



Agricultural Electrification

AGET3300

Spring 2018 Syllabus

Part 1: Course Information

Instructor Information

Instructor: Dr. Joe Muller

Virtual Office Forum: Available 24/7 for posting/viewing questions

Online Office Hours: See **Virtual Office** in Blackboard

Email: jemuller@shsu.edu

Office Telephone: 936-294-4877

Course Description

This course is intended to provide the opportunity to develop an understanding of electrical theories, principles, and terminology; and to develop fundamental skills necessary in planning, installing, and maintaining electrical circuits, lighting, motors, and equipment for use in residential and agricultural production, food processing, and crop storage applications through classroom lecture, demonstrations and hands-on laboratory activities. Electrical safety will be stressed throughout the entire course.

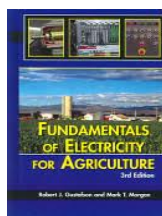
Textbook & Course Materials

Required Text



Title
Author
ISBN

House Wiring **4th edition**
Greg Fletcher
978-1-285-85222-5



Title
Author
ISBN
Publisher

Fundamentals of Electricity for Agriculture
Robert J. Gustafson; Mark T. Morgan
978-1-892769-39-8
American Society of Agricultural Engineers

Recommended Texts & Other Readings

- **National Electric Code**, National Fire Protection Association, Latest Edition
- **Electrical Wiring**, Seventh Edition, Duncan and Wren, American Association of Vocational Instructional Materials
- **Electricity for Agricultural Applications**, Bern and Olson, 1st Edition, Iowa State Press
- **Modern Commercial Wiring**, Holzman, 3rd Edition, Goodheart-Wilcox
- **Agricultural Wiring Handbook**, Haitt, 14th Edition, National Food & Energy Council

Course Structure

This course will be delivered entirely online through the course management system Blackboard™. You will use your SHSU account to login to the course from the Blackboard login page (<http://shsu.blackboard.edu>).

In Blackboard, you will access online lessons, course materials, and resources. At designated times throughout the semester, we will participate in a blend of self-paced and group-paced activities using Blackboard and additional internet-based technologies. Activities may consist of chat, blogs, discussion forums, journaling, wikis, and web postings.

Technical Requirements

You must have access to a personal computer or a computer in which you have administrative rights so that you may install necessary plugins. See the [Technical Requirements](#) website for recommended system and browser requirements.

- Internet connection (DSL, LAN, or cable connection is desirable)
- An active SHSU Student Username and Password
- Webcam and headset (headphone/microphone combo) – Using headphones will eliminate the echoing effect of the microphone picking up audio from the computer speakers during live discussions.

Technical Assistance

The team at SHSU Online provides technical support for Blackboard through a variety of methods.

Website: [Technical Support](http://distance.shsu.edu/tech-support) <http://distance.shsu.edu/tech-support>

Phone: 936-294-2780 – or – toll free 1-877-759-2232

Email: blackboard@shsu.edu or you can chat with a technician while inside your Blackboard course.

Below are some helpful resources if you wish to explore on your own.

- New students should start with the [Online Student Orientation](http://distance.shsu.edu/current-students/orientation.html)
<http://distance.shsu.edu/current-students/orientation.html>
- A list of other helpful services can be found on the [Student Resources](http://distance.shsu.edu/current-students/resources.html) page
<http://distance.shsu.edu/current-students/resources.html>
- Blackboard Learn™ provides a variety of video tutorials at [Student Videos](https://help.blackboard.com/en-us/Learn/Reference/Blackboard_Learn_Videos/Student_Videos)
https://help.blackboard.com/en-us/Learn/Reference/Blackboard_Learn_Videos/Student_Videos

Online Proctored Examinations Required

Students enrolled in this course are expected to complete some proctored online exams. Exam proctoring services at Sam Houston State University are provided by the DELTA Center, free of charge to SHSU distance education students, via ProctorFree ®.

Technical Requirements For Utilizing ProctorFree ®

	PC Users	Mac Users
Operating System	Windows Vista, 7 or 8 (prefer 8.1 for windows 8)	OS X 10.8+ Snow Leopard, with a target of OS X 10.9 Mavericks.
Installation Space	2GB Hard Drive, 1GB Ram	2GB Hard Drive, 1GB Ram
JAVA	JVM 1.7 or higher	Open JAVA 1.7 or higher
Hardware	Microphone, Keyboard, Mouse, Webcam	Microphone, Keyboard, Mouse, Webcam
Web Browser	Firefox 13+ Chrome 18+ Safari 6.x+ Internet Explorer 8+	Firefox 13+ Chrome 18+ Safari 6.x+ Internet Explorer 8+
Tech Support	Please call or email (855-759-6569) or support@proctorfree.com 24/7/365. Or, contact the SHSU Online Support Desk at 936-294-2780 or blackboard@shsu.edu .	

