

AGBU 3385 (Section 01)
Quantitative Methods for Agribusiness
Course Syllabus
Spring 2018

Instructor

Dr. Shyam S. Nair

Office: Pirkle 440 D

Phone: (936) 294 1218

Email: nair@shsu.edu

Class Meetings

Tuesdays and Thursdays 11:00 am to 12:20 pm in PIRK 340

Office Hours

Mondays and Wednesdays : 02:00 pm to 04:30 pm

Tuesdays and Thursdays : 08:00 am to 10:00 am

Other Times : I maintain an open-door policy. You can drop in at any time.

Please see my tentative weekly schedule provided in this syllabus

Please schedule an appointment to ensure that I will be available.

Student-Faculty Communications

Student-faculty communication is the most important aspect of my teaching philosophy. Your ideas, comments, suggestions, and questions are always welcome. I encourage you to come by my office to discuss the course and your academic progress. Please do not hesitate to email me at any time when you have questions regarding the course content. I will make sure to provide a quick response. **Please use AGBU 3385 to start the subject line in all emails.**

Required Text

Render, B., R. M. Stair, M. E. Hanna, and T. S. Hale. 2014. *Quantitative Analysis for Management*. 12th Ed. Pearson, New Jersey. ISBN: 978-0-13-350733-1

Course Objective

The primary objective of this course is to introduce students to informed decision making using data. This course will provide students with statistical and other quantitative analysis tools useful in agribusiness decision making. This course will emphasis computer based methods to solve statistical and constrained optimization problems.

Expected Learning Outcomes

Upon completion of this course, students are expected to be able to understand basic concepts in quantitative analysis, regression analysis, and linear programming and their use in agribusiness decision making. This course is also expected to enable the students to use computer based methods to solve statistical and constrained optimization problems.

Assessment of Learning Outcomes

Learning outcomes of this class will be assessed through class project, homework assignments, quizzes and exams. A detailed schedule (tentative) of lectures, homework assignments, quizzes, and exams is provided at the end of the course outline. However, *the instructor reserves the right to reschedule the dates if necessary.*

Class Participation

Teaching is not supposed to be a non-stop one-sided monologue. Students are encouraged to ask questions pertaining to the course material and engage in healthy discussions. Class attendance is required. If a student misses a class, it is the responsibility of the student to make up anything missed due to the absence. All students are required to inform the instructor in advance in case of unavoidable absences. Please see the attendance policy of the Department of Agricultural Sciences and Engineering Technology and policies specific to this course provided in this syllabus. Since this class will depend heavily on activities performed in class as learning tools and some parts of the class project will be accomplished in class, there will be incentives and penalties associated with class attendance.

Incentives: If a student only misses 2 or less classes, 2 points will be awarded for class participation. If a student misses 3 or 4 classes, the incentives will be 1.5 and 1 points, respectively. There will be no incentive if a student misses 5 or more classes.

Penalties: If a student misses 6 classes a 2 point penalty will be imposed. The penalty will be 5, 8, 12, 15, and 20 points for missing 7, 8, 9, 10, and 11 classes, respectively. If a student misses 12 or more classes, that student will receive an “F” for this course.

Class Notes and Review Questions

Short class notes will be provided for each class. Please understand that these notes are very compact and will be missing examples and detailed explanations. All the class notes will be posted on BlackBoard in the beginning of the semester. The students are expected to take a printout of the class notes and bring it to class. This will enable the students to supplement the notes if needed and better understand the class materials. Review questions that help assess the student learning will also be posted in BlackBoard. The first homework (due on 23rd January) will be to printout and submit the class notes, review questions, and the course syllabus.

Datasets and Laptops

We will make use of several datasets to perform quantitative analysis. The focus of this course is on application of statistical methods. We will perform various analyses in class using the datasets. You are required to download the datasets into a USB drive and bring it to the class. I encourage you to have a USB drive dedicated to this course. I encourage you to bring your own laptop if you have one. However, if you are a Mac user, you will need the latest version of Excel in your Mac to be able to use the Analysis Toolpak AddIn function. We can use the department laptops placed inside the cart in PIRK 340. Each laptop is numbered and you are expected to use the same laptop as far as possible.

Class Project

The class project will account for 15% of the final grade. The class project will be a group activity, where each group will develop a poster and present it on the final exam day. The groups can work on any research problem they choose, that uses statistical methods to make sense of data. Several faculty members in our department have expressed interest in working with teams of students in research projects. Hence, students will be also able to work with other faculty members to execute the research projects. The poster presentations will be evaluated by two other faculty members in our department. The posters will be submitted to the SHSU undergraduate research symposium, ACT annual conference, and other relevant scientific meetings. This will enable the students to become published authors before they graduate depending on the quality of the research project.

