

GEOMETRY AND MEASUREMENT FOR ELEMENTARY SCHOOL TEACHERS
MATHEMATICS 133 SECTION 2
CRN 32883

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WEBPAGE <http://umonline.umt.edu/>

GOALS Upon completion of this course, a student will be able to:

1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships;
2. Apply transformations and use symmetry to analyze mathematical situations;
3. Use visualization, spatial reasoning, and geometric modeling to solve problems;
4. Describe and apply measurable attributes of objects and the units, systems, and processes of measurement;
5. Apply appropriate techniques, tools and formulas to determine measurements for length, area, and volume;
6. 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.

TEXT Mathematics for Elementary School Teachers, 5th Edition (Sybilla Beckmann)

LETTER GRADE Your letter grade in the course will be determined by assessment of your *understanding* of predefined learning standards. For each standard, I will write an assessment that will provide me with the ability to assess your understanding on a 4-point scale according to:

Score	Student demonstrates...	Classification
4	...mastery beyond the learning target	Beyond Proficient
3	...full mastery of the learning target	Proficient
2	...partial mastery of the learning target	Nearing Proficient
1	...minimal mastery of the learning target	Novice

Each mid-semester exam will assess 3 or 4 standards. One standard will be assessed by knowledge displayed in the completion of a project. The rest will be assessed by knowledge displayed on pencil-and-paper assessments. You will have the opportunity to “challenge” each standard’s first assessment results once. You will not have the opportunity to challenge any project assessment results. At the end of the semester, letter grades will be assigned according to:

Grade	Semester’s Assessment Results
A	All 3s and 4s with a majority of 4s
B	All 3s and 4s with a minority of 4s
C	A mix of 1s, 2s, 3s and 4s with a minority of 1s and 2s
D	A mix of 1s, 2s, 3s and 4s with a majority of 1s and 2s
F	A mix of 1s, 2s, 3s and 4s with a 2/3 majority of 1s and 2s

± GRADE

Your plus/minus grade will be determined by assessment of your *effort* in the course. This aspect will be measured through the collection of homework practice and reading quizzes. Let T be the proportion of homework practice and reading quizzes earned out of the total possible, then, your plus-minus grade will be assigned according to:

$$\begin{aligned} 0.90 &\leq T < 1.00 &\Rightarrow &+ \\ 0.80 &\leq T < 0.90 &\Rightarrow & \\ 0 &\leq T < 0.80 &\Rightarrow &- \end{aligned}$$

Please note that there is no “A+” grade given at the University of Montana.

HONESTY

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at the following web address:

http://life.umt.edu/vpsa/student_conduct.php.

DSS

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 that you may have a disability adversely affecting your academic performance, and you have not already registered with DSS, please contact DSS in Lommassen 154. I will work with you and DSS to provide an appropriate accommodation.

POLICIES

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 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.

DATES

February 1st is the last day to drop or add the course using Cyberbear. March 18th is the last day to drop with instructor and advisor signatures (W appears on transcript). April 23rd is the last day to drop the course or change grading option using a late drop form (WP/WF appears on transcript). Acceptable reasons for a late drop are listed in the university catalog and are limited to: accident, illness, family emergency or a change in work schedule.

TOOLS

Due to the pandemic, you will need to purchase your own compass, protractor and metric ruler for use in the course.

SEMESTER SCHEDULE

Monday	Wednesday	Friday
Jan 11 Intro/10.1	Jan 13 10.1	Jan 15 10.2
Jan 18 MLK	Jan 20 10.3	Jan 22 10.4
Jan 25 10.4	Jan 27 Project 1 and Review	Jan 29 Assessment
Feb 1 11.1	Feb 3 11.2	Feb 5 11.3
Feb 8 11.4	Feb 10 Project 2 and Review	Feb 12 Assessment
Feb 15 Presidents' Day	Feb 17 12.1	Feb 19 12.2
Feb 22 12.3	Feb 24 12.4	Feb 26 12.4
Mar 1 12.5	Mar 3 12.6	Mar 5 12.7
Mar 8 12.8	Mar 10 12.9	Mar 12 Project 3 and Review
Mar 15 Assessment	Mar 17 13.1	Mar 19 13.2
Mar 22 13.3	Mar 24 13.3	Mar 26 13.4
Mar 29 Project 4 and Review	Mar 31 Assessment	Apr 2 Break
Apr 5 14.1	Apr 7 14.2	Apr 9 14.3
Apr 12 14.3	Apr 14 14.4	Apr 16 14.5
Apr 19 14.6	Apr 21 14.7	Apr 23 Project 5 and Review
Final Assessment Tuesday, April 27, 10:10-12:10		

HOMEWORK ASSIGNMENTS

Section	Problems for Section	Due Date
10.1	2,3,7,8,11	Jan 29
10.2	6,	Jan 29
10.3	1,3	Jan 29
10.4	3,5,7,9,12,16	Jan 29
11.1	2,5	Feb 12
11.2	1,4,6	Feb 12
11.3	3,5	Feb 12
11.4	1,3,7,9,12,14,17,19	Feb 12
12.1	1,3,5	Mar 15
12.2	2,3,4,7	Mar 15
12.3	2,3,4,5,8,9,11	Mar 15
12.4	2,4,5,9,10,11,13	Mar 15
12.5	1,3,4,6,7	Mar 15
12.6	2,3,5,6,8	Mar 15
12.7	1,3	Mar 15
12.8	4,6,8,10,12	Mar 15
12.9	1,2,3,7	Mar 15
13.1	2,3,4,7,8	Mar 31
13.2	3,4,7,11,13,15	Mar 31
13.3	2,3,7,11,12,14,15,18,22	Mar 31
13.4	1,2,3	Mar 31
14.1	1,2,3,4,5,8,17,18	Apr 27
14.2	2,4,7,8,12	Apr 27
14.3	1,2,7,8,9,10,	Apr 27
14.4	1,4,5,6,7,8	Apr 27
14.5	2,3,4,5,8,9	Apr 27
14.6	1,2,3,5,6,8,9	Apr 27
14.7	1,4,5,6,7	Apr 27

Homework Philosophy

I view homework assignments as *formative* assessments. Formative assessments are meant to give students feedback so that adjustments in learning can be made to improve learning outcomes measured in *summative* assessments (i.e. quizzes and exams). As such, I expect you to correct your own homework assignments before handing them in for credit. This arrangement gives you immediate feedback on your understanding of course content and the opportunity to correct your misunderstandings *before* grades are recorded.

Homework Policies

- Homework must be submitted on quad-ruled, loose-leaf paper without frayed edges, homework must be done in pencil, and multiple pages must be neatly stapled.
- Homework solution keys will be provided on our class webpage. Use a colored pen to correct your homework and make notes to yourself. Your homework effort will only be counted if every problem has been attempted *and* corrected, so, leave a mark on every problem that has been corrected (even if the problem is correct) to communicate to me that you have completed the task.
- Corrected homework for each section is due at the start of the class period on the date indicated above. I do not accept late homework for any reason.