

**Mississippi Valley State University  
Department of Engineering Technology  
College of Professional Studies**

**Course Syllabus  
ET 241: Electric Power and Energy Conversion**

**Lecture, Tuesday and Thursday :1:00 pm - 2:15pm,  
Classroom: Science and Technology Bldg, Rm 1112  
Credit hours: 3**

**Mr. Lemorris Strong – Assistant Professor  
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Office Hours: As posted**

**Pre-requisite: A grade of “C” or better in Basic Electronics, ET 142**

**COURSE DESCRIPTION:** This course introduces students to the principles and techniques of energy conversion and electric power generation. It covers the areas of rotating machines (generators and electric motors), transformers, photovoltaic elements, fuel cells, solar, and wind turbines.

**STUDENT LEARNING OUTCOMES:** Upon the successful completion of this course, the student will be able to, either orally or in writing, and with minimum use of outside references, complete the following objectives.

1. Identify energy and power conversion process
2. Understand the functionality Mechanical energy
3. Identify Thermodynamic principles
4. Understand Thermal machines concept
5. Describe the characteristics of Electromagnetic induction and generators
6. Recognize and identify Electric motors, and Transformers function and their schematic symbols
7. Understand the function of Electric power transmission and distribution
8. Photovoltaic power generation
9. Identify Fuel cells, solar and wind energy applications
10. Analyze, and perform computer simulations of electric power system

**REQUIRED TEXT:** *Energy, Power, and Transportation Technology 2<sup>nd</sup> Edition* by Len S. Litowitz and Ryan A. Brown ISBN 978-1-60525-555-2

**EXPECTATIONS:** This course of study has been prepared to inform you about the course requirements, contents, teaching methods, evaluation process and requirements for students. You are expected to read the information carefully so that you understand what is expected of you and the course requirements that must be met to successfully complete the course. You will be held responsible and accountable for knowing the schedule of class meeting and examinations. It is recommended that you read and study all assigned materials. If you do not understand the material, you should promptly consult your instructor.


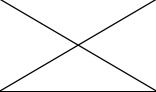
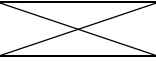
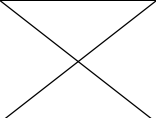
**GRADE STANDARDS AND WEIGHTS FOR ET141:** All assignments must be submitted for grading by the due date. Assignments that are not typed must be neatly written on lineless paper. Eleven (11) chapters (1, 2, 5, & 6 thru 13) from the textbook will be covered. ***There will be a quiz and homework assignment due at the completion of each chapter.*** The maximum score on the quiz is 80 points and assignment is 20 points. The total of the two (quiz plus assignment) will be your score. Please keep the instructor informed of situations that can interfere with you reaching your maximum academic potential.

***Each student will be required to make a Power-Point presentation-10 minutes minimum/15 minutes***

*maximum in class. This presentation will be on a topic agreed upon with the instructor of this course.*

**INCENTIVE:** On time ten (10) class days consecutive and receive two (2) points toward your mid-term and final. *Dress for success on presentation, quizzes, and exam days and earn a total of two (2) points toward mid-term and final.* All typed assignments will receive two (2) points towards the assignment. Assignment turned in on time will receive two (2) points toward the assignment.

**ASSESSMENT SHEET ET-141**

CHAPTER	MEANS OF ASSESSMENT	POINTS	GRADE POINTS
1	Test 1 Score Home Work assignment 1 Score	80 20	
2	Test 2 Score Home Work assignment 2 Score	80 20	
5	Test 5 Score Home Work assignment 3 Score	80 20	
6	Test 6 Score Home Work assignment 2 Score	80 20	
7	Test 7 Score Home Work assignment 2 Score	80 20	
	Oct 1-5 /Med-Term	100	
Bonus	Incentive credit	8	
	Mid-Term Grade 1, 2, 5 thru 6 added + med term ÷ by 6 = grade point		*
8	Test 8 Score Home Work Assignment 4 Score	80 20	
9	Test 9 Score Home Work Assignment 5 Score	80 20	
10	Test 10 Score Home Work Assignment 6 Score	80 20	
11	Test 11 Score Home Work Assignment 6 Score	80 20	
12	Test 12 Score Home Work Assignment 6 Score	80 20	
13	Test 13 Score Home Work Assignment 6 Score	80 20	
	Dec 3-7 Final	100	
	Power point presentation	100	
Bonus	Incentive credit	8	
	Final Grade 8, thru 13 added + med term + final score +ppt ÷ by 13 = final grade point	1300	*