Homework Assignments

Seven homework assignments, which together account for 15% of the final grade, will be assigned according to the schedule provided. Remember that the homeworks will help you develop deeper understanding of the statistical tools. Homework assignments will be used as a learning-by-doing tool. Understanding the homework assignments and successfully completing them are very important to perform well in the exams. Students are encouraged to discuss with the instructor if they need guidance on homework assignments. *The instructor is the best person to approach if you have difficulty in solving the homework.* Even though I encourage healthy peer group discussions, the homework should be the original work of the student. The instructor will take cases of plagiarism very seriously. Late homework assignments will receive only partial credit. Homework assignments turned in after more than two days of the due date will not be accepted. All homework scores will be used for grade calculation.

Quizzes

Eight quizzes will be administered as per the schedule provided. The quizzes will account for 10% of the final grade. Quizzes will be at the beginning of the class (11:00 to 11:10 am) and hence, make sure that you are in the class on time. All quizzes will be comprised of multiple choice questions only. *The best six quiz scores only will be used for the grade calculation.*

Midterm Exams

Three exams will be conducted each accounting for 20% of the final grade. A tentative schedule for the exams is provided at the end of the course outline.

Grade Calculation

Class project	: 15%
Homework assignments	: 15%
Quizzes	: 10%
<u>Midterm Exams (3 × 20%)</u>	<u>: 60%</u>
Total	: 100%

The incentives and penalties for class participation will be added to the final score to determine the letter grade. A template for grade calculation is available in BlackBoard.

Grading Scale

90 – 100 %	: A
80 – 89 %	: B
70 – 79 %	: C
60 – 69 %	: D
0 – 59 %	: F

Make-up Exams

No make-up quizzes and exams will be allowed unless the student has a Sam Houston State University approved excuse for the absence. It is the student's obligation to provide the university approved excuse and to arrange a time and date with the instructor for the make-up exam. No make-up exams or quizzes will be offered after two weeks of the missed exam or quiz. Any missed quiz or exam without a university approved excuse will be assigned a grade of zero percentage.

Attendance Policy of the Department of Agricultural Sciences and Engineering Technology

- 1) Regular and punctual attendance is expected of each student in the Department of Agricultural Sciences and Engineering Technology at Sam Houston State University.
- 2) Each faculty member will keep a written record of student attendance.
- 3) If a student misses four or more classes, the student's grade will be reduced by one letter grade. *Please see the incentives and penalties specific for this class provided in this syllabus.*
- 4) Additional penalties may be assessed at the discretion of the instructor.
- 5) Three unexcused or unjustified tardies or early departures are considered as one absence.
- 6) Excused absences must be documented by the student with a letter of confirmation from the sponsoring student organization, professor or doctor.
- 7) Exemptions will include participation in departmental activities when prior approval is attained from the Department Chair.
- 8) No exams or assignments will be given at alternative times unless arrangements are made with the professor/instructor before the scheduled activity occurs.

Academic Honesty

All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.

Classroom Rules of Conduct

Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellphones and pagers must be turned off before class begins. Students are prohibited from using tobacco products,

making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to Dean of Students for disciplinary action in accordance with university policy.

Visitors in the Classroom

Only registered students may attend the class. Exceptions can be made on a case-by-case basis by the instructor. Unannounced visitors to class must present a current official SHSU identification card. The visitors must not present a disruption to the class by their attendance. Students wishing to audit a class must apply to do so through the registrar's office.

Students with Disabilities Policy

It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail disability@shsu.edu). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities. For a complete listing of the university policy, see:

<http://www.shsu.edu/dept/academic-affairs/documents/aps/students/811006.pdf>

Absence due to Religious Holidays

Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Section 51.911 (a) (2) defines a religious holy day as: “a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11.20...” A student excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

University policy 861001 provides the procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the

religious holy day(s). The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed.

Cell Phone Policy

Please turn off your phones and smart devices during class time. Any use of a telephone or text messenger or any device that performs these functions during a test period is prohibited. These devices should not be present during a test or should be stored securely in such a way that they cannot be seen or used by the student. Even the visible presence of such a device during the test is considered de facto evidence of cheating and could result in a charge of academic dishonesty.

Campus Tobacco Policy

In order to promote a healthy, safe, and aesthetically pleasing work, educational, and living environment, Sam Houston State University (SHSU) will endorse a smoke free and tobacco free environment. The primary purpose of this policy is to establish guidelines prohibiting smoking and the use of all tobacco products. Tobacco products include cigarettes, cigars, pipes, smokeless tobacco, and all other tobacco products. This policy applies to all faculty, staff, students, employees of contractors, and visitors of Sam Houston State University on the premises of the university. Tobacco products are not permitted on campus including University-owned or leased buildings or vehicles. The policy is applicable to hallways, classrooms, offices, restrooms, meeting rooms, indoor or open-air athletic facilities (including Bowers Stadium, Baseball/Softball Stadiums and Bernard G. Johnson Coliseum), performance halls, and all other spaces in university-owned or leased buildings or vehicles. The details of the policy can be found at <https://www.shsu.edu/intranet/policies/administrative/documents/pre19tobaccopolicy.pdf>

Other SHSU Policies

I will adhere to all institutional policies of the Sam Houston state University. Please visit the website of the dean of students (<http://www.shsu.edu/dept/dean-of-students/index.html>) to see the detailed student guidelines. Academic policy manual for students with details of academic policies is available at <http://www.shsu.edu/dept/academic-affairs/aps/aps-students.html>

Copyright Statement

All materials (handouts, texts, slides, etc.) used in this course are under copyright, and may not be sold, rented, or otherwise transferred, with or without compensation, including taking notes for others or providing to businesses that sell tutoring or other grade-increasing services, without written permission from the instructor, and possibly from other copyright owners.

