Fall 9-1-2018

M 105.05: Contemporary Mathematics

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CLASS: ED 312; CRN: 70963
Moodle page: https://moodle.umt.edu/course/view.php?id=22941

INSTRUCTOR: Karel Stroethoff

OFFICE: MA 307; Phone: 243–4082; Math Office: 243–5311;
E-mail: karel.stroethoff@umontana.edu

OFFICE HOURS: Monday: 4:10–5:00, Tuesday: 1:00–1:50, Wednesday: 3:00–3:50, and Friday: 2:10–3:00.


In an effort to help drive down the costs, the course supervisor (Lauren Fern) and The Bookstore have worked with the publisher to bring your course materials at a lower cost through the school’s Inclusive Access program. This all inclusive program will give you access to MyMathLab which provides an e-book as well as supplemental learning programs. There is a print on demand option as well. If you decide you need a printed copy of the textbook, you can go to The Bookstore and request a copy from the textbook department.

The cost of these materials has been charged to your student account. You still have the right to Opt Out and find these materials at the market rate. If you do so, your access will be cancelled and The Bookstore will issue a refund for the fee assessed to your tuition bill. Please keep in mind that you will still need to purchase access to MyMathLab for the online homework component of this class.

Instructions for enrollment in MyMathLab.

1. Go to the class moodle page and locate the click icon  "Access Course Materials".
2. This will open a page on The Bookstore’s website. Find the box that says M105 and click on “View Course Materials”. The access code for content from the publisher’s website is displayed. Copy this access code.
3. Open a new tab and go to www.pearson.com/mylab (note that we will NOT be using MyLabsPlus.)
4. Click on register and student, then click on “OK Register Now”.
5. Enter our course ID: fern61223
6. Next you will be prompted to sign in with your account. If you have one, enter your username and password. If you do not have an account or don’t remember your old login information click on create an account (If you did have an account but didn’t remember your login info, please be sure to use a different email address than the one your old account was created in). If you are creating an account, fill in the boxes and proceed.
7. Select an option “Use Access Code”. DO NOT DO TEMPORARY ACCESS AND DO NOT PURCHASE ONE this is the code you copied in step 2 above.
8. Enter the code exactly.
9. Now you should be in!

DESCRIPTION: An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.

This course is designed to illustrate several ways in which mathematics is used in the “real world.” We will explore some topics of general interest which are not typically taught in a formal mathematics class. The goal is for you to see not only how useful mathematics is, but also how beautiful and elegant it can be.
LEARNING OUTCOMES: Upon completion of this course, students will be able to:

1. Read mathematical material at an appropriate level, reason mathematically, and write using mathematical notation correctly.
2. Formulate a problem precisely, and interpret solutions.
3. Apply elementary probability theory to construct models of random phenomena, including the use of simulations.
4. Use elementary statistical tools such as measures of center and spread, graphical representations of data, and statistical estimation of population proportions.
5. Use tools from one or more areas of mathematics to solve theoretical or applied problems. The areas could include, but are not limited to, finance, management science (e.g., graph models for network problems), social choice and decision making (e.g., elections, voting, fair division, Congress apportionment), geometry (e.g., symmetry, tilings), or mathematical games.

General Education Learning Outcomes: Upon completion of the mathematical literacy requirement, a student will be able to effectively apply mathematical or statistical reasoning to a variety of applied or theoretical problems.

CALCULATOR: A graphing calculator is required. Demonstrations will be done with a TI-83 or TI-84.

PREREQUISITES: M 090 with a grade of B− or better, M 095, M01 placement ≥ 3, or ALEKS placement ≥ 3, or ACT score of 22, or SAT score of 550 (with the new test).

MATH TUTORING: Math@Mansfield: Mansfield Library, Main Floor; hours will be announced later.

GRADING:

(i) There will be three tests, tentatively scheduled for:
   - Test 1 on Friday, Sep 28.
   - Test 2 on Friday, Oct 26.
   - Test 3 on Friday, Nov 30.

(ii) An optional comprehensive final exam is scheduled for Wednesday, December 12, 1:10–3:10. The final exam may be used to replace one or more of your test scores.

(iii) Class attendance and participation. Attendance is taken and contributes to the “in-class work” portion of the grade. Class activities include: discussion, group work, and lectures. Often group work consists of worksheets which also contribute to the “in-class work”. Participation is necessary; learning mathematics is similar to learning to play a sport or a musical instrument: one learns by doing, not by watching.

