cheating on a quiz or test will result in a ZERO grade on that quiz or test and a stern warning about harm that cheating does to yourself, to your fellow students, to me, and to our college. A second occasion of cheating will result in automatic failure of the course.

Disability statement:

Students who, because of disability, may require reasonable accommodations to meet course requirements should contact the instructor or access coordinator, Carole Barr (ext. 2506), as soon as possible.

Academic Integrity

Strict honesty is fundamental to education. The college expects that both students and teachers will be honest in all their academic dealings. Academic dishonesty includes (but is not limited to) cheating on tests, turning in others' work as your own (plagiarism), and submitting false reports about required activities. A student who is guilty of academic dishonesty can be failed on the project or failed in the course. In extreme cases, or if a pattern of dishonesty is evident, a student can be suspended from the college.

Academic services:

The Royer Center for Academic Development (Miller Library, main level) is open to all students who need academic assistance in any class.

<u>Disclaimer</u>:

This syllabus is subject to modification. The instructor will communicate all substantial modifications both to the Chief Academic Officer and to students enrolled in the course, prior to enacting these modifications.

Course schedule:

Plan to meet every	MWF except	when NO CLASS is listed:
Aug 21	Friday	First Day of Class
Sept 7	Monday	Labor Day – NO CLASS
Sept 29	Tuesday	Down Grades Posted (Grades only posted if you have a D or F)
Oct 2	Friday	Conference – NO CLASS
Oct 14	Wednesday	Midterm – Online Exam – NO CLASS
Oct 15	Thursday	Fall Break Begins – NO CLASS
Oct 18	Sunday	Fall Break Ends – Class on Monday
Oct 20	Tuesday	Midterm Grades Posted
Nov 25-29	WedSun.	Thanksgiving Break – NO CLASS
Dec 4	Friday	Final Day of Class
Dec 10	Thursday	Final Exam: 8am-10am *

***NOTE**: You must notify me before Fall Break, October 14, if there is any acceptable reason that you need to take the final exam at a different time.

One Final Note:

Geometry is not intended to be a difficult course. However, I recognize that mathematics can be challenging for many people. Please feel free to visit me in my office frequently if you require extra help outside of class time. I will be happy to help you out with this stuff and I can arrange a schedule that meets your needs. If problems arise, please let me know. I would like this to be an enjoyable semester for all of us!