Caveat to this Syllabus

Please understand that this syllabus is tentative and the instructor reserves the right to make changes to this syllabus as and when required. The detailed schedule of lectures, homework, quizzes, and midterm exams provided in this syllabus is tentative and are subject to change. The instructor also reserves the right to expand or modify the course contents based on the performance of the class.

*Department of Agricultural Sciences
Sam Houston State University*

Tentative Schedule of Lectures, Quizzes, Homework Assignments, and Exams.

We will use Microsoft Excel for data management and analysis. Please bring your laptops, if you have one, on classes where use of Excel is indicated. I will bring the department laptops.

Date	Lect #	Topics covered	Due dates
18-Jan	D1	Introduction and overview	Groups for project assigned
23-Jan	D2	Computers for quantitative analysis (Excel)	HW 1 due (printout class notes)
25-Jan	D3	Normal distribution and z score	
30-Jan	D4	Applications of z score (Excel)	Quiz 1
01-Feb	D5	Concept of hypothesis testing (Excel)	HW2 due
06-Feb	D6	Decision Analysis	Selection of research topics
08-Feb	D7	Decision making under risk (Excel)	
13-Feb	D8	Decision Trees (Excel)	Quiz 2
15-Feb	D9	Forecasting (Excel)	HW 3 due
20-Feb	Review for Midterm 1		Quiz 3
22-Feb	Midterm 1		
27-Feb	R1	Trends in data (Excel)	
01-Mar	R2	Concept of regression	
06-Mar	R3	Estimation of regression equation (Excel)	Literature review due
08-Mar	R4	Strength of relationship (Excel)	Quiz 4
20-Mar	R5	Test of significance (Excel with DA Add-in)	HW 4 due
22-Mar	R6	MLR (Excel with DA Add-in)	
27-Mar	R7	Dummy variables & Quadratic fn. (Excel with DA Add-in)	Quiz 5
29-Mar	R8	Regression Examples	HW 5 due
03-Apr	Review for Midterm 2		Quiz 6
05-Apr	Midterm 2		
10-Apr	LP1	Basics of LP and graphical solution	
12-Apr	LP2	Computers to solve LP (Excel with solver Add-in)	Poster draft due
17-Apr	No Class (Area CDEs)		
19-Apr	LP3	Cost Minimization (Excel with solver Add-in)	Quiz 7
24-Apr	LP4	Sensitivity Analysis (Excel with solver Add-in)	HW 6 due
26-Apr	LP5	LP Examples (Excel with solver Add-in)	Quiz 8
01-May	Review for Midterm 3		HW 7 due
03-May	Midterm 3		
10-May	Poster Presentation (12:00 noon to 1:30pm)		

My Tentative Weekly Schedule

My tentative weekly schedule is provided below. Please note that I may arrange meetings not specified here. Please feel free to walk in if my door is open. Students will have priority over the research activities.

Sam Houston State University Agricultural Business		Spring 2018 Dr. Nair's Schedule			
I practice an open door policy. You are welcome to walk in at any time. Please feel free to set up an appointment at nair@shsu.edu to ensure my availability.					
Times not specifically designated involve course preparation, research, meetings, and time away from the office for professional meetings.					
Time	Monday	Tuesday	Wednesday	Thursday	Friday
7:00 AM 7:30 AM					
7:30 AM 8:00 AM					
8:00 AM 8:30 AM					
8:30 AM 9:00 AM		Office Hours		Office Hours	
9:00 AM 9:30 AM					
9:30 AM 10:00 AM	AGBU 4378 PIRK 340		AGBU 4378 PIRK 340		Research
10:00 AM 10:30 AM					
10:30 AM 11:00 AM					
11:00 AM 11:30 AM		AGBU 3385 PIRK 340		AGBU 3385 PIRK 340	
11:30 AM 12:00 PM	Lunch		Lunch		Lunch
12:00 PM 12:30 PM					
12:30 PM 1:00 PM		AGBU 4375 PIRK 340		AGBU 4375 PIRK 340	
1:00 PM 1:30 PM					
1:30 PM 2:00 PM					
2:00 PM 2:30 PM	Office Hours			Office Hours	
2:30 PM 3:00 PM					
3:00 PM 3:30 PM		AGBU Faculty Meeting	Office Hours		
3:30 PM 4:00 PM					
4:00 PM 4:30 PM					
4:30 PM 5:00 PM					
5:00 PM 5:30 PM					
5:30 PM 6:00 PM					
6:00 PM 6:30 PM					
6:30 PM 7:00 PM					

“The mind is not a vessel to be filled,
but a fire to be kindled”

-Plutarch