# FUNDAMENTALS OF AGRICULTURAL ENGINEERING (AGEG 1413)

<table>
<thead>
<tr>
<th>Instructor Name:</th>
<th>Dr. Eric Risch</th>
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<tbody>
<tr>
<td>Office Location:</td>
<td>Agricultural Research Building: Rm # 106</td>
</tr>
<tr>
<td>Office Phone:</td>
<td>(936) 261-5040</td>
</tr>
<tr>
<td>Fax:</td>
<td>(936) 261-9975</td>
</tr>
<tr>
<td>Email Address:</td>
<td><a href="mailto:Errisch@pvamu.edu">Errisch@pvamu.edu</a></td>
</tr>
<tr>
<td>Mail (U.S. Postal Service) Address:</td>
<td>Prairie View A&amp;M University P.O. Box 519 Mail Stop 2008 Prairie View, TX 77446</td>
</tr>
<tr>
<td>Office Hours:</td>
<td>MW 10:00 AM - 12:00 Noon. Other times by appointment. Students are advised to make appointments with the professor ahead of time and be specific with the subject matter to be discussed. Students should also be prepared for their appointment by bringing all applicable materials and information to the professor.</td>
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<tr>
<td>Virtual Office Hours:</td>
<td>TBA</td>
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<td>Course Location:</td>
<td>TBA</td>
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<tr>
<td>Class Meeting Days &amp; Times:</td>
<td>T 2:00 – 3:20 PM; F 2:00 – 3:50 PM</td>
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<tr>
<td>Course Abbreviation and Number:</td>
<td>AGEG 1413</td>
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<tr>
<td>Catalog Description:</td>
<td>Introduction to the major areas of applying engineering principles to solving problems in agriculture. Emphasis is placed on problem solving skills, farm workshop methods, tool identification, land measurement methods and skills. Will include introduction to elementary surveying.</td>
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<tr>
<td>Prerequisites:</td>
<td>Working knowledge of the number system and basic mathematics.</td>
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<tr>
<td>Co-requisites:</td>
<td>None</td>
</tr>
<tr>
<td>Required Text:</td>
<td>Introduction to Agricultural Engineering Technology. 3rd Edition (- H. L. Field; and J. B. Solie.)</td>
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<tr>
<td>References:</td>
<td>Engineering Applications in Agriculture (- W. Bowers, B. A. Jones, Jr. and E. F. Olver.)</td>
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http://en.wikipedia.org/wiki/agricultural engineering
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:

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 evaluates 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

<table>
<thead>
<tr>
<th>Upon successful completion of this course, students will be able to:</th>
<th>Program Learning Outcome #</th>
<th>Core Curriculum Outcome Alignment</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Have a basic knowledge of standard form of estimating answers. Basic problem solving skills.</td>
<td>Program Core</td>
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<tr>
<td>2</td>
<td>Understand the concepts of land measurements including surveying.</td>
<td>Program Core</td>
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<tr>
<td>3</td>
<td>Have knowledge of farm water systems.</td>
<td>Program Core</td>
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<td>4</td>
<td>Understand concepts of Work, Power, Horsepower and torque</td>
<td>Program Core</td>
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<tr>
<td>5</td>
<td>Understand Internal Combustion engines and Power applications.</td>
<td>Program Core</td>
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<tr>
<td>6</td>
<td>Have basic knowledge of Economic considerations in agricultural engineering.</td>
<td>Program Core</td>
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Code Key  
T = Taught  
R = Reinforced  
I = Integrated
Course Grading Procedures and Evaluation:

Two Tests 20 %
Pop 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 expected 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.”

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### Semester Calendar

<table>
<thead>
<tr>
<th>Week One &amp; Two:</th>
<th>[Problem Solving; Significant Numbers; Units of Measure]</th>
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<tbody>
<tr>
<td><strong>Topic Description</strong></td>
<td></td>
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<tr>
<td><strong>Readings:</strong></td>
<td>T</td>
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<tr>
<td></td>
<td>F</td>
</tr>
<tr>
<td><strong>Assignment(s):</strong></td>
<td>To be announced later</td>
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<tr>
<th>Week Three &amp; Four:</th>
<th>Simple Machines</th>
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<tr>
<td><strong>Topic Description</strong></td>
<td></td>
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<td><strong>Readings:</strong></td>
<td>T</td>
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<td>F</td>
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<tr>
<td><strong>Assignment(s):</strong></td>
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<th>Week Five &amp; Six:</th>
<th>Simple Machines</th>
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<td><strong>Assignment(s):</strong></td>
<td>To be announced later</td>
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<tr>
<th>Week Seven &amp; Eight:</th>
<th>Machinery Calibration</th>
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<tr>
<td><strong>Readings:</strong></td>
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**AGEG 1413**  **FUNDAMENTALS OF AGRICULTURAL ENGINEERING**  **COURSE SYLLABUS**

