

FUNDAMENTALS OF AGRICULTURAL ENGINEERING (AGEG 1413)

Department of Agriculture, Nutrition & Human Ecology		College of Agriculture and Human Sciences	
Instructor Name:	Dr. Eric Risch		
Section # and CRN			
Office Location:	Agricultural Research Building: Rm # 106 or Agri-Business Building Rm #404		
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		Prairie View, TX 77446	
Office Hours:	MW 10:00 AM - 12:00 Noon. Other times by appointment. Students are required to make appointment with the professor ahead of time and be specific about the subject matter that needs clarification. The student preparation for the appointment should include bringing all applicable materials and information to the professor.		
Virtual Office Hours:	TBA		
Course Location:	Agri-Bus Rm 111		
Class Meeting Days & Times:	T 5:00 – 6:20 PM; Th 5:00 – 6:50 PM		
Course Abbreviation and Number:	AGEG 1413		
Catalog Description:	Introduction to the major areas of applying engineering principles to solving problems in agriculture. Emphasis will be on problem solving skills, farm workshop methods, tool identification, land measurement methods and skills. Will include introduction to elementary surveying.		
Prerequisites:	Working knowledge of the number system and basic mathematics.		
Co-requisites:	None		
Required Text:	Introduction to Agricultural Engineering Technology. 3 rd Edition (- H. L. Field; and J. B. Solie.)		
References:	Engineering Applications in Agriculture (- W. Bowers, B. A. Jones, Jr. and E. F. Olver.) http://en.wikipedia.org/wiki/agricultural_engineering		
Access to Learning Resources:	PVAMU Library: phone: (936) 261-1500; web: http://www.tamu.edu/pvamu/library/ University Bookstore: phone: (936) 261-1990; web: https://www.bkstr.com/Home/10001-10734-1?demoKey=d		

Course Goals or Overview:				
At the end of the course students should be able to solve problems utilizing the basic concepts of agricultural engineering in the following broad areas:				
<ul style="list-style-type: none"> i) Basic Problem Solving Skills ii) Elementary Surveying/ Basic Soil and Water considerations; iii) Basic Shop Skills including Shop Safety; iv) Farm Structures and Environment; v) Farm Power and Machinery; vi) Economic Aspects of Agricultural Engineering. 				
Course Objectives/Accrediting Body Learning Outcomes:				
KR 4.2.a: Expected Learning Outcome: Students are able to apply basic problem-solving techniques to agricultural problems and issues.				
KR 4.2.b: Expected Learning Outcome: Students are able to develop outcome measures, use informatics principles and technology to collect and analyze data for assessment and evaluate data to use in decision-making.				
SK5.1c: Expected learning Outcome: Students are able to understand and explain principles of agricultural mechanics and farm mechanization				
	Upon successful completion of this course, students will:	Program Learning Outcome # Alignment		Core Curriculum Outcome Alignment
1	Have a basic knowledge of standard form of estimating answers. Basic problem solving skills.	Program Core	T, R	1,2,3
2	Understand the concepts of land measurements including surveying.	Program Core	T	1,2,3
3	Have knowledge of farm water systems.	Program Core	R	1,2,4,
4	Understand concepts of Work, Power, Horsepower and torque	Program Core	T	1,2,3,4
5	Understand Internal Combustion engines and Power applications.	Program Core	T	1,2,3
6	Have basic knowledge of Economic considerations in agricultural engineering.	Program Core	T	1,2,3,4

Code Key T = Taught
R = Reinforced
I = Integrated

Course Grading Procedures and Evaluation:

Two Tests	20 %
Quizzes (Several)	10
Mid-Term Examination	20
HW Assignments	30
Final Examination	20
Total possible points	100 %

(Bonus: Attendance & Participation. **10** extra points!)

Grade

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

Submission of Assignments:

Assignments are to be submitted on time.

Formatting Documents:

Microsoft Word is the standard word processing tool used at PVAMU. If you are using other word processors, be sure to use the “save as” tool and save the document in either the Microsoft Word, Rich-Text, or plain text format.

Exercises – written assignments designed to supplement and reinforce course material

Class Attendance – daily attendance is required and absenteeism is strongly discouraged.

VII. ATTENDANCE AND PARTICIPATION POLICY

Prairie View A&M University requires regular class attendance. Attending all classes supports full academic development of each learner whether classes are taught with the instructor physically present or via distance learning technologies such as interactive video. Excessive absenteeism, whether excused or unexcused, may result in a student’s course grade being reduced or in assignment of a grade of “F”. Absences are accumulated beginning with the first day of class during the semester. The university’s attendance policy is provided below.

