College of Sciences & Mathematics Class Syllabus / Policy Sheet

Spring 2024
STAT 5341
Statistical Analysis II

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Office Hours: Mon 12:30-2:30 and 3:45-5. Tue 12-2

Text and Materials:
There is no required textbook. You should have the statistical software R and JMP downloaded on a machine that you routinely use. R is available for free at www.r-project.org and JMP is paid for by the university and is available in MySFA/Brightspace for download.

Course Requirements:

Course Objectives: To present the student with an understanding of non-elementary statistical methods that are popular in science, agriculture, forestry, social science, medicine, and other fields. One large objective of the course is to be able to design and analyze a large set of statistical methods used in these fields. We focus on both the settings for these experiments and the proper analysis of data that is elicited when these experiments are done. In addition, an emphasis is placed on the written communication of results in a neat, useable form.

Core Topics:

- Analysis of Variance (ANOVA)
  - Multiple Comparisons in ANOVA
  - Contrasts in ANOVA
- Nested Completely Randomized Designs
- Randomized Complete Block Designs
- Factorial Treatment Arrangements
- Fixed vs. Random Effects in Experiments
- Split Plot Treatment Arrangements

Additional topics including obtaining expected mean squares, fractional factorial experiments, other planned imbalanced experiments, analysis of covariance, nonparametric analysis as time allows.

Exams: All exams in this course are one week long take-home exams that involve data analysis and report writing. Neatness and organization are a must and are a component of
your grade. Presentation is very important in advanced statistical methods courses. Your work MUST be neat and organized. If a plot, graph, table, or computer output is not SPECIFICALLY referenced, do not include it. You will be penalized for including extra output that is not relevant to your solution. The keys that I provided to homework practice problems should serve as a guide to what is essential and how to organize your work.

You may use your notes or any other printed source to aid in your solutions, but you must do your own work. You are not allowed to consult other classmates or professors regarding the exams.

Exam 1: Start: Tuesday, February 6. Due: Tuesday, February 13 in class.
Exam 2: Start: Thursday, February 22. Due: Thursday, February 29 in class.
Exam 4: Start: Tuesday, April 16. Due: Tuesday, April 23 in class.

Final Exam [Cumulative]: Start: Thursday, April 25. Due: Monday, May 6 by Noon to my office.

Grading: The average of the four in-term exams counts 70% of your grade and the Final Exam counts 30% of your grade.

Each exam is graded on a 0 – 100 point scale and the following cutoffs are used for determining final course grades:

\[
\begin{align*}
84.5 & \leq X < 100: A \\
69.5 & \leq X < 84.5: B \\
54.5 & \leq X < 69.5: C \\
39.5 & \leq X < 54.5: D \\
0 & \leq X < 39.5: F
\end{align*}
\]

Homework: Homework is assigned weekly and is practice for exams only. It is not graded. Most of the homework involves data analysis and computer work. I will write up a suggested key to each of the homework assignments roughly one week after they are assigned for your review. Other than checking your accuracy, you should use the homework keys to judge what should have been included, what should have been omitted and the approximate length of a strong solution. Discussion about the homework with me and others is strongly encouraged.

Handouts and Readings: Largely because there is no textbook for this course, there will be MANY handouts and reading assignments. All of the material on the handouts is equivalent to importance with class notes and is eligible to be tested on exams. Some of the handouts provide data for class examples. Some of the handouts provided additional supplemental information that builds on things discussed in class. Some of the handouts contain new material that will not be presented in class but is for you to read, apply and learn from outside of class. All of the material on all of the handouts should be treated the same way as the class notes.
Academic Integrity

Please copy and paste the following information regarding Academic Integrity into your syllabus. In addition, you may include your guidelines for academic integrity as appropriate.

The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

The recommended penalty submitted with any academic integrity violation in this course is that the student receives an F for the ENTIRE COURSE.

Withheld Grades Semester Grades Policy (5.5)

Please copy and paste the following information regarding Withheld Grades into your syllabus. Add additional information as needed to meet your departmental or course needs.

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the coursework because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course to compute the grade point average. For additional information, go to https://www.sfasu.edu/policies/course-grades-5.5.pdf.

Students with Disabilities

Please copy the following statement and paste it into your course syllabus.

To obtain disability-related accommodations, alternate formats, and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services promptly may delay your accommodation. For additional information, go to http://www.sfasu.edu/disabilityservices/.

Please copy everything below and paste it into your course syllabus.

Student Wellness and Well-Being

SFA values students’ overall well-being, mental health, and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being.
These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

**On-campus Resources:**

*The Dean of Students Office* (Rusk Building, 3rd floor lobby)
www.sfasu.edu/deanofstudents
936.468.7249
dos@sfasu.edu

*SFA Human Services Counseling Clinic* Human Services, Room 202
www.sfasu.edu/humanservices/139.asp
936.468.1041

*The Health and Wellness Hub* “The Hub”
Location: corner of E. College and Raguet St.

To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body, and spirit. Services include:

- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education
www.sfasu.edu/thehub
936.468.4008
thehub@sfasu.edu

**Crisis Resources:**

- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- johCrisis Text Line: Text HELLO to 741-741
The following is an excerpt from SFA Policy 5.4:

The federal definition of a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates:

1. Not less than one hour of classroom or direct faculty instruction and a minimum of two hours out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or 10 to 12 weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time, or;

2. At least an equivalent amount of work as outlined in item 1 above for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

To this end, all students in courses offered by the Department of Mathematics and Statistics that wish to be successful should plan to spend a minimum of two hours outside of class for every credit hour associated with this course. Expected activities to be completed in the time outside of class include reviewing notes from previous class meetings, reading assigned course resources, completing all assigned exercises and projects, and performing periodic assessment preparation.

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Acceptable Student Behavior
Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy 10.4). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom.

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