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1-2014

## M 115.00: Probability and Linear Mathematics

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**Math 115: Probability and Linear Mathematics, Spring 2014**  
**Business Emphasis Sections - 9 a.m. Lecture**

**Catalog Description:** U 115 (MATH 117; MAT 117) Probability and Linear Mathematics 3 cr. Offered every term. Prereq., M 090 (MAT 005) with a grade of B- or better, or M 095 (MAT 100), or appropriate placement score. 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.

**Goals:** The learning goals, as defined by the mathematics department, are:

1. To master the basic concepts of lines, linear systems and linear programming (graphical method only).
2. To understand basic probability concepts: probability models (Venn diagrams, two-way tables), sample spaces with equally likely outcomes (counting), conditional probability (tree diagrams), Bayes' theorem, binomial probabilities, probability distributions.
3. To understand the rudiments of statistics: measures of center and spread, the normal distribution and the normal approximation to the binomial distribution.
4. To learn how to use the above concepts to solve application problems (this includes to learn to precisely formulate a problem, and to interpret solutions).

**Teacher:** Greg St. George

**Location:** GBB 106, 9:10 a.m.

**Office:** Math 313.

**Phone:** 243-4146.

**Email:** gregory.stgeorge@umontana.edu

**Office hours:** Mon. 2:10–3:00, Tues. 12:10–1:00; Wed. 12:10–1:00, F 2:10–3 p.m,  
& by appointment. Some of these may need to be changed as meetings etc. are scheduled.

Offices, and office hours for the TA's, Tek Chhetri and Denis Shchepakina will be announced in quiz sections, and in the lecture when they are available.

**Text:** Soo T. Tan *Finite Mathematics*, 10<sup>th</sup> Custom Edition for UM

**Website:** to be announced.

**Quiz Sections** These all meet on Thursday.

Section	Time	Room	
01	8:10-9:00 a.m.	MA 108	Denis Shchepakina
02	9:10-10:00 a.m.	MA 108	Tek Chhetri
03	10:10-11:00 a.m.	MA 108	Tek Chhetri
04	11:10 a.m. –12:00 p.m.	MA 108	Tek Chhetri
05	12:10 –1:00 p.m.	MA 108	Denis Shchepakina
06	1:10 – 2:00 p.m.	MA 108	Denis Shchepakina

**Tutoring:** *Free tutoring* is available at the tutorial center at Math@Mansfield, located in the Mansfield Library. Hours will be announced when they are available.

**Grading Policies:** There will be 3 tests worth 100 points each, Quizzes worth 100 points, and a final worth 150 points. These will be averaged to obtain your final grade.

The grading scale is A: [92, 100], A- [90, 92), B+: [87, 90), B: [82, 87), B-: [80, 82) C+: [76, 80), C: [67, 76), C- [65, 67) D: [55, 65), F: below 55. 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.

Make-up tests will *not* be given to remedy poor performance on a test. They are possible in the event of substantive illness documented by a doctor's note (or from the Curry Health Service), University approved Athletics, and other foreseen or unforeseen events upon approval by the teacher. Except in the case of illness, this approval must take place *before* the scheduled exam date.

If you are taking this course as a general education requirement, you must take it for a traditional letter grade (not CR/NCR). A grade of "D-" is considered passing and will earn you credit for this course, BUT it will NOT fulfill your general education requirement and you will have to re-take the class. A grade of C- or better is needed to fulfill the math literacy requirement.

**Incomplete Grades.** To be eligible for an incomplete (grade "I") a student must have been in attendance and *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 course coordinator. See the 2012-2013 catalog for further information.

**Drop Policy** We follow the University's policy on this. According to information provided by M. Hoell in the Dean's office, the last day to withdraw from classes is Friday May 2.

**Final Exam:** Probably, the final exam will be when it is scheduled by the University. If I am reading the schedule correctly, I think this is at 10:00 a.m. on Thursday, May 15. Please do not arrange flights home before that time. I will try to find an earlier time, but this may well not be possible. You will be required to show a photo ID (Grizcard or Driver's License) when turning in the final. Without instructor approval failure to take the final means failure in the class.

**Software and Calculators:** This class requires a graphing calculator which can do linear regression, Gauss elimination, and has functions which give probabilities for normal and binomial distribution. The calculator cannot contain a CAS nor can it have communication capabilities. The TI 83 or TI 84 calculators, which most students have these from high school satisfy these requirements and will be used in classroom demonstrations. It is possible to do these operations without a calculator (or with tables which can be provided); this is more work and will require some extra learning on your part which you will be responsible for.

**DSS** Students with disabilities are welcome to discuss accommodations with the lecturers. 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.

The Following two sections are required to be included in syllabi by the Provost:

**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.

**Student Conduct Code:** All students need to be familiar with the Student Conduct Code. The Code is available for review online; the easiest way to find it is to search for "Student Conduct Code" via the "A to Z Index" link on the top of the UM home page.