Excused Absences

Absences due to illness, attendance at university approved activities, and family or other emergencies constitute excused absences and must be supported by documentation presented to the instructor prior to or immediately upon the student’s return to class. Students are always responsible for all oral and written examinations as well as all assignments (e.g., projects, papers, reports).

Excessive Absences

Accumulation of one week of unexcused absences (for the number of clock hours equivalent to the credit for the course) constitutes excessive absenteeism. The instructor is not required to accept assignments as part of the course requirement when the student’s absence is unexcused.

Absences on Religious Holy Days

In accordance with Texas Education Code, Section 51.925, subchapter (Z), a student may be absent from classes for the observance of a religious holy day and will be permitted to take missed examinations and complete missed assignments provided the student has notified the instructor of the planned absence in writing and receipt of the notice has been acknowledged by the instructor in writing. "A religious holy day means a holy day observed by a religion whose place of worship is exempt from property taxation under the Texas Tax Code, Section 11.20."

Cell Phone use during class is **ABSOLUTELY PROHIBITED**, with **FEW EXCEPTIONS**: e.g. The Instructor may give permission for you to do a **SEARCH** for specific information during class using an approved search engine.

Course Outline: Event and Lecture Schedule

This schedule is subject to change as the semester proceeds in order to cover the most important material in the time allotted. Revisions will be announced ahead of time. All referenced readings will be from the required text, Introduction to Agricultural Engineering Technology. 3rd Edition (- H. L. Field; and J. B. Solie.)

Week # 1 and #2. The number system as it relates to problem solving in agricultural science. Will include the concept of significant figures and standard form for numbers, exact and approximate numbers, precision, accuracy and uncertainty in representing numbers.

Week #3 and #4. Common units of measure covering the categories of: (1) distance, (2) area, (3) volume, (4) temperature, (5) weight (force), (6) pressure, (7) time, (8) velocity, (9) torque and (10) power.

Week #5 and #6. Intro to Internal Combustion Engines and elements of Agricultural Machinery.

Week #7 and #8. Land Description and Land measurement – including distance, angles and areas

Week #9 and #10. Weather, rainfall, runoff, and irrigation.



Week #11. Soil erosion






Week #12 and #13 Introduction to Heating, ventilation and air-conditioning of Agricultural Structures.


COURSE OUTLINE: EVENT AND LECTURE SCHEDULE




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(- H. L. Field; and J. B. Solie.)

Week # and Class#	Date	Topics and Assignments
Week #1 Class #1	Aug 27, 2019 [Tuesday]	<p>Lecture Segment #1: Introductions:</p> <ul style="list-style-type: none"> Getting to know the instructor and class members. <p>The Course Syllabus:</p> <ul style="list-style-type: none"> Course objectives, assignments, university regulations and grading policies. <p>Assignments:</p> <ul style="list-style-type: none"> Begin reading Chapter 1.
Week #1 Class #2	Aug 29, 2019 [Thursday]	<p>Lecture Segment #2</p> <p>Assignments: Read:</p>
	Aug 30, 2019 [Friday]	<p>UNDERGRADUATE</p> <ul style="list-style-type: none"> LATE REGISTRATION/ADD COURSES/CHANGE COURSE/CHANGE MAJOR/SCHEDULE ENDS-UNDERGRADUATE WEB REGISTRATIONS CLOSED
	Aug 31, 2019 [Saturday]	<p>GRADUATE</p> <ul style="list-style-type: none"> LATE REGISTRATION/ADD COURSES/CHANGE COURSE/CHANGE MAJOR/SCHEDULE ENDS-UNDERGRADUATE WEB REGISTRATIONS CLOSED
Week #2 Class #3	Sep 3, 2019 [Tuesday]	<p>Lecture Segment #3:</p> <p>Assignments:</p> <ul style="list-style-type: none"> Read:
Week #2	Sep 5, 2019 [Thursday]	<p>Lecture: Segment #4</p>





Class #4 		Assignments: ▪ Read:
Week #3 Class #5	Sep 10, 2019 [Tuesday]	Lecture Segment #5: Assignments: ▪ Read:
Week #3 	Sep 11, 2019 [Wednesday]	▪ CENSUS DATE (12TH CLASS DAY): COURSE RESERVATIONS CANCELLED FOR NON-PAYMENT ▪ LAST DAY TO WITHDRAW FROM COURSE WITHOUT RECORD
Week #3 Class #6 	Sep 12, 2019 [Thursday]	Lecture Segment #6: Assignments: ▪ Read: ▪ WITHDRAWAL FROM COURSES "WITH RECORD" (W) BEGINS
Week #4 Class #7	Sep 17, 2019 [Tuesday]	Lecture Segment #7: Assignments: ▪ Read : To be assigned
Week #4 Class #8	Sep 19, 2019 [Thursday]	Lecture Segment #8: Assignments: ▪ Read: To be assigned
Week #5 Class #9 	Sep 24, 2019 [Tuesday]	Lecture Segment #9: EXAM #1
Week #5 Class #10 	Sep 26, 2019 [Thursday]	Lecture Segment #10: Assignments: ▪ Read: To be assigned EXAM #1 GRADES POSTED
Week #6 Class #11	Oct 1, 2019 [Tuesday]	Lecture Segment #11: Assignments: ▪ Read: To be assigned