**PRAIRIE VIEW A&M UNIVERSITY**  **4 of 10**
Week Nine & Ten:
Topic Description
Readings:

Assignment (s):

Week Eleven & Twelve:
Topic Description
Readings:

Assignment (s):

Week Thirteen & Fourteen:
Topic Description
Readings:

Assignment (s):

Readings:

Assignment (s):
Student Support and Success

John B. Coleman Library
The library and its partners have as their mission to provide resources and instructional material in support of the evolving curriculum, as a partner in Prairie View A&M University's mission of teaching, research, and service and to support the University's core values of access and quality, diversity, leadership, relevance, and social responsibility through emphasis on ten key areas of service. It maintains library collections and access both on campus, online, and through local agreements to further the educational goals of students and faculty. https://www.pvamu.edu/library/  Phone: 936-261-1500

The Learning Curve (Center for Academic Support)
The Learning Curve offers Tutoring via peer tutoring. The services include workshops (i.e., Save My Semester, Recalculate Your Route), seminars (i.e., Tools You Can Use: TI-84), group review sessions (i.e., College Algebra Topic Reviews, GRE Preparation), group study opportunities (i.e., TSIA, HESI, Study Break, Exam Cram), and test-taking strategies (How to take Notes, Study Buddy, 5 Day Study Guide). The Learning Curve is a nationally certified tutoring program through the National Tutoring Association. The peer tutors are trained and certified by the coordinator each semester. Location: J.B. Coleman Library Rm. 207F. Phone: 936-261-1561

The Center for the Oversight and Management of Personalized Academic Student Success (COMPASS)
The Center for the Oversight and Management of Personalized Academic Student Success (COMPASS) is designed to help Prairie View students in their second year and beyond navigate towards graduation by providing the following services: Academic Advisement, Targeted Tutorials for Personalized Learning, Campus-Wide Referrals, and Academic & Social Workshops. Location: J.B. Coleman Library Rm. 306. Phone: 936-261-1040

Writing Center
The Writing Center provides student consultants on all aspects of the writing process and a variety of writing assignments. Writing Center consultations assist students in such areas as prewriting, brainstorming, audience awareness, organization, research, and citation. Students taking on-line courses or courses at the Northwest Houston Center or College of Nursing may consult remotely or by email. Location: Hilliard Hall Rm. 121. Phone: 936-261-3724.

Student Counseling Services
The Student Counseling Services unit offers a range of services and programs to assist students in maximizing their potential for success: short-term individual, couples, and group counseling, as well as crisis intervention, outreach, consultation, and referral services. The staff is licensed by the State of Texas and provides assistance to students who are dealing with academic skills concerns, situational crises, adjustment problems, and emotional difficulties. Information shared with the staff is treated confidentially and in accordance with Texas State Law. Location: Owens-Franklin Health Center Rm. 226. Phone: 936-261-3564

Testing
The Department of Testing administers College Board CLEP examinations, the HESI A2 for pre-nursing majors, LSAT for law school applicants and MPRE for second-year law students, the Experiential Learning Portfolio option, the Texas Success Initiative (TSI) Assessment, which determines college readiness in the state, and exam proctoring, among other service such as SAT and ACT for high school students. Location: Delco Rm. 141. Phone: 936-261-4286
Office of Diagnostic Testing and Disability Services
As a federally-mandated educational support unit, the Office of Disability Services serves as the repository for confidential disability files for faculty, staff, and students. For persons with a disability, the Office develops individualized ADA letters of request for accommodations. Other services include: learning style inventories, awareness workshops, accessibility pathways, webinars, computer laboratory with adapted hard and software, adapted furniture, proctoring of non-standardized test administrations, ASL interpreters, ALDs, digital recorders, livescribe, Kurtzweil, and a comprehensive referral network across campus and the broader community. Location: Evans Hall Rm. 317. Phone: 936-261-3585

Veteran Affairs
Veterans Services works with student veterans, current military and military dependents to support their transition to the college environment and continued persistence to graduation. The Office coordinates and certifies benefits for both the G.I. Bill and the Texas Hazlewood Act. Location: Evans Hall Rm. 323. Phone: 936-261-3563

Office for Student Engagement
The Office for Student Engagement delivers comprehensive programs and services designed to meet the co-curricular needs of students. The Office implements inclusive and accessible programs and services that enhance student development through exposure to and participation in diverse and relevant social, cultural, intellectual, recreational, community service, leadership development and campus governance. Location: Memorial Student Center Rm. 221. Phone: 936-261-1340

Career Services
Career Services supports students through professional development, career readiness, and placement and employment assistance. The Office provides one-on-one career coaching, interview preparation, resume and letter writing, and career exploration workshops and seminars. Services are provided for students at the Northwest Houston Center and College of Nursing in the Medical Center twice a month or on a requested basis. Distance Learning students are encouraged to visit the Career Services website for information regarding services provided. Location: Evans Hall Rm. 217. Phone: 936-261-3570

University Rules and Procedures

Disability Statement (Also See Student Handbook):
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Evans Hall, Room 317, or call 936-261-3585/3.

