Introduction to Statistics
STAT 216.W2 – Online

NOTE: EACH STUDENT IS EXPECTED TO READ THE SYLLABUS AND SIGN A COPY OF IT FOR THE PROFESSOR'S RECORDS. THIS PROCESS IS TO ASSURE THAT STUDENTS UNDERSTAND THEIR RESPONSIBILITIES AND THAT THE PROFESSOR'S INSTRUCTIONS ARE CLEAR. PLEASE PRINT A COPY AND SIGN (WHERE INDICATED ON THE LAST PAGE) AFTER READING THE SYLLABUS.

Professor: Dr. Suzan Gazioğlu
Semester: Spring 2014
Phone: 496-4616
E-mail: sgazioglu@mtech.edu
Online Office Hours: MWF 10:00 – 10:50 a.m., TWR 3:00 – 4:00 p.m.
Office: Department of Mathematical Sciences
Museum Building – Room: 207

PREREQUISITE:
You must have taken and passed (Minimum grade of C-)
Math 0102 / M 95 (Intermediate Algebra), or equivalent.

OBJECTIVES:
- Think critically about data and data collection;
- Use appropriate graphical and numerical summaries for univariate and bivariate data;
- Apply standard statistical inference procedures;
- Interpret probabilities and identify the connection between probability and statistical inference;
- Communicate findings to a non-mathematical audience.

COURSE DESCRIPTION:
The approach to statistical problems will be technique-oriented with an emphasis on applications. The topics covered in this course will include the following standard topics:

- Basic terminology
- Graphical Tools
- Numerical Measures
- Normal Distributions
- Basic concepts of probability
- Random Variables
- Probability Models
- Sampling Distributions
- Point Estimation
- Confidence Intervals
- Hypothesis Testing
Upon completion of this course, it is expected that a student should have a developing understanding of some of the central ideas in statistics, probability, and an appreciation of the role Statistics has in science.

Please be aware that Statistics has an extensive technical vocabulary that must be mastered. As you complete each module, you are expected to learn the statistical vocabulary defined/used in each module. Otherwise, you wouldn't be able to follow the concepts covered in the course.

The course is highly cumulative. Many of the things you learn will be referred to again and again throughout the course in various contexts. Failure to master concepts and procedures early in the course will cause serious problems later.

In this course, when solving homework problems, exam questions you are required to always state a brief conclusion in the context of the problem. This helps build data sense as well as the communication skills that employers value.

**FORMAT OF THE COURSE:**

This section of Introduction to Statistics (STAT 216.W2) will be delivered online on Montana Tech online delivery system called Moodle through MYMTECH. Each student is required to have their own access for the course website.

This course is built around modules. Each module introduces you to a distinct body of knowledge in the domain. In each module, the specific learning objectives for the content addressed in that module are listed, and material or activities that work toward development of these learning objectives are included.

Detailed directions are given to guide you through completing each module. You are strongly encouraged to start module activities and communication early in the module period. This way you will get feedback from professor and other students before the end of the module.

**To be able to do well in this course:**

- You will need to keep up with the readings from the text
- Study the lecture presentations
- You should be spending at least ten hours each week preparing for this class (not including studying for exams)
- Start homework early
- Visit the course website frequently
- Don't wait until the last minute to study for exams
- Contact the professor early if you are having difficulty understanding the material or doing poorly on the exams
- Participate, be involved in class discussions
- Keep-up with the due dates
REQUIRED MATERIAL:

- Textbook: *Introduction to the Practice of Statistics* by David S. Moore, George P. McCabe and Bruce A. Craig (*7th Edition*).
  
  *Be sure to get the 7th edition of the textbook!!! You will not be able to use earlier editions to complete the work in this course.*

The material covered in this course: Chapter 1, Chapter 4 (Intro. & Sections 4.1 – 4.4), Chapter 5 (Intro. & Section 5.1), and Chapter 6 (Intro. & Sections 6.1 – 6.2)

PARTICIPATION & INVOLVEMENT:

We will use the FORUMS on Moodle to interact. Students learn through participation and positive involvement in class discussions/activities. You need to treat this class like any other class that meets 3 hours a week. In each module, I will start a new Forum on the Discussion Forums where you can post your questions or comments. I encourage you initiate discussions about the topic(s) covered in the modules, homework assignments, quiz/exam questions.

Participation and involvement will be graded based on the following criteria:

1. Meeting modules’ expectations including participation in discussions, activities and answering questions as required.
2. Values time commitment and respects others’ time commitments; meets deadlines.
3. Use of clear communication.
4. Extent of respect to class manners, does not cause disruption to class discussions.
5. Extent of preparation as demonstrated in class discussions (shows evidence of reading assigned materials).
6. Extent of interpreting and analyzing reading material (more than just memorizing facts).
7. Shows enthusiasm and interest.