Week #6 Class #12	Oct 3, 2019 [Thursday]	Lecture Segment #12: Assignments: ▪ Read: To be assigned
Week #7 Class #13	Oct 8, 2019 [Tuesday]	Lecture Segment #13: Assignments: ▪ Read: To be assigned
Week #7 Class #14	Oct 10, 2019 [Thursday]	Lecture Segment #14: Assignments: ▪ Read: To be assigned
Week #8 Class #15	Oct 15, 2019 [Tuesday]	Lecture Segment #15: Assignments: ▪ Read: To be assigned
Week #8 Class #16	Oct 17, 2019 [Thursday]	Mid-Semester Exams ▪
	Oct 17-19, 2019	MID –SEMESTER EXAMINATION PERIOD
Week #9 Class #17	Oct 22, 2019 [Tuesday]	MID-SEMESTER GRADES DUE
Week #9 Class #18	Oct 24, 2019 [Thursday]	Reading Assignment (TBA)
Week #10 Class #19	Oct 29, 2019 [Tuesday]	Lecture Segment #19: Assignments: ▪ Read: To be assigned
Week #10 Class #20	Oct 30, 2019 [Wednesday] Oct 31, 2019 [Thursday]	FALL 2018 GRADUATION APPLICATIONS DEADLINE Assignments: ▪ Read: To be assigned
Week	Nov 1, 2019	Last day to withdraw with "W"

#10	[Friday]	
Week #11 Class #21	Nov 5, 2019 [Tuesday]	Lecture Segment #21: Assignments: ▪ Read:
Week #11 Class #22	Nov 7, 2019 [Thursday]	Lecture Segment #22: Assignments: ▪ Read: To be assigned
Week #12 Class #23	Nov 12, 2019 [Tuesday]	Lecture Segment #23: EXAM #2 
Week #12 Class #24	Nov 14, 2019 [Thursday]	Lecture Segment #24: Assignments: ▪ Read: To be assigned EXAM #2 GRADES POSTED 
Week #13	Nov 18, 2019 [Monday]	PRIORITY REGISTRATION BEGINS FOR SPRING 2020
Week #13 Class #25	Nov 19, 2019 [Tuesday]	Lecture Segment #25: Assignments: ▪ Read: ▪ PRIORITY REGISTRATION BEGINS FOR SUMMER AND FALL 2020 SEMESTERS. 
Week #13 Class #26	Nov 21, 2019 [Thursday]	▪ UNIVERSITY CLOSED THANKSGIVING
Week #14 Class #27	Nov 26, 2019 [Tuesday]	Lecture Segment #27: Assignments: ▪ Read: To be assigned
Week #14	Nov 28, 2019 [Thursday]	Lecture Segment #28: Assignments:

Class #28		▪ Read: To be assigned
Week #15	Dec 3, 2019 [Tuesday]	Last Class Day

▪

	Dec 4 – 10, 2019	FINAL EXAMINATION PERIOD
	Dec 12, 2019 [Thursday]	FINAL GRADES DUE FOR GRADUATING CANDIDATES
	Dec 14, 2019 [Saturday]	COMMENCEMENT
	Dec 17, 2019 [Tuesday]	FINAL GRADES DUE FOR ALL STUDENTS

In order to ensure that you have read over this entire document you are required to sign the Statement of Agreement on the final page of the syllabus and return it at the start of next class period. This will be our contract that you have read over the entire syllabus and that you understand what is expected of you in this class.

STATEMENT OF AGREEMENT

I have read the Course Syllabus AGEG 1413 (Fundamentals of Agricultural Engineering) for the Fall Semester 2019, including the Class Lecture and Event Schedule, and agree to abide by the conditions for the class as spelled out in this document. My signature indicates my personal commitment to meeting the course objectives and succeeding in this educational endeavor.

Signature-Student

Student name (Please print neatly)

Student ID #

Date

Signature-Instructor

Instructors name

Date

RETURN THIS PAGE FROM THE SYLLABUS TO THE INSTRUCTOR TO COMPLETE YOUR ENROLLMENT IN THIS COURSE.

RECEIVED WITH STUDENT'S SIGNATURE: _____

ENTERED INTO GRADE BOOK: _____