Contact Professor:
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Catalog Description:
(http://www.umt.edu/catalog/colleges-schools-programs/humanities-and-sciences/mathematical-sciences/default.php.)
M 115 - Probability and Linear Mathematics
Credits: 3. Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or M01 placement ≥19, or ALEKS placement ≥ 3, or ACT score of 22, or SAT score of 550(with the new test). Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.

Learning Outcomes: Upon completion of this course, students will be able to:

1. Use linear equations, systems of linear equations and linear programming (graphical method only).
2. Use basic probability: sample spaces with equally likely outcomes, counting, conditional probability, Bayes' theorem, binomial probabilities, probability distributions, tree diagrams, Venn diagrams, two-way tables.
3. Use probability distributions: the binomial and normal distributions, and the normal approximation to the binomial distribution.
4. Use descriptive statistics: graphical displays, measures of center and spread.
5. Solve word problems involving the above concepts (this includes being able to precisely formulate a problem, and to interpret solutions).

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.

Course Content:
1. Sets and Probabilities (Sets, Applications of Venn Diagrams, Basic Concepts of Probability, Conditional Probability; Independent Events, Bayes' Theorem)
2. Counting principles; Further Probability Topics (The Multiplication Principle, Permutations, Combinations, Probability Applications of Counting Principles, Binomial Probability, Probability Distributions; Expected Value)
3. Statistics (Frequency Distributions; Measures of Central Tendency, Measures of Variation, The normal distribution, Normal Approximation to the Binomial Distribution)
4. Linear Functions (Slopes and Equations of Lines, Linear Functions and applications, linear vs. exponential functions)
5. Problem Solving Guidelines, Uses of Percentages, Orders of Magnitude
6. Linear Programming, The Graphical Method (Graphing Linear Inequalities, Solving Linear Programming Problems Graphically, Applications)

Text:
Finite Mathematics-11th Edition, Lial et al. Access to MyMathLab and a graphing calculator are also required. Classroom demonstrations will be done with a TI-84. A graphing calculator with symbolic capability, such as a TI-89, TI-92 or anything CAS will not be allowed on quizzes or exams.

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 MyMathLab for the online homework component of this class. 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. **Please note that our course ID is fern56717, unless you are in labs 17 or 18 in which case the course ID is fern87807**

To register/login to your MML account, please go to the class moodle page.

1. Go to our class moodle page and scroll down to the green icon "Access Course Materials". Click on it.
2. Find the box that says M115 and click on "View Course Materials" and then "Acquire Code"
3. Copy the access code.
4. Open a new tab and go to www.pearson.com/mylab   (we are NOT using MyLabsPLus)
5. Click on register and student, then click on "OK Register Now"
6. Enter our course ID fern56717 or fern87807
7. 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….its OK if it's a personal email). If you are creating an account, fill in the boxes and proceed.
8. Select an option "Use Access Code". DO NOT DO TEMPORARY ACCESS AND DO NOT PURCHASE ONE this is the code you copied in step 3 above.
9. Enter the code exactly.
10. Now you should be in!

Grading:

Your course grade will be based on the following:

40% of your grade:	2 exams @ 100 points each.
25% of your grade:	Final Exam@ 150 points. Note this is a cumulative final exam, with an emphasis on the last material.
15% of your grade:	10 quizzes @ 10 points each, with the lowest two dropped. There are **no** make-up quizzes.
15% of your grade:	Online Homework
5% of your grade:	Attendance in Lecture

All the tests and quizzes are closed book, but calculators are allowed on all tests and quizzes. When a test 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.

Grade	Grading Scale by Percentages
A	90%+
B	89-80%
C	79-65%
D	64-55%
F	Less than 55%
CR	$\geq 55\%$

*** 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.***

Make-ups:

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

Add/Drop Policy:
The last day to add/drop or change grading option to Audit by Cyberbear is **9/17.**The last day to change sections and to change grading options is **10/29.**This is also the last day to drop. Changes after this deadline and until **12/7** 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 2018-2019 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

Disability modifications:
The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. 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.

Important University-Wide Info and Dates:
- Monday, 3 Spetember: Labor Day. No school.
- Tuesday, 6 November: Election Day. No school.
- Monday, 12 November: Veterans Day. No school.
- 21-23 November: Thanksgiving. No school.

The following syllabus **is** subject to modifications (and in all probability will be changed due to timing!). **This includes a potential change of dates for test 1 or test 2.**

Week	Sections	Quiz and Exam Dates
8/27 – 8/31	Class Intro, 7.1	
9/3 – 9/7	7.2 – 7.3	Quiz 1
9/10 – 9/14	7.4 – 7.6	Quiz 2
9/17 – 9/21	7.6, Review	
9/24 – 9/28	Test 1, 8.1 – 8.2	Test 1: Monday, 24 September
10/1 – 10/5	8.2 – 8.4	Quiz 3
10/8 – 10/12	8.5, 9.1-9.2	Quiz 4
10/15 – 10/19	9.3, Review	
10/22 – 10/26	Test 2, 1.1	Test 2: Monday 22 October
10/29 – 11/2	1.2 – 1.3	Quiz 5
11/5 – 11/9	Ch. 2	Quiz 6
11/12 – 11/16	Ch. 2, 3.1	Quiz 7
11/19 – 11/23	3.1	
11/26 – 11/30	3.2 – 3.3	Quiz 8
12/3 – 12/7	Review	Quiz 9-10 – Take home
FINAL EXAM	Thursday, December 13 8:10-10:10 a.m.in SS352 (Sec 00) OR Friday, December 14 8:10-10:10 a.m.in SS352 (Sec 10)	