ONLINE OFFICE HOURS & TUTORS:

I will be available online MWF from 10:00 – 10:50 a.m. and TWR from 3:00 – 4:00 p.m. to answer your questions. My office is located in the Museum Building (Room 207) on Montana Tech North Campus. Please do not hesitate to visit me during my regular face-to-face office hours (MWF from 12:00 – 1:00 p.m.) if you are on campus. If the above times do not work for you, please e-mail me to make an appointment.

We are going to use the Moodle Forums available on the course website to communicate online asynchronously. If you cannot be online during my office hours to ask questions, you can still post your questions on the Discussion Forums under the relevant forum. The question/s can be answered by anyone in the class. I will allow sometime for other students to answer the question/s before contributing.
HOMEWORK ASSIGNMENTS:

Book homework (HW) assignments will be given regularly. You need to do these assignments in order to understand the material and do well in this class. And since most of the quiz/exam questions will be similar to the HW problems, I strongly encourage you to work on each assignment carefully. The answers to the odd numbered problems are listed in the back of the textbook.

Most HW assignments are 5 – 15 problems long. All assignments will be posted on the course website under ASSIGNMENTS area. You are expected to complete the assignments by the end of the module. No HW will be collected to be graded. However, the questions I will post on the Discussion Forums will mostly be about the HW problems. I strongly encourage you complete the homework assignment and ask questions (if you have any) before you take the module quiz.

You will be given 2–4 days into each module to try the assigned HW problems and discuss them on the Discussion Forums. After that, a complete solution to the HW assignment will be posted on the course website for you to check your work and ask further questions you may have.

DISABILITY:

Students with disabilities who believe they may need accommodations in this class are encouraged to contact a Montana Tech Disability Coordinator (DSC) at 496-4429 (North Campus) or 496-3730 (South Campus).

Any student who may need an accommodation due to a disability, please contact me as soon as possible (no later than the 24th of January). A letter from a Montana Tech DSC authorizing your accommodations is needed by the professor.

QUIZZES:

Quizzes will be posted online under QUIZZES area of the course website. You will take the quizzes online. Quizzes will consist of 10-15 questions. The format of questions varies: true or false, multiple choice, and complete the sentence are possible formats. You are given about 4 days to take each quiz. You will be given 20 – 30 minutes (time varies according to the length and difficulty of the quiz) to complete a quiz and it must be completed the first time it is launched. Multiple attempts are NOT allowed. Each quiz has a time limit. You have to complete and submit your quiz within the given timeframe. Late quizzes are NOT accepted under any circumstances. The score for a late quiz is zero, even if you answer all questions correctly. Quizzes must be completed by the due date specified in the course calendar, in the announcements, and also in the module tasks list. NO make-up quizzes are given under ANY circumstances!!!!

It is your responsibility to take the quizzes in a timely manner. Do not wait until the last minute to take the quizzes. If you wait until Sunday night to take the quiz and run into technical problems, you will not be able to get help from the professor or from the Moodle Help Desk on the weekends. After the deadline the quiz will be closed and will not be available for assessment purposes.
After a quiz is closed, the correct answers to the quiz questions are revealed. If you miss any questions on a quiz, I strongly encourage you to go back to the quiz and get the feedback provided on each question.

EXAMS:

In this course, there are **three 1-hour long midterm exams and one 2-hour long comprehensive final exam**. The exams are closed-book, closed-notes exams, and they are proctored. These proctored exams have two parts: One part is taken online (computer based), and the other part is written (paper based). In the written part of the exams, you are expected to show sufficient work to justify your answers. You will be given a formula sheet in each exam.

**You are required to schedule each exam with me as soon as you can.** For each exam, you have 2 possible days listed below (see the Exam Dates section). You can choose either of these days and a time-slot – EITHER between 4:00pm and 5:00pm OR between 5:00pm and 6:00pm for the three midterm exams. The final exam is 2-hour long (from 4:00pm – 6:00pm). These exams will be proctored by a proctor from Math Department at Montana Tech in the Museum Building Computer Lab between 4:00pm and 6:00pm. Let me know via e-mail on which date and at what time you wish to take each exam as soon as possible.

If you are an out-of-town or out-of-state student and unable to take the three midterm exams and the final exam at the given location on Montana Tech campus, **let me know no later than 5:00pm on January 22, 2014** and you may apply to have a proctor at your location. I will e-mail you an application form for a proctor. Arranging for a proctor is the responsibility of the student. The proctor information must be submitted to and approved by the professor early in the course (within the first two weeks). **Please note that some institutions may charge a fee for proctoring exams. Any charges incurred for test proctoring are the responsibility of the student.** Exams proctored at a different location will have to be postmarked by a given due date. Since each exam will have a computerized part, it is the student’s responsibility to arrange for a proctor who can provide reliable internet access for the exams.

