

Introduction to Statistics (4 credits) CRN: 40287 Spring 2015

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) think critically about data, (2) use graphical and numerical summaries, (3) apply standard statistical inference procedures, and (4) 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 and exams 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 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 have to do with calculations. Some of you who reside in Billings may find tutors on campus at the Academic Support Center. Those of you who live out of town must find necessary resources if you need. In signing up for an online course, you are agreeing to complete the course in the time frame set out by the University.

Text: Statistics, 12th Edition, by McClave and Sincich 2013, bundled with MyStatLab access code

Instructor: Dr. Mark Jacobson

Office Hours: Monday and Tuesday: 10:30 – 12:00 p.m.; Thursday: 0920 – 1020 a.m. or by appointment

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Course Outline: Statistics falls naturally into three parts: descriptive statistics, probability, and inferential statistics. Of these, inferential statistic 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

Last Day to Add is Friday, January 23th.
Last Day to Drop is Thursday, March 12th.

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	85 %
<u>MathXL Homework</u>	<u>15 %</u>
Total	100 %

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

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 me 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: **jacobson36892**

The course choice is: **STAT 216-801 Spring 2015**

Follow the directions.

Note: If you have only the textbook, you can purchase a Student Access Code online as shown in the registration process for about \$100.

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

Homework: All homework will be completed at the above MyStatLab website.

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

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

Click on the link **STAT 216-801 Spring 2015** located on the left-hand-side.

Click on the **Homework and Exams** button located on the left-hand-side.

Click on the appropriate **Homework Chapter** link located under the Assignment. **WATCH FOR DUE DATES.**

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 MyStatLab.

Click on the **Homework and Exams** 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 **Homework and Exams** button.

Calendar: MyStatLab has two Calendar options (weekly and monthly) for this course. The first Calendar option (weekly) is located in the **Announcement** link. This shows the homework and exam dates for each week. The second Calendar option (monthly) is located by first clicking on the **STUDY PLAN** link. Next, click on the **Course Calendar** link located at the top right-hand-side of the page. This shows the homework and exam dates for each month.

The course calendar is also on my web page for you to copy:

<http://www.msubillings.edu/mathfaculty/mjacobson/>

Additional Information

- 1.** If you live in or near Billings and if you can't figure out your calculator, the Academic Support Center in the SUB could possibly help you. 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 to read and reflect on the text readings. 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 completed assignments. Your grade will reflect your ability to make sense of the issues concepts in the text and your work on exams and homework.
- 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 to reflect a level of creativity. 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, participation in class is 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 mentally prepared for 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, you 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. Do not procrastinate in this class. Do work on this class daily. 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 to prepare for exams means reading, thinking, rereading, not just a quick glance during the 5 minutes before exams begin. You should plan on spending time on this class daily. Some assignments will require more time than other assignments..
- 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 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 as to the reason why the student was 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.

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. The DSS staff can be reached at 406-657-2283.

10. Email communication and Etiquette—Please be aware that it is important to remain professional in email communications. Writing a proper email is a skill that extends to other courses and later in your professional career. Here are some tips to help you avoid miscommunication or misunderstandings.

Begin your email with a proper address (Dr. or Professor).

Include a clear subject line in your email.

Recognize that it is difficult to read *tone* in emails, so err on the side of caution with word choices or structure that might be misread as impolite or disrespectful.

It is also important to use proper spelling, grammar, and complete sentences in professional emails.

Include a closing in your email with your name, course, and course section.