(iv) Homework. Problems are assigned based on the in-class work, and homework problems are discussed regularly in class. Assignments are collected and checked, but individual problems are not normally graded. Keep in mind that the only way to learn mathematics is to do mathematics. This means that students should be prepared to spend some quality time outside of class on this course.

(iv) Regular quizzes will be given to help you keep on schedule with your reading and homework.

Course Grade: Your percentage score for the course will be determined using the following percentages:

3 Tests: 15% each (optional Final Exam to replace these tests), Class Attendance & Participation: 15%, Homework: 25%, Quizzes: 15%.

Letter grades will correspond to the following percentages:

<table>
<thead>
<tr>
<th>Perc</th>
<th>Grade</th>
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<th>Perc</th>
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<th>Perc</th>
<th>Grade</th>
<th>Perc</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 and above</td>
<td>A</td>
<td>80 – 89</td>
<td>B</td>
<td>65 – 79</td>
<td>C</td>
<td>55 – 64</td>
<td>D</td>
<td>above 55</td>
<td>CR</td>
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<tr>
<td>below 55</td>
<td>F</td>
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If you are taking this course to fulfill a general education requirement or a requirement for your major or minor, you must take it for a traditional letter grade (not CR/NCR). A grade of C− or better is needed to fulfill the math literacy requirement. If you decide anyhow to take this course with CR/NCR grading, a grade of D− is considered passing and will earn you credit for the course, BUT it will NOT fulfill your general education requirement NOR any requirement for your major or minor.
All quizzes and tests are closed book, but calculators are allowed and relevant formulas may be provided. When graded work is returned, there is one week from the date of return for contesting the grading. After that time period the grade will be accepted as final.

THERE ARE NO MAKE-UPS for the missed assignments and quizzes, regardless of the reason (e.g. sickness, sports, family emergency, etc.); this is why the lowest scores are dropped. Test 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 given by me prior to the test. At most one make-up test will be given. It is your responsibility to notify me as soon as you know you will miss a test and it must be either prior to or within 24 hours of the test.

Incomplete Grades. To be eligible for an incomplete (grade “I”) a student must have been passing the course up to 3 weeks before the semester ends, and be unable to complete the course due to extenuating circumstances, which usually means serious illness or death in the family. Incompletes are not given under any other circumstances and are always given at the discretion of the instructor. See the catalog for further information.

Add/Drop Policy. The last day to drop by CYBER BEAR is Monday, September 17. This is also the last day to change to or from an Audit. The last day to change sections and to change grading options is Monday, October 29. This is also the last day to drop. Until October 29, drop slips will be signed with no questions asked. Changes after this deadline must be done by Petition to Drop/Add After Deadline and approved by the lecturer, your advisor, and the appropriate Dean. The last day for this type of drop petitions is December 7. Approval requires genuine extenuating circumstances, such as:

- Missing a substantial number of class days due to illness, accident or family emergency.
- A change in work schedule that makes it impossible to attend class or devote adequate time to the course.
- Registration in the course by error and never attending class.

Reasons that are not satisfactory include:

- Forgetting to turn in a drop slip.
- To keep financial aid.
- To protect grade point average.
- To retain eligibility to engage in sports.

DSS. Students with disabilities are welcome to discuss accommodations with me. Disability Services for Students will assist in the accommodation process. For more information, visit their website at http://life.umt.edu/dss. Please note that appropriate forms need to be submitted in a timely fashion.

Academic 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://www.umt.edu/student-affairs/dean-of-students/default.php.

Important Dates.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>Sep 3 (Mon)</td>
<td>Labor Day Holiday: no school.</td>
</tr>
<tr>
<td>Nov 6 (Tue)</td>
<td>Election Day: no school.</td>
</tr>
<tr>
<td>Nov 12 (Mon)</td>
<td>Veteran’s Day: no school.</td>
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<tr>
<td>Nov 21–Nov 23</td>
<td>Thanksgiving break: no school.</td>
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<tr>
<td>Dec 7 (Fri)</td>
<td>Last regular class day</td>
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<tr>
<td>Dec 10–14 (Mon-Fri)</td>
<td>Final Exam Week</td>
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