

CLARENDON COLLEGE

Division of Business and Technology

Course Name: *Wind 2455 Wind Turbine Troubleshooting and Repair*

Credit Hours: 4

Semester: *Spring 2011*

Classroom Location: *Childress Center Wind Room*

Instructor: *Corey Murdock*

Office Location: *Clarendon College*

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Office Hours: Mon-Thurs 2:30pm to 5:30 pm; Fri 8:00 am to 12:00 pm

I. Course Description:

Practice of installation, operation, maintenance, troubleshooting, and repair of wind turbine electro-mechanical systems

II. End of Course Learning Outcomes:

A. Use electrical, electronic, and mechanical equipment using switches, fuses, breakers, interlocks, isolating valves, and proper grounding techniques

The student will:

- Describe electrical and mechanical devices and their purpose
- Identify visually electrical components, control components, and mechanical elements of wind turbines
- Examine and use electrical schematics
- Demonstrate proper methods of grounding electrical equipment and perform hot-cold-hot checks
- Demonstrate how to isolate both electrical and mechanical energy potentials
- Demonstrate proper use of personal protective equipment (PPE)

B. Use Supervisor Control and Data Acquisition (SCADA)

The student will:

- Examine SCADA systems

C. Install, troubleshoot, and repair failure in mechanical and electrical equipment and computer systems

The student will:

- Troubleshoot electrical circuits to identify faulty components and repair
- Troubleshoot mechanical failures and repair or replace faulty components
- Troubleshoot faults in computer systems

D. Solve problems and build employability skills such as critical thinking, adaptability and work ethic

The student will:

- Use critical thinking skills to correctly diagnose and repair turbine systems and components
- Uses adaptability to locate all possible information within a reasonable period of time before forming a decision; readily make adjustments to work strategies and methods based on real-time turbine performance
- Exhibit a work ethic in completing work on time and consistently attending all scheduled classes and labs

Textbook(s): None

III. Course Requirements

Course requirements include problems and exercises, unit tests and final examinations derived from lectures. Assignments will be due one week from the day they were assigned unless special instruction is given by the instructor. Students must actively participate in class and attend class unless arrangements are made in advance for absence.

Pop Quizzes may be given.

Methods and components of evaluation and grading are listed in the following:

Problems and exercises: 20%

Quizzes: 15%

Folder: 25%

Final: 40%

Total 100%

The final semester grades will be figured as set in the current catalog:

90 and above = A

80-89 = B

70-79 = C

60-69 = D

Below 60 = F

A student's final grade will be made available through Campus Connect at Clarendon College's website.

Methods of Instruction:

Lecture, PowerPoint presentation student interaction.

Other Requirements:

- Class Attendance is Required
- ***No late homework will be accepted***
- Personal Tools and Supplies include: three ring binder, scientific calculator, and pencils, note paper (recommend graphing or engineering paper), etc...

Classroom Policies:

- Food will not be permitted in the classroom.
- Tobacco products will not be permitted in the classroom.

Classroom Policies:

Classroom Conduct

Failure to comply with lawful direction of a classroom instructor is a disruption for all students enrolled in the class. Cheating violations include, but are not limited to: (1) obtaining an examination , classroom activity, or laboratory exercise by stealing or collusion; (2) discovering the content of an examination , classroom activity, laboratory exercise, or homework assignment before it is given; (3) using an unauthorized source of information during an examination , classroom activity, laboratory exercise, or homework assignment ; (4) entering an office or building to

obtain unfair advantage; (5) taking an examination for another person; (6) completing a classroom activity, laboratory exercise, homework assignment, or research paper for another person; (7) altering grade records; (8) using any unauthorized form of electronic communication device during an examination, classroom activity, or laboratory exercise; (9) Plagiarism. Plagiarism is the using, stating, offering, or reporting as one's own, an idea, expression, or production of another person without proper credit.

Disciplinary actions for cheating in a course are at the discretion of the individual instructor. The instructor of that course will file a report with the Dean of Students when a student is caught cheating in the course, whether it be a workforce or academic course. The report shall include the course, instructor, student's name, and the type of cheating involved.

Students who are reported as cheating to the Dean of Students more than once shall be disciplined by the Dean. The Dean will notify all involved parties within fourteen days of any action taken.

American with Disabilities Act Statement:

Clarendon College provides reasonable accommodations for persons with temporary or permanent disabilities. Should you require special accommodations, notify the Office of Student Services (806-874-3571 or 800-687- 9737). We will work with you to make whatever accommodations we need to make.

Dropping a Course:

A student who is enrolled in a developmental course for TSI purposes may not drop his/her only developmental course unless the student completely withdraws from the college. A student may drop any other course with a grade of "W" any time after the census date for the semester and on or before the end of the 12th week of a long semester, or on or before the last day to drop a class of a term as designated in the college calendar. The request for permission to drop a course is initiated by the student by procuring a drop form from the Office of Student Services. (Refer to other policies concerning this issue in the current college catalog online.)

Withdrawal from College:

When a student finds it necessary to withdraw from school before the end of the semester, he or she should obtain a withdrawal form from the Office of Student Services. Students may also withdraw from the college by sending a written request for such action to the Registrar's Office. The request must include the student's signature, the student's current address, social security number and

course information details. Students who withdraw after the census date for the semester and on or before the end of the 12th week of a long semester, or on or before the last day to drop a class of a term as designated in the college calendar will be assigned a grade of “W.”