Course Module
Stephen F. Austin State University
STAT 3346-001 Experimental Design & Analysis
Math (Bush) 213 TR 12:30-1:45PM
ZOOM: Mtg#: 964 7420 2943, PC: 332548
https://sfasu.zoom.us/j/96474202943?pwd=NDiSZnF1LxtpSCTxL1RMIENGVXOTZnZz09

Instructor
Robert (Bob) Henderson
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BA in Math & History – Trinity University, San Antonio, TX (1978)
MS in Mathematical Statistics – Southern Methodist University, Dallas, TX (1980)
PhD in Mathematical Statistics – Southern Methodist University, Dallas, TX (1982)
MBA – University of Delaware, Newark, DE (1988)
Worked in industry for 27 years, 6 years with DuPont as internal consultant for a variety of businesses and staff groups, then 21 years in the semiconductor business, most with a supplier of a key enabling material for semiconductor production, and later with Samsung working primarily with engineers in process control efforts. The entire 27 years included many training delivery, as well as course development activities related to basic statistics, experimental design, and process control systems. Fall of 2009 was first semester at SFA.

Teaching Hours – MWF 9-10:50AM, MW 1-2:15PM, TR 12:30-3:15PM
Office Hours – MW 2:30-3:30PM, TR 10:00AM-12:00PM, and by appointment. Also, during these times, you can send me an e-mail at the e-mail address above, and I will send you back a ZOOM Meeting Number and Passcode.

Course Goals
This course ideally will provide students with an introduction to and understanding of basic linear models, good experimental design practices, variance component analysis, and statistical process control.

Text
None.

Computer Access/Skills
This course is largely applied in nature; consequently, it will be helpful to have some facility in working with data using a computer. The course work will be greatly facilitated with the use of a statistical software package (JMP is one such package, which is available through MySFA, and will be utilized through much of the course). Knowledge of and ability to utilize Microsoft Office programs – Excel, Word, and Powerpoint – will also often be beneficial. Almost all workplaces expect some skills in working with these packages, and use them for reporting and/or presentation purposes. In addition, some familiarity with SAS and/or R (other more powerful statistical packages) might be helpful, but is certainly not necessary or required.

Prerequisites
STAT 3342 (Previously STA 320) or equivalent

Course Syllabus
The official course syllabus can be found at:
https://math.sfasu.edu/docs/syllabi/STAT3346Syllabus.pdf
Course Overview

Week 1-2: Review of Statistical Inference & 1-way Analysis of Variance
Week 3: Development of 2-way Analysis of Variance
Week 4: Strategy of Experimentation
Week 5-6: Screening Designs (including Workshop 1)
Week 7-8: Response Surface Designs (including Workshop 2)
Week 9-10: Random and Mixed Effects Analysis of Variance (including Workshop 3)
Week 11-12: Statistical Process Control (including Workshop 4)
Week 13-14: Mixture Designs (including Workshop 5)

Grading
Grades will be determined by the following:

Homework 5%
Workshops 80%
Final Exam 15%

About Assignments
There will be 5 workshops on which students will work in small groups, and then present their results/reports to the class. The presentations and accompanying reports will be evaluated by the instructor.

Attendance
Since a significant proportion of the evaluation is based on in-class activities, so missing a class is not desirable. Even though, the class periods will be available via ZOOM both synchronously and asynchronously, this is just a fallback for situations where missing a class is absolutely unavoidable. If you know you are going to have to miss a specific class, please let me know via e-mail or phone prior to the class.
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.

**Academic Integrity**

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.

**Withheld Grades Semester Grades (SFA Policy 5.5)**

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 course work 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 for the purpose of computing the grade point average. The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C. For additional information, go to https://www.sfasu.edu/policies/course-grades-5.5.pdf.

**Students with Disabilities**
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 in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices.

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)
- Crisis Text Line: Text HELLO to 741-741

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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