

Introduction to Statistics (4 credits) CRN: 40287 Spring 2012

STAT 216-801 Online

Catalog Description: Prerequisite: M 095. Covers descriptive techniques, probability distributions, statistical inference, and regression methods.

Course Goals and Purpose: This course is intended as a first course in statistics for students. It introduces students in a variety of disciplines to the basic techniques of statistics. The emphasis is on understanding how to use statistics to address real problems. A goal is to provide students with a survey of standard statistical techniques and to help them obtain an understanding of the major ideas that statistics has to offer.

Learning Objectives: Upon completion of the course, students should be able to do the following: (1) to think critically about data, (2) to use graphical and numerical summaries, (3) to apply standard statistical inference procedures, and (4) to draw conclusions from such analysis.

Meeting Learning Objectives: The Learning Objectives can be met by doing the following: (1) Buy or borrow a good statistical calculator such as a TI-83, TI-83+, TI-84, TI-89Titanium, or TI-200, (2) Read the textbook and complete all assigned homework problems, exams and projects in the given time, (3) Work additional unassigned textbook problems, and (4) Work more independently than in a lecture class. As you have questions, post them in the Discussions area so all of us can benefit from responses.

Advice and Help: In signing up to take this on-line course, you all are agreeing to the terms set out in the syllabus of this course. That is, you are stating that you have the necessary math prerequisites to proceed in this course. I will respond as quickly and in as much detail as this technology will allow to any of your questions whether they be conceptual or calculations. Some of you who reside in Billings may find tutors on campus at the Academic Student Center. Those of you who live out of town must find necessary resources if you need to. In signing up for an on-line course, you are agreeing to complete the course in the time frame set out by the University.

Text: Statistics, 11th Edition, by McClave and Sincich 2009, bundled with MyLab access code, and study pack.

Instructor: Dr. Mark Jacobson

Room: LA 839

Phone: 657-2203

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Course Outline: Statistics falls naturally into three parts: descriptive statistics, probability, and inferential statistics. Of these, inferential statistics is of the greatest interest to most users of statistics, and thus will receive the greatest attention. The core of the course follows:

1. Descriptive Statistics; gathering data, frequency distributions, descriptive measures.
2. Probability; counting, discrete distributions, the normal distribution.
3. Inference; confidence intervals, hypothesis testing, two sample techniques, correlation and regression

Grading Scale

<u>Percentage</u>	<u>Grade</u>	<u>Points</u>
100 – 93 %	A	4.0
92 – 90 %	A-	3.7
89 – 87 %	B+	3.3
86 – 83 %	B	3.0
82 – 80 %	B-	2.7
79 – 77 %	C+	2.3
76 – 73 %	C	2.0
72 – 70 %	C-	1.7
69 – 67 %	D+	1.3
66 – 63 %	D	1.0
62 – 60 %	D-	0.7
Below 60%	F	0.0

Assessment

<u>Item</u>	<u>Percentage</u>
4 Exams	80 %
MathXL Homework	20 %
Total	100 %

There is no FINAL EXAM!! No Incompletes will be given unless the requirements as per student handbook are met.

ALL work must be completed no later than the DUE DATES. Work turned in after the DUE DATES will receive a 0.

IMPORTANT! You cannot make up missed exams. Therefore, if you will be out of town for sports or work or whatever and you see that a deadline is coming, you **MUST** consult with the instructor to determine if you can take the exam before you leave. You must plan your schedule; I cannot do that for you. You will be held responsible for taking your exams on or before the deadlines set for the four exams. I will accept no reasons for missed exams.

Graded Internet Homework and Exams

Registration: You will access the internet homework and exams by first registering at the following site: <http://pearsonmylabandmastering.com/> .

Click on the **Register** button on the right-hand side.

The **Student Access Code** is contained in your bundled package.

The **Course ID** for this course is: **jacobson86687**.

The school choice is: **MONTANA STATE UNIV – BILLINGS**.

Follow the directions. Make sure you install the required software plug-ins during this process.

Note: If you have only the textbook, you can purchase a Student Access Code online as shown in the registration process for about \$70.

Note: If you have technical problems call: 1-800-677-6337.

Homework: All homework will be taken at the above MyLab website.

Click on the **Log In** button located on the right-hand-side.

Give your **Login Name** and **Password**.

Click on the **STAT 241-801** link located on the left-hand-side.

Click on the **DO HOMEWORK** button located on the left-hand-side.

Click on the appropriate **Homework Chapter** link located under the Assignment.

Note: These graded homework problems can be taken an unlimited number of times. Your work is saved automatically when you leave the homework site.