- Exam #1 covers material from Modules 2 – 4,
- Exam #2 covers material from Modules 5 – 7,
- Exam #3 covers material from Modules 8 – 10, and
- Final Exam is cumulative.

The format of questions on these proctored exams varies. True or false, multiple-choice, complete the sentence, and show your work questions are possible formats.

After your exams are graded, they will be scanned and sent to you electronically. When you receive your graded exams back, please read the given feedback carefully and make sure you understand what the feedback is saying. Contact me if you need further clarification. The keys to the exams will also be posted online.

**You must bring a picture ID with you (your student ID works best) when you come to take the proctored exams. If you fail to present a picture ID, you cannot take the exam.**
EXAM DATES:
Exam 1: Feb. 11 (Tue) OR Feb. 12 (Wed)
Exam 2: Mar. 11 (Tue) OR Mar. 12 (Wed)
Exam 3: Apr. 15 (Tue) OR Apr. 16 (Wed)
Final Exam: May 8 (Thu) OR May 9 (Fri)

CALCULATOR:
A calculator that will add, subtract, divide, multiply, and raise numbers to powers is required for the course. It is expected that you bring a calculator to the proctored exams. Sharing calculators in exams is not allowed.

CELL PHONES:
Cell phones, pagers, PDAs, or similar communication devices are not allowed during the proctored exam. If any student is seen using or looking at such devices, he/she will receive a grade of zero on the exam. If you are expecting an emergency call, please notify the proctor before the exam and he/she will hold your phone for you.

EVALUATION & GRADING:
Your grade will be based on a 600-point scale:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction &amp; Survey (5 points each)</td>
<td>10</td>
</tr>
<tr>
<td>Participation &amp; Involvement</td>
<td>20</td>
</tr>
<tr>
<td>Quizzes</td>
<td>130</td>
</tr>
<tr>
<td>3 proctored 1-hour exams (100 points each)</td>
<td>300</td>
</tr>
<tr>
<td>Proctored 2-hour Final exam</td>
<td>140</td>
</tr>
<tr>
<td><strong>Total possible</strong></td>
<td><strong>600</strong></td>
</tr>
</tbody>
</table>

The following grade scale will be utilized:

- 93% and higher: A  
- 90 to 92.9%: A-  
- 87 to 89.9%: B+  
- 83 to 86.9%: B  
- 80 to 82.9%: B-  
- 77 to 79.9%: C+  
- 73 to 76.9%: C  
- 70 to 72.9%: C-  
- 66 to 69.9%: D+  
- 63 to 65.9%: D  
- 60 to 62.9%: D-  
- 0 to 59.9%: F

You are always kept informed of your progress during the semester. All your scores are posted on Moodle. You can view your scores in your Gradebook on Moodle.

DROP DEADLINE: March 24, 2014. A grade of ‘W’ will be assigned.
COURSE POLICIES:
Violations of the code of academic integrity will not be tolerated. Everything assigned in this
course (unless otherwise directed by the professor) is to be done individually. Any indication of
copied work could result in a failure of the course. The professor has office hours and is more than
willing to help you with difficulties with the course material. Anyone who violates the academic
integrity code will be disciplined according to the policies set forth by Montana Tech.

Academic Integrity
Students are expected to uphold the school’s standard of conduct relating to academic honesty.
Students assume full responsibility for the content and integrity of the academic work they submit.
The guiding principle of academic integrity shall be that a student's submitted work, examinations
and assignments must be that of the student's own work. Students shall be guilty of violating the
honor code if they:

1. Represent the work of others as their own
2. Use or obtain unauthorized assistance in any academic work
3. Give unauthorized assistance to other students
4. Modify, without professor’s approval, an examination, paper, record, or report for the
   purpose of obtaining additional credit
5. Misrepresent the content of submitted work.

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STUDENT ACKNOWLEDGEMENT OF COURSE REQUIREMENTS

Students are required to print a copy of this syllabus, staple all seven pages together, read
it carefully, sign and date this form, and mail (or bring) the signed syllabus to the professor
by January 31, 2014. Failure to do this will result in an automatic quiz grade of
zero. Failure to turn the signed syllabus in by February 7, 2014 will result in a grade of
F for the course!

Please print your (student’s) full name_____________________________________. I do
hereby acknowledge reading this syllabus and understand that it is my responsibility to
abide by its instructions.

Signed (student's signature): ______________________________ Date: ______________

Professor’s mailing address:
Dr. Suzan Gazoğlu
Department of Mathematical Sciences
Montana Tech
1300 W. Park Street
Butte, MT 59701