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Fall 9-1-2020

M 105.50: Contemporary Mathematics

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Recommended Citation

Fern, Lauren Sara and Li, Shurong, "M 105.50: Contemporary Mathematics" (2020). *University of Montana Course Syllabi*. 11401.

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Syllabus for MATH 105 Contemporary Mathematics Online

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Catalog Description:

(<http://www.umt.edu/catalog/colleges-schools-programs/humanities-and-sciences/mathematical-sciences/default.php>)

M 105 - Contemporary Mathematics: Offered every term. Prereq. M 090 with a grade of C or better, or M 095, or M01 placement ≥ 17 , or ALEKS placement ≥ 3 , or ACT score of 22, or SAT score of 550 (with the new test), or completion of the M105 EdReady module. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.

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.

Notes About the Course:

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.

Textbook:

Quantitative Literacy, 2nd ed. Crauder. In an effort to help drive down the costs, your faculty member and The Bookstore have worked with the publisher to bring your course materials at a lower cost through the school's Inclusive Access program. 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 Webassign as that is where the entire course takes place. This all inclusive program will give you access to Webassign 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. If you are not in Missoula, you can arrange, through the Bookstore, for this printed copy to be shipped to you.

In order to use the online homework and other helpful features on WebAssign :

Instructor	Section
Lauren Fern; Shurong Li	M105, section 50

Class Key
umontana 4490 6392

How the Course is Run:

It is essential that you get an account on Webassign as this is where the entire course takes place. Once you have registered for Webassign, you will be able to access the ebook, assignments, view course materials, check your grades, utilize their resources and send email messages. We expect you to use email as your primary means of communicating with us. If you have difficulty using the software, you should consider taking this class in a different format.

Please also note that when you click on the access your textbook link in moodle you may be shown several different sections of the course. Please be sure to click on **section 50**. You will also need our course key code: **umontana 4490 6392**. There is an instruction sheet you may wish to access from the moodle page that gives step-by-step instructions on registering on Webassign with the access code. We suggest having it accessible when doing such. Please keep note of the following links: To register/login to your webassign account visit the following url: <http://webassign.net/login.html> as well as a helpful link for Webassign user guide: http://assets.cengage.com/pdf/gui_ewa-stu-brief-user-guide.pdf and their customer support site: <http://support.cengage.com>

Lauren has made short videos where she provides additional explanations and works through examples from each of the sections. They are already on our Moodle page under VIDEOS and you can access them there. We are hopeful that these will be helpful to everyone! This way you will get somewhat of an “in-class” experience, watching her explain the topics, as well as working many examples. We highly recommend you watch these before doing any of the homework, but after you have read through the appropriate section in the text. Please note that there are also some videos from chapter 1 available made from another instructor.

We would also like to give everyone a heads up that this Webassign program is quite particular in that you need to give your answers to the number of decimal places asked, use/not use a % sign as indicated, use a lower case letter instead of an uppercase one, etc. If, when checking your homework/quiz answers, you see that your solution was correct, but perhaps off by a decimal place (for example) or you included a comma when the program did not want such, PLEASE do not hesitate to email Shurong. She is more than happy to go in and look at it and change your points if the situation warrants that. Additionally, if you think that their answer is incorrect, please contact her and she will check it out. We also want to let you know that we DO check the site on nearly a daily basis and know to look for these things. Finally, we also go in and give partial credit on all of the *quizzes* so if you suddenly see your quiz score increase, do not be alarmed; you may have made a round-off error or a minor calculation error, in which case you will be awarded additional points. This is not needed on tests, as they are all multiple choice.

Every section of the text covered in class has a corresponding assignment in Webassign. There is also a chapter quiz for each of the chapters covered in class and three exams throughout the semester. Note that all of the homework, quizzes and exams are grouped together; however we suggest you go in order. Specifically, do the chapter 1 homework, then take quiz 1. Next, complete the chapter 2 homework and then take quiz 2. Once you complete these chapters, you will want to take the first test, which covers both chapters 1 and 2. Then do the same for chapters 3 and 4; and then 5 and 6 (as test 2 is over chapters 3 and 4; and test 3 covers chapters 5 and 6). Please also note that every homework, quiz and test is online through webassign; hence, unless you need to come to campus for another reason, it is not necessary for this class.

This semester we have opted out of having specific due dates for the homework, tests and quizzes. You will notice that everything has a due date of November 25th. This DOES NOT mean that you should wait until the last moment to work on your assignments. We assure you this is a quick way to place yourself in a less than optimal position to complete the course with any measure of success. You may ask why we have chosen to do this. There are multiple reasons. Part of the beauty of an online course is the flexibility, that it is self-paced and can be studied on your time, not necessarily during typical school time. We also realize that we have lives going on outside of school and things may come up where one has to focus on other matters. While we can give extensions, that seemed to stress many students out, and the idea of stressing over an artificial deadline is senseless (PLEASE note that November 25th is NOT an artificial deadline!!!!). This leads to our last reason which is that we would much rather spend time helping people learn math than sitting at our computers switching due dates! Having said that, if you find that you are prone to procrastinate, please note that we have made a “schedule for people prone to procrastination”, a suggested schedule for you for the semester. You will find it on our class moodle page.

You have 4 attempts to do each homework problem. Given the fact that you are allowed to see where you made errors, this should allow ample opportunity to correct yourself and get perfect homework scores. Please note that the quizzes allow two attempts, and exams only allow one attempt. Hence, do NOT start a test until you are ready to sit and take the entire exam. You will not be allowed to go back in once it has been opened. NONE of the homework, tests or quizzes are timed and you may use your text and/or notes if you choose. Your course grade will be based on 3 exams (45% of your grade), 6 quizzes (30% of your grade) and 23 homework assignments (25% of your grade). There is no final exam.

Again, we want to emphasize a few things to you.....first, if you have any questions about the math, do NOT be shy. We are happy to help. Shurong can try to explain via email, she can solve a question on a sheet of paper and scan and email it to you, we

can chat on the phone, or we can meet up on Zoom. Second, if you feel like your answer entered into webassign was correct, but you used different notation, rounded incorrectly, or that partial credit was not given to you, PLEASE email Shurong. She is more than happy to go in and assign points where warranted. These programs are super picky, and sometimes overly so, hence do not hesitate to contact her. Lastly, please get going with the material as soon as you can. It is better to work at a steady pace throughout the semester than to have to go in “overdrive” at the end of the term.....and.....don't forget to access the videos on the moodle page for additional explanations!

Learning math can be challenging in a classroom setting, but tackling it on your own in an online course presents even more of a challenge. Online classes require a lot of self-teaching and motivation. We are not saying this to scare anyone away; we just want you to be aware that it is very different from having a professor in front of the class explaining things. However, when you do learn it on your own, it is that much more satisfying!!! We realize that many of you may not be particularly fond of mathematics. Our hope is that through this course you may begin to see the beauty that exists in addition to the practical utility of the thought processes that naturally take place in mathematics. We are entirely sincere when we say to you that if you have any comments, questions or concerns, we are available to you and open to discussion. The Math Department has tutors available at the Math Learning Center daily and their hours will be posted. Shurong is also available by appointment to help you out: either on Zoom, by phone or email!

Suggestions/Advice:

1. It is strongly recommended that you check your campus email daily.
2. You should begin each chapter by reading the assigned sections in your textbook and watching the corresponding section videos. Some students find it useful to watch the videos first, and then read the text (and maybe watch the videos again). Please note that I have videos posted on our Moodle page where I go through a lot of the material. Webassign also has resources that you should take advantage of.
3. Homework should be done daily. There is no time limit on homework assignments. You can attempt the same question up to 4 times and still receive full credit. Use your notes from the videos as well as your textbook when needed. You will receive a 100% grade for homework if all of the questions are answered correctly. Additional online practice homework questions can be found under Chapter Contents in the Study Plan. Homework from the text is for practice purposes and will not be graded.
4. If any questions arise, PLEASE contact me. Your success in this course will depend upon the amount of time and effort you are willing to spend with the material. You should plan to spend at least six hours per week reading your text, reviewing notes, working on homework, completing quizzes, and studying for exams.
5. It is assumed that you are able to use the basic features of your calculator and that you have a working knowledge of all material covered in the prerequisite course. While I understand that some of the material was not mastered by all students in the prerequisite course or that the prerequisite course was taken years ago, it is your responsibility to seek assistance if it is needed. You should start by reading the textbook and its examples. You will find that the material comes back quickly. You are strongly encouraged to ask questions.
6. **Please contact me with any concerns you have during the semester, especially if there is something going on that is having an impact on your ability to succeed in the class. Don't wait until you are way behind to get help! It is strongly recommended that you communicate with me as much as possible so that we can work together to get you through the course successfully.**

Grading:

Your course grade will be based on 3 exams(45% of your grade), 6 quizzes(30% of your grade) and 23 homework assignments(25% of your grade). There is no final exam.

<i>Grade</i>	<i>Grading Scale by Percentages</i>
A	85%+
B	84-75%
C	74-60%
D	59-50%
F	Less than 50%
CR	

*** 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). 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.***

Add/Drop Policy:

The last day to add/drop or change grading option to Audit by Cyberbear is **9/9**. The last day to change sections and to change grading options is **10/21**. This is also the last day to drop. Changes after this deadline and until **11/18** must be done by Petition to Drop/Add after deadline and approved by me, your advisor and the appropriate Dean. Approval requires genuine extenuating circumstances as listed in the university catalog.

Extenuating circumstances are:

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

Reasons that are not satisfactory include:

1. Forgetting to turn in a drop slip.
2. Protecting your grade point average.

Incomplete (I) Grades:

To be eligible for an "I", the following conditions must be met:

1. The student must have been in attendance and passing the course up to 3 weeks before the semester ends; and
2. The student is 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 2020-2021 catalog for further information.

Misconduct:

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](#). Available for review online at <http://www.umt.edu/SA/VPSA/index.cfm/page/1321>.

Cheating will not be tolerated! You are expected to personally complete any work that is submitted with your name on it. While I encourage students to discuss homework solutions, you should not discuss particular solutions to questions that will be graded. Instead, find a similar question to discuss or use an example from the textbook or notes. It is never acceptable to copy another person's work or to allow another student to copy your work.

Special Accommodations:

Students with disabilities will receive reasonable accommodations in this online course. To request course modifications, please contact me as soon as possible. I will work with you and Disability Services in the accommodation process. For more information, visit the [Disability Services website](#) or call 406.243.2243 (Voice/Text).

Resources:

Office Hours: Shurong's office hours are for you to seek direct help from her. Don't wait until you are behind to get help! It is strongly recommended that you communicate with us as much as possible so that we can work together to get you through the course successfully.

The Math Department has tutors available through the Math Learning Center located in the basement of the Math Building. Their hours will be announced once they are provided to us.

Student: As a student, you may experience a range of challenges that can interfere with learning, such as health: strained relationships, increased anxiety, substance abuse, feeling down, difficulty concentrating, and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. Counseling is available and treatment does help. The professional staff at Curry Health Center offers free confidential counseling to full-time students. I am always happy to help you find the resources you need.

Important University-Wide Info and Dates:

- Monday, 7 September: Labor Day. No school.
- Tuesday, 3 November: Election Day. No school.
- Wednesday, 11 November: Veteran's Day. No school.