Part 2: Course Objectives

Through this course the student will:

1. Define terms and definitions associated with electrical energy production and distribution systems include new alternative energy sources.
2. Recognize and discuss safe and unsafe electrical conditions and practice safe electrical use practices.
3. Explain how electrical energy is produced and distributed through the transmission system.
4. Explain series and parallel circuits and calculate problem associated with each.
5. Identify different types of electrical wiring, cables, conduit and equipment, and select appropriate types for different applications.
6. Plan and size service entrance conductors and equipment.
7. Explain the operation and purpose of over-current protection devices and properly install them.
8. Explain the operation and purpose of ground fault circuit interrupters (GFCIs) and properly install them.
9. Explain the operation and purpose of arc fault circuit interrupters (AFCIs) and properly install them.
10. Design and install branch circuits and equipment.
11. Discuss principles of operation of different types of electrical motors and controls and select and install them for appropriate applications
12. Discuss principles of operation of different types of lighting systems and controls, and plan, select and install them for appropriate applications

Part 3: Topic Outline/Schedule

Important Note: Refer to the course calendar for specific meeting dates and times. Activity and assignment details will be explained in detail within each week's corresponding learning module. Face to face labs will meet each week on Wednesday afternoons from 1:00 to 2:50 p.m. at the Harrell AGET Center.

Part 4: Grading Policy

Graded Course Activities

Late Work Policy

Be sure to pay close attention to deadlines-there will be no make-up assignments, quizzes, or other course materials accepted beyond the due date without instructor approval and advanced notification.

Viewing Grades in Blackboard

Points you receive for graded activities will be posted to the Blackboard Grade Center. Your instructor will update the online grades each time a grading session has been complete—typically 7 days following the completion of an activity. Click on the My Grades link in the left navigation pane to view your points.

Letter Grade Assignment

Include an explanation between the relationship of points earned and final letter grade. **Example:** Final grades assigned for this course will be based on the percentage of total points earned and are assigned as follows:

Letter Grade	Percentage	Performance Level
A	90-100%	Excellent Work
B	80-89%	Good Work
C	70-79%	Average Work
D	60-69%	Poor Work
F	0-59%	Failing Work

Part 5: Course Policies

Attendance

Regular and punctual class attendance is expected of each student at Sam Houston State University. This course will consist of both synchronous (scheduled) and asynchronous activities. Synchronous activities are outlined in the course schedule. Please make it a habit to visit the course home page periodically throughout the week to check for announcements. Timely entry into online meeting spaces will be expected during those scheduled times.

Participate

Students are expected to participate in all activities as listed on the course calendar, especially online discussion. Online discussion is a vital component to the course and is necessary to meet learning objectives. As such, a portion of the overall course grade will be derived from your engagement in the course discussions.

Build Rapport

You will find that your overall success in distance education courses can come from building a strong rapport with your classmates and instructor. This starts with demonstrating netiquette (online etiquette) by respecting others' opinions, perspectives, and values through all the course communication.

Code of Conduct

As a member of a community dedicated to learning, inquiry, and creation, the students, faculty, and administration of our university live by principles that require all members to be conscientious, respectful, and honest. Students should also understand that honest conduct reaches far beyond just academic honesty.

Completing Assignments

All assignments for this course will be submitted electronically through Blackboard unless otherwise instructed. Assignments must be submitted by the given deadline or special permission must be requested in advanced from the instructor before the due date.

All discussion assignment must be completed by the assignment due date and time. Late or missing discussion assignments will affect the student's grade.

Understand When You May Drop This Course

It is the student's responsibility to understand when he/she may need to consider unrolling from a course. Refer to the SHSU Course Schedule for dates and deadlines concerning registration.

Required Policies at SHSU

The following are mandatory policies and procedures practiced by Sam Houston State University and can also be found at <http://www.shsu.edu/syllabus/>.

Academic Dishonesty

The University expects students to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experience both in and out of the classroom.

Accusations of academic dishonesty, proceedings, and subsequent disciplinary actions are addressed in The Texas State University System, Board of Regents policy on [Academic Honesty, Chapter VI, Subsection 5.3, "Academic Honesty"](#) and in the University's [Academic Policy Statement 810213](#).

Student Absences on Religious Holy Days Policy

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 examination, for the observance of a religious holy day, including travel for the 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 whose absence is 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 provide the procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a scheduled class in order to observe a religious holy day shall present to each instructor involved a written statement concerning the religious holy day. 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. This policy is fully addressed in [Academic Policy Statement 861001](#).

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 are expected to visit with the [Services for Students with Disabilities](#) office located in the Lee Drain North Annex and can be contacted by phone at 936-294-3412 (Voice), 936-294-3786 (TDD), or via email at 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 Counseling Center 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 Counseling Center. This policy is fully addressed in [Academic Policy Statement 811006](#).

Visitors in the Classroom

Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, 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 Office.