

**Math 133 Geometry and Measurement for K-8 Teachers**

**Semester: Fall 2018**

**MWF 8-8.50 am [section1]**

**Location: LA 235**

**Instructor:**

Dr. Sriraman, Office Math 310

Office hours MW: 9-9.45 am, or by appointment

Contact email [sriramanb@mso.umt.edu](mailto:sriramanb@mso.umt.edu)

**Course Description:**

The study of geometry and geometric measurement for prospective elementary and middle school teachers, including synthetic, transformational, and coordinate geometry, constructions, congruence and similarity, 2-dimensional and 3-dimensional measurement, and problem solving.

**Prerequisite:**

M 132

**Course Materials:**

Required Textbook, *Sybilla Beckmann: Mathematics for Elementary Teachers with Activities Plus NEW Skills. 5th edition.* (Pearson).  
Notebook of choice, pencil, protractor, compass,

*Geometers Sketchpad (optional) -If you are interested in purchasing a copy of Geometers Sketchpad (grades 3-12), it is available online at:*

<http://www.mheducation.com/prek-12/program/MKTSP-HGA01M0.overview.html>

**Learning Goals**

- Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships;
- Apply transformations and use symmetry to analyze mathematical situations;
- Use visualization, spatial reasoning, and geometric modeling to solve problems;
- Describe and apply measurable attributes of objects and the units, systems, and processes of measurement;
- Apply appropriate techniques, tools and formulas to determine measurements for length, area, and volume;
- Develop a deep understanding of the mathematical concepts needed for effective teaching by developing the ability to examine and explain underlying mathematical structure in using multiple geometric representations and tools for solving problems.

Course Agenda: We will cover material from chapters 10-14.

Academic Misconduct: Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. Academic misconduct is defined as all forms of academic dishonesty and the Student Conduct Code. In particular, Student Conduct Code Section IV.a.5 identifies the following violations: Submitting false information: Knowingly submitting false, altered, or invented information, data, quotations, citations, or documentation in connection with an academic exercise.

DISABILITY MODIFICATIONS: The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or call 406.243.2243. I will work with you and Disability Services to provide an appropriate modification.

ADD / DROP POLICIES: The last day to add/drop a course, change sections, or change grading option (between letter grade, Credit / No Credit, Audit) is October 29, 2018. From October 29 and until December 7, 2018 these changes are allowed to be done only by Petition, which requires the signature and approval by the professor. In case of drops only, the petition also requires signature of the Dean of the student's major. **The final deadline for all changes is December 7, 2018.**

Acceptable reasons for a late drop are listed in the university catalog and include reasons such as accident, illness, family emergency or a change in work schedule. The following examples are not considered sufficient for a late drop: protecting GPA, forgetting to turn in the change slip, losing financial aid, losing eligibility to engage in sports.

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**Grading Distribution:**

Project Folder	80
Mid-term	120
Final Exam	200

**400 points**

**Grading Scale:** 90-100 A ; 80-89.9 B ; 70-79.9 C ; 60-69.9 D ; Below 60 F

Exam make-ups will ONLY be given under special and extenuating circumstances, such as a death in the family or illness, provided that: a note from the Health Service or doctor is furnished by the student AND permission is obtained from the instructor. The final exam is compulsory and no exceptions can be made about the date/time at which it is held- this date is determined by the University Administration.

**Grading Policy:** You must earn a C- or better in this course to pass the requirement in the School of Education. You may change to Credit/No Credit up to the last day of the class. Credit will be awarded to students earning a D- or better. However, if you choose this option the grade cannot be counted towards the School of Education requirement nor the UM graduation requirement.

**Endnotes**

**Investigations Folder:** I will assign “interesting” investigations periodically over the course of the semester [which will be posted on Moodle]. Instructions for completing these will be found there as well. The folder will be collected before Thanksgiving.

**Homework** There will be homework assigned on a regular basis which will be reviewed in class on Fridays. I will not be collecting homework but it is important you keep up by engaging in this activity. The midterm and Final will be based on many of these problems.

**Mid-terms and Final**

The midterm will be given in November. The final will be cumulative in the traditional sense. It will be longer than the mid-term exam and will feature some questions relating directly to material taught earlier in the course.

*The Final exam is scheduled from 8-10 on December 11<sup>th</sup> in LA235. The date and time of the Final cannot be changed for any reason.*

**“FREE” ADVICE**

Come to class, work hard, participate in the planned activities, and you will do well in this course.