Academic Misconduct (See Student Handbook):
You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with your Student Handbook, especially the section on academic misconduct. Students who engage in academic misconduct are subject to university disciplinary procedures.

Forms of Academic Dishonesty:
1. Cheating: deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not mastered; giving or receiving aid unauthorized by the instructor on assignments or examinations.
2. Academic misconduct: tampering with grades or taking part in obtaining or distributing any part of a scheduled test.

3. Fabrication: use of invented information or falsified research.

4. Plagiarism: unacknowledged quotation and/or paraphrase of someone else’s words, ideas, or data as one’s own in work submitted for credit. Failure to identify information or essays from the Internet and submitting them as one's own work also constitutes plagiarism.

Nonacademic Misconduct (See Student Handbook)
The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either (1) the instructor’s ability to conduct the class, (2) the inability of other students to profit from the instructional program, or (3) campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. Such incidents will be adjudicated by the Dean of Students under nonacademic procedures.

Sexual Misconduct (See Student Handbook):
Sexual harassment of students and employers at Prairie View A&M University is unacceptable and will not be tolerated. Any member of the university community violating this policy will be subject to disciplinary action.

Title IX Statement
Prairie View A&M University (PVAMU) is committed to supporting students and complying with the Texas A&M University System non-discrimination policy. It seeks to establish an environment that is free of bias, discrimination, and harassment. If you experience an incident of sex- or gender-based discrimination, including sexual harassment, sexual assault or attempted sexual assault, we encourage you to report it. While you may talk to a faculty member about an incident of misconduct, the faculty member must report the basic facts of your experience to Ms. Alexia Taylor, PVAMU’s Title IX Coordinator. If you would like to speak with someone who may be able to afford you privacy or confidentiality, there are individuals who can meet with you. The Title IX Coordinator is designated to handle inquiries regarding non-discrimination policies and can assist you with understanding your options and connect you with on- and off-campus resources. The Title IX Coordinator can be reached by phone at 936-261-2123 or in Suite 013 in the A.I. Thomas Administration Building.

Class Attendance Policy (See Catalog for Full Attendance 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 and/or internet.

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 regular semesters and summer terms. Each faculty member will include the University's attendance policy in each course syllabus.

Student Academic Appeals Process
Authority and responsibility for assigning grades to students rests with the faculty. However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.
TECHNICAL CONSIDERATIONS

**Minimum Recommended Hardware and Software:**
- Intel PC or Laptop with Windows 7; Mac with OS X; Smartphone or iPad/Tablet with Wi-Fi
- High speed Internet access
- 8 GB Memory
- Hard drive with 320 GB storage space
- 15” monitor, 800x600, color or 16 bit
- Sound card w/speakers
- Microphone and recording software
- Keyboard & mouse
- Most current version of Google Chrome, Safari, Internet Explorer or Firefox

*Note:* Be sure to enable Java & pop-ups in the Web browser preferences

Participants should have a basic proficiency of the following computer skills:
- Sending and receiving email
- A working knowledge of the Internet
- Proficiency in Microsoft Word (or a program convertible to Word)
- Proficiency in the Acrobat PDF Reader
- Basic knowledge of Windows or Mac O.S.

**Netiquette (online etiquette):**
Students are expected to participate in all discussions and virtual classroom chats as directed. Students are to be respectful and courteous to others on discussions boards. Foul or abusive language will not be tolerated.

**Technical Support:**
Students should go to https://mypassword.pvamu.edu/ if they have password issues. The page will provide instructions for resetting passwords and contact information if login issues persist. For other technical questions regarding eCourses, call the Office of Distance Learning at 936-261-3283

**Communication Expectations and Standards:**
Emails or discussion postings will receive a response from the instructor, usually in less than 48 hours. Urgent emails should be marked as such. Check regularly for responses.

**Discussion Requirement:**
Online courses often require minimal to no face-to-face meetings. However, conversations about the readings, lectures, materials, and other aspects of the course can take place in a seminar fashion. This will be accomplished by the use of the discussion board. The exact use of discussion will be determined by the instructor.

*It is strongly suggested* that students type their discussion postings in a word processing application and save it to their PC or a removable drive before posting to the discussion board. This is important for two reasons: 1) If for some reason your discussion responses are lost in your online course, you will have another copy; 2) Grammatical errors can be greatly minimized by the use of the spell-and-grammar check functions in word processing applications. Once the post(s) have been typed and corrected in the word processing application, it/they should be copied and pasted to the discussion board.
STATEMENT OF AGREEMENT

I have read the Course Syllabus for AGEG 1413 for the Fall Semester 2014, 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 name (Please print neatly)      Student ID #      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: