

CASPER COLLEGE COURSE SYLLABUS
STAT2220-01
Statistical Methods of Data Analysis

Semester/Year: Fall 2015

Lecture Hours: 0

Lab Hours: 0

Credit Hours: 5

Class Time: TBA

Days: TBA

Room: TBA

Instructor's Name: Ashley Widman Johnson

Office: PS 329

Office Phone: 307-268-2560

Email: ashleywidman@caspercollege.edu

Office Hours: Monday 9:00 – 9:50 and 12:30 – 12:50

Tuesday and Wednesday 12:30 – 12:50 and 2:00 – 2:50

Thursday 9:00 – 9:50 and 12:30 – 12:50

Friday 12:30 – 12:50

**Other times by appointment

Course Description: This course reviews design and analysis of one-factor experiments and introduces multi-factor experiments, Latin squares, nested designs and random effects. It also introduces topics such as polynomial response curves, trend analysis, split plots, and incomplete block designs as time permits.

Statement of Prerequisite: A grade of "C" or better in STAT2150

Goal: The goal of this course is to gain a working knowledge of the different experimental designs, when they should be used, and how they differ. Analyses will be performed using the statistical computer package Minitab.

Casper College General Education Outcomes:

- Use the scientific method
- Demonstrate effective written communication
- Use quantitative analytical skills to evaluate and process numerical data

Casper College may collect samples of student work demonstrating achievement of the above outcomes. Any personally identifying information will be removed from student work.

Course Objectives: Students will be able to:

- Understand the purpose and important of experimental design
- Understand the different designs and their pros and cons
- Determine what design(s) are appropriate or not appropriate for a given dataset/scenario
- Use Minitab to perform necessary analyses

Methodology: Given that there is no lecture component to this independent study, you are solely responsible for completing the assigned reading and material each week. Though we are meeting weekly for discussion and review, if you are stuck on something, after giving it adequate thought, please email me or come to my office hours with anything that you are stuck on.

Required Course Materials:

Textbook: *An Introduction to the Design and Analysis of Experiments* by George C. Canavos and Ioannis A. Koutrouvelis

Minitab: Minitab is a statistical software package that is very popular in the field. A 6-month student rental of Minitab is \$29.99.

Grading:

140 points: Each week there will be assigned reading and practice exercises. This material will be discussed and reviewed the following Wednesday at 2:00 in PS329. These meetings are worth 10 points each for a total of 15 weeks. The lowest weekly score will be dropped. You may need to print Minitab code and output so keep this in mind when you are planning for the meeting.

100 points: At the end of the semester, you will design and run an experiment of your own choosing. A professional report in the specified format is to be completed.

Late Assignments: If you are unable to make a weekly meeting, you must let me know in advance. This meeting time must be rescheduled for the same week or a grade of 0 will be given for that week's material.

Grading Scale: The traditional percentage grading scale of 90% A - 80% B - 70% C - 60% D will be used. However, I reserve the right to lower the grade cutoffs.

Class Policies: Last Date to Change to Audit Status or to withdraw with a W Grade is November 12th.

Student Rights and Responsibilities: Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

Chain of Command: If you have any problems with this class, you should first contact the instructor to attempt to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take the matter through the appropriate chain of command starting with the Department Head/Program Director, the Dean, and lastly the Vice President for Academic Affairs.

Academic Dishonesty: (Cheating & Plagiarism) Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the course in which the offense was committed or expulsion from school. See the Casper College Student Code of Conduct for more information on this topic.

Official Means of Communication: Casper College faculty and staff will employ the student's assigned Casper College email account as a primary method of communication. Students are responsible to check their account regularly. This is also, where you will find course evaluation links during course evaluation periods.

ADA Accommodations Policy: If you need academic accommodations because of a disability, please inform me as soon as possible. See me privately after class, or during my office hours. To request academic accommodations, students must first consult with the college's Disability Services Counselor located in the Gateway Building, Room 344, (307) 268-2557, bheuer@caspercollege.edu. The Disability Services Counselor is responsible for reviewing documentation provided by students requesting accommodations, determining eligibility for accommodations, and helping students request and use appropriate accommodations.