

TEACHING MATHEMATICS WITH TECHNOLOGY
MATHEMATICS 301 SECTION 1
CRN 70684

INSTRUCTOR	Matt Roscoe Office: Math 213 Phone: (406) 243-6689 or (406) 203-2112 Email: matt.roscoe@umontana.edu
WEBPAGE	https://moodle.umd.edu/
OUTCOMES	Upon completion of this course, a student will be able to: <ol style="list-style-type: none">1. Explain the modeling process;2. Apply technology for graphing, computing, organizing, and investigating;3. Identify and solve problems involving continuous and discrete models;4. Identify and solve problems using simulation;5. Evaluate models using goodness of fit measures.
TEXTS	National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). <i>Common core state standards for mathematics</i> . Washington D.C.: National Governors Association Center for Best Practices, Council of Chief State School Officers. http://www.corestandards.org/wp-content/uploads/Math_Standards.pdf . Consortium for Mathematics and its Applications (COMAP) & Society for Industrial and Applied Mathematics (SIAM). (2016). <i>GAIMME: Guidelines for Assessment & Instruction in Mathematical Modeling Education</i> . Bedford, MA: COMAP http://www.siam.org/reports/gaimme.php .
GRADING	30% Technology Exercises 20% Readings 30% Modeling Projects 20% Final Exam

GRADE SCALE

Let S be your final score in the course then,

93	\leq	S	$<$	100	\Rightarrow	A
90	\leq	S	$<$	93	\Rightarrow	A-
87	\leq	S	$<$	90	\Rightarrow	B+
83	\leq	S	$<$	87	\Rightarrow	B
80	\leq	S	$<$	83	\Rightarrow	B-
75	\leq	S	$<$	80	\Rightarrow	C+
70	\leq	S	$<$	75	\Rightarrow	C
65	\leq	S	$<$	70	\Rightarrow	C-
62	\leq	S	$<$	65	\Rightarrow	D+
58	\leq	S	$<$	62	\Rightarrow	D
55	\leq	S	$<$	58	\Rightarrow	D-
0	\leq	S	$<$	55	\Rightarrow	F

TECHNOLOGY EXERCISES

Generally, every week over the semester I will present the class with an exercise that will provide a basis for mathematical investigation aided by a particular technology. Each of these investigations will provide you the opportunity to learn how to use technology in the classroom to facilitate the construction of mathematical content knowledge. Exercises will generally be due one week after their introduction. Each student's collection of technology exercises will serve as a resource for the final exam.

READINGS

Each Monday of the semester you will be provided with a reading. Readings are meant to complement the active learning carried out in both the technology exercises and modeling projects by providing the student with an opportunity to reflect upon teaching and learning of mathematics with technology. Each student will be asked to complete an annotated bibliography for each reading due one week after the reading has been assigned. Each student's collection of annotated bibliographies will serve as a resource for the final exam.

MODELING PROJECTS

There will be three modeling projects in the course. These projects will provide you the opportunity to apply your mathematical instincts to empirical settings to gain understanding and/or improve decision-making. Each project will be announced in class and will be due three to four weeks later.

FINAL EXAM

There will be a final exam in the course to assess student progress towards the course's learning outcomes. Students will be allowed to use any self-authored materials (i.e. reading reflections, technology exercises, modeling projects) as resources for the completion of the exam.

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

ACCOMMODATION

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.

IMPORTANT DATES

September 21 - Last day to drop a course or change the grading option via CyberBear.

November 2 - Last day to drop/add a course, change sections, change your grading option from Credit/No Credit to a letter grade (or vice versa), or change credit in a variable credit course. After this date a student is allowed to make these changes only by petition.

December 12 - Last day to petition to drop/add a course, change sections, change your grading option from Credit/No Credit to a letter grade (or vice versa), or change credit in a variable credit course. Petitions require signature and recommendation of instructor. Grounds for recommending late drops and changes of grading options are detailed in the university catalog.

December 15 - Final Exam held in M306 from 8:00-10:00AM

SEMESTER SCHEDULE

Monday	Wednesday	Friday
		Sep 1 Statistics
Sep 4 Labor Day	Sep 6 Statistics	Sep 8 Statistics
Sep 11 Statistics	Sep 13 Statistics	Sep 15 Statistics
Sep 18 Probability	Sep 20 Probability	Sep 22 Probability
Sep 25 Probability	Sep 27 Probability	Sep 29 Probability
Oct 2 Geometry	Oct 4 Geometry	Oct 6 Geometry
Oct 9 Geometry	Oct 11 Geometry	Oct 13 Geometry
Oct 16 Geometry	Oct 18 MEA/MFT	Oct 20 MEA/MFT
Oct 23 Algebra	Oct 25 Algebra	Oct 27 Algebra
Oct 30 Algebra	Nov 1 Algebra	Nov 3 Algebra
Nov 6 Algebra	Nov 8 Algebra	Nov 10 Veteran's Day
Nov 13 Algebra	Nov 15 Algebra	Nov 17 Algebra
Nov 20 Functions	Nov 22 Thanksgiving	Nov 24 Thanksgiving
Nov 27 Functions	Nov 29 Functions	Dec 1 Functions
Dec 4 Functions	Dec 6 Functions	Dec 8 Functions
Dec 11 Functions	Dec 13 Study Day	Dec 15 Final
Final Exam Friday, December 15, 8:00-10:00AM		