Exams: Exams will be online in MyLab.

Click on the **TAKE A TEST** button located on the left-hand-side to access an exam.

Gradebook: Your homework and exam grades can be viewed by clicking on the **GRADEBOOK** button, located below the **TAKE A TEST** button.

Calendar: The calendar for this course can be viewed by first clicking on the **Chapter Contents** button, located below the **STUDY PLAN** button. Next, click on the **MyStatLab Calendar** link located at the top of the page. All the important dates for the homework and exams are shown here.

D2L: We will also be using D2L as a supplement in this course. Please take some time to look around in D2L. D2L's website is located at: <https://msubonline.net/> .

Additional Information

1. If you live in or near Billings and if you can't figure out your calculator, the Academic Student Center could possibly help you (it is located in the old Computer Annex just south of the SUB). Also, the ASC has web pages posted (below) with excellent and easy to follow instructions for various models of calculators. The site is located at:
http://www.msubillings.edu/asc/graphing_calculators.htm

2. This course is not designed to be easy. Rather, it is designed to be academically rigorous, intellectually challenging, and fair. It will require time and energy outside of class to read and reflect on the text and our discussions. Generally, when students work hard, good grades follow. However, the relationship between effort and grades is not perfect; in other words, effort alone does not produce a high grade. You are not owed an "A" simply because you came to class and completed assignments. Your grade will reflect your ability to make sense of the issues under discussion and your work on exams and quizzes.

3. Realize that you are developing a set of personal habits and attitudes that will shape your professional life. To be an effective student, you must be enthusiastic about what you are doing. I expect your work and classroom participation to reflect a level of creativity and risk taking. This means, among other things, if you have never been an active participant in discussions that you make a commitment to increase your level of participation. Resist getting hung up on the question "What does she want?" and look for ways to use questions and assignments to help deepen your understanding of statistical concepts that you read about.

4. While I do not think that this class is, or should be, the center of your universe, attendance and active participation in class are important. Some of you will face personal situations during this semester that will rightfully demand more attention than this class, and will not allow you to be physically and/or mentally in class. Whenever possible, accommodations that are fair to you (and the other students) will be made if I am informed in a timely manner. At the same time, however, we would do well to remember the words of a famous person: "In this world you **will** have trouble." We have a tendency to think that the absence of trouble is the norm--something we deserve. It is not coincidental that many of the people who end up achieving the most in life often are those who have faced the greatest hardships. Throughout your career, you will face minor and major hardships; how you respond to difficulties in your life right now will play a huge role in determining your effectiveness later on in life.

5. It is my responsibility to lay a foundation for understanding the "big picture" in statistics. I will not give you recipes for how to do best in this class. I encourage you to come to this class to learn. To that end: Turn your cell phones off while in this class. Do not come to this class and do work required of your other classes. Do not come to this class and read other textbooks. Do not come to this class while eating your breakfast or lunch. Do not come to this class to sleep. Develop your sense of humor. Enjoy learning and school. There are few things worse than hating what you do. If you don't enjoy learning and the challenges of being a student, then do yourself and many other people a favor and find another class to challenge you.

6. For both a student and a teacher there is no substitute for preparation. I expect you to stay current in your readings and other assignments. Reading a chapter prior to class means reading, thinking, rereading, not just a quick glance during the 5 minutes before class begins. You should plan on spending at least 2 hours outside of class for every hour you spend in class. Some assignments will require more time.

7. As college students you should be very familiar with the requirements for academic integrity. Although discussing ideas from the class with others is both productive and encouraged, I expect answers on your exams to be your own independent work. Students who cheat on written in-class work will meet with disciplinary action, including but not limited to a failing grade in the course. For further information, consult the MSU-B student handbook (available online at the MSU-B home page).

8. An Incomplete (grade) is given only when students have been in attendance for at least three-fourths of the semester but have been prevented by circumstances beyond their control from completing all the requirements of the course. The student must provide adequate evidence to the instructor as to the reason why they were unable to complete the requirements of the course. An Incomplete must be made up within one calendar year or the grade will revert to an F. In general, to make up an incomplete for this class, the student must retake the course and will be required to submit all material required by the new instructor of a regular student.

9. Students with disabilities, whether physical learning, or psychological, who believe that they may need accommodations in this class, are encouraged to contact Disability Support Services (DSS) as soon as possible to ensure that such accommodations are implemented in a timely fashion. Please meet with DSS staff to verify our eligibility for any classroom accommodations and for academic assistance related to your disability. Disability Support Services is located in the Academic Support Center. The DSS staff can be reached at 406-657-2283 in the Academic Support Center.