Statistics 200, Elementary Probability and Statistics
Course Syllabus, STAT 200X Section F61, Summer 2015
CRN 51335

This syllabus is subject to change. Changes will be announced in class and on Blackboard.

Lecture: Monday, Tuesday, Wednesday, Thursday, 10:00am-Noon, May 26 - July 1
Location: Gruening 304
Credit Hours: 3
Instruction: David Withoff, Ph.D.
Email: djwithoff@alaska.edu
Office Hours: Tuesday Noon-1:00pm, Wednesday, 9:00am-10:00am, or by appointment
Office: Chapman 107

Course Description: (From the course catalog) Descriptive statistics, frequency distributions, sampling distributions, elementary probability, estimation of population parameters, hypothesis testing (one and two sample problems), correlation, simple linear regression, and one-way analysis of variance. Parametric methods. Special fees apply. Successful completion of this course may be used to satisfy general baccalaureate core requirements at UAF.


Prerequisites: MATH F107 or MATH F161 placement or completion with a grade of C or better, or permission of instructor.

Withdrawals: The last day to withdraw from the class is Wednesday, June 17. Class instructors have the right to withdraw students who do not meet course prerequisites, did not obtain a grade of C (2.0) or better in all prerequisite courses or who have not participated substantially in a course. The last day for faculty-initiated withdrawals is Wednesday, June 17.

May 28, 2015: Deadline for adding classes, late registration and fee payment; 5 p.m. in person, midnight at UAOnline.

June 1, 2015: Last day to drop the class with 100% refund of tuition and fees

Grading: Homework 40%; Quizzes 35%; Final Exam 25%.

Letter Grades: 97-100 = A+; 93-96.99 = A; 90-92.99 = A-; 87-89.99 = B+; 83-86.99 = B; 80-82.99 = B-; 77-79.99 = C+; 70-76.99 = C; 67-69.99 = D+; 63-66.99 = D; 60-62.99 = D-; < 60 = F. These grade cutoffs may be lowered but they will not be raised. Adjustments to these cutoffs may be based on attendance, class participation, and outlier grades.

C or C+ indicates a satisfactory level of acquired knowledge and performance in completion of course requirements. C- is the minimum grade required for all Core (X) Courses.

Departmental Policies: The Department of Mathematical Sciences has specific policies on early finals and incomplete grades. As you are enrolled in a course administered by this department, you are encouraged to become familiar with these policies. See the math department policies on early finals and incomplete grades at http://www.uaf.edu/dms/policies. If you are unable to complete the work for the course in a timely fashion or attend class on a regular basis you or a representative should contact me prior to the end of the semester.
Course Goals: The main practical goal of this course is to help you become educated consumers of statistics so that you can properly interpret statistical results when you see them in life and in your profession. This will be done by developing statistical literacy and vocabulary so that you can follow the language of statistics, and learning to be a producer of statistics, collecting and analyzing data, and understanding which statistical techniques are suitable for answering different types of questions. A second goal is developing an intuitive grasp of randomness and variability, since that is the foundation concept behind almost all statistics. You will also learn the basic rules of probability and how to use them to derive more complicated results.

Learning Objectives:
• Understand the use and definition of confidence intervals.
• Understand the fundamentals of hypothesis tests (examples might include one and two tailed hypotheses, types of errors, significance levels and p-values.
• Calculate normal distribution probabilities.
• Be able to find the mean, variance and compute probabilities for the binomial distribution.
• Be able to interpret an applied problem, selecting the correct hypothesis test or confidence interval.
• Be able to perform a two-sample t-test and know the assumptions of this test.
• Be able to compare probabilities in two independent populations using tests of hypotheses or confidence intervals.
• Understand what a sampling distribution is and how it is used.
• Be able to interpret computer output for a simple linear regression.
• Understand the assumptions of simple linear regression.
• Be able to perform one-way analysis of variance and interpret the results.

Homework: Homework will be due once or twice per week, in class, except as otherwise noted or announced. Homework must be handed in at the start of class on the date it is due to be considered on time. Homework that is turned in late incurs a loss of points: 10% if turned in later in the day on the due date, 50% if turned in the next day or at the start of the next class, no credit thereafter. Exceptions can be made for exceptional reasons beyond your control or at my discretion if you let me know in advance.

You are encouraged to discuss homework with other students, and I frequently work out the solutions to homework in class before the homework is due, but the work you submit must be your own.

Quizzes: There will be a quiz during the first 15-20 minutes of class once or twice per week, and a non-graded "mini-quiz" on most other class days. There will be no makeup quizzes unless pre-arranged or due to extraordinary circumstances. The two lowest quiz scores will be dropped. Unless otherwise announced, no books, notes, or calculators may be used during quizzes.

Exams: There will be a comprehensive final exam in class on Wednesday, July 1. You will be allowed to bring three 8.5 x 11 sheets of handwritten notes to the final exam, but no other books or notes. I will provide any necessary statistical tables with the exam. Most quiz and exam questions will be very similar to homework questions.

Blackboard: I encourage you to check Blackboard for this class for course documents and announcements and to verify that your scores have been entered correctly.

Tutors and Assistance: The Math and Stat Lab (http://www.uaf.edu/dms/mathlab/) located in Chapman 305 offers free tutoring for this and other mathematics courses. The lab is typically open seven days a week, usually 9am-9pm on weekdays and 10am-5pm on weekends. I can also often be available outside of class and regular office hours if you give me enough advance notice.

Complaints and Concerns: You are always welcome and encouraged to talk to me about anything related to the course. If you have questions or concerns that cannot be resolved by me, contact the department chair.
Plagiarism and Cheating: Although you may study with others and work together on homework, any materials that you submit for grading, and everything that you do on quizzes and exams, should be entirely your own work. You are expected to conduct yourselves in accordance with the Student Code of Conduct, which prohibits cheating, plagiarism, and other forms of academic dishonesty. For more information see the UAF catalog or http://www.uaf.edu/catalog/catalog_13-14/academics/regs3.html.

Disabilities Services: The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials. I will work with the Office of Disabilities Services (Whitaker Building, Room 208, 474-5655) to provide reasonable accommodations to students with disabilities. More information can be found at http://www.uaf.edu/disability.

General Advice: Use your imagination to work out for yourself how the material studied in this class might apply in your field of interest. It is all but certain that everything we will cover in this class can and has been applied in some way by people in your field.

Study Suggestion: Read the chapter prior to the lecture so you will know what it is about and will be prepared to ask questions. After you read the chapter do not go back and read and re-read the chapter until you understand it. Rather, start doing the exercises at the end of the chapter, including exercises that were not assigned in homework, going back through the chapter to clarify points as they come up.