\* See grading standard

Grading system: A = 91-100 or 1210 - 1300  
B = 81-90 or 1110 - 1200  
C = 71-80 or 1010 - 1100  
D = 61-70 or 910 - 1000  
F = 0- 61

**REFERENCES:** The CD contained in the back of your class book You Tube, (youtube.com) Electronics Programs

**Class Policies:** The following class policies are in effect throughout this course to ensure that a positive and equitable learning environment exists for all class members. Failure to follow these class policies may result in sanctions per the student handbook. Policies for class include:

**Attendance:** **Students are expected to attend class.** Any absentees will have a negative effect upon your final course grade. Students are responsible for and accountable for all information in lectures and all modifications to assignments presented in class. If a student misses a class, he or she is responsible for the material missed – even if a valid excuse is presented.

**Punctuality:** Every student is expected to practice professional time management skills and report to class on time.

**Professional Language/Respect:** Professional language, conduct, and respect for peers, the instructor, and the learning process are a basic requirement. This is a “G” rated course

**Disruptive Behavior:** Effective learning environments require the attention and positive contribution of both student and teacher. Sidebar or loud conversations, jokes, laughter, pranks, etc., between and among students in the classroom while class is in session are disruptive to the learning environment. Students disrupting the class/learning environment in such a manner are subject to grading penalties.

**Others Attending Class:** Those who are not registered for the course are not permitted to attend. This includes, but is not limited to, boyfriends/girlfriends, children, siblings, spouses, etc.

**Electronic Devices:** Cell phones, iPads, iPods, etc. will not be used in class and should be turned OFF **BEFORE** you enter the classroom. Electronic device use will result in **immediate expulsion** from the class.

**Computer:** Doing class computer usage has to be approval by the Instructor

**Make-up Work:** **No make-ups assignments are available. Assignment due dates are announced well in advance and are FIRM. There are no exceptions for athletic travel or other pre-planned absences. Students are encouraged to complete assignments EARLY and to submit them PRIOR TO THE DEADLINE.** Assignments will only be accepted as called for by the instructor, on or prior to the due date. **No make-ups will be given for missed assignments or examinations. An excuse from the Office of Student Affairs DOES NOT EXCUSE the student from work or assignments missed during the absence!**

**Honor Code:** Any work submitted is expected to be yours. Dishonesty (cheating) in any form will not be tolerated. Cheating will result in the student(s) involved being immediately dismissed from the class and receiving a grade of "F" for the course. Cheating includes submitting someone else's work as your own or allowing someone else to submit your work as theirs. Cheating will be determined at the sole discretion of the instructor.

**Other:** All other student conduct policies are in full effect as explained in the Mississippi Valley State University Undergraduate Catalog.

**DRESS POLICY;** *There is no MVSU dress policy, however in this class there will be NO pants sagging, NO hats, hoods, or any other headgear worn (females are allowed to wear hats). If this dress policy is violated you will be asked to leave the class room with a loss of 20 points. Only an excuse from the Department Head will allow you to return.*

**Accommodating Special Needs Students:** Students with learning or physical disabilities admitted to this class will be expected to perform the same level of work at the same proficiency as students without disabilities. However, where necessary, alternative methods will be used to accommodate any learning or physical condition if it is made known to the instructor in advance. No student will be turned away from this class because of a disabling condition.

Mississippi Valley State University is committed to providing reasonable accommodations for students with a documented disability. If you feel you are eligible to receive accommodations for a covered disability (medical, physical, psychiatric, learning, vision, hearing, etc.) and would like to request it for this course, you must be registered with the Services for Students with Disabilities (SSD) program administered by University College. It is recommended that you visit the Disabilities Office located inside the EMAP Computer Lab in the Technical Education (IT) Building to register for the program at the beginning of each semester. If you are determined to be eligible after your confidential consultation, you will be provided with a Memo of Accommodations that must be submitted to each of your instructors.

For more information or to schedule an appointment, please contact Mr. Billy Benson, Jr. via phone or email at 662-254-3005 or [billy.benson@mvsu.edu](mailto:billy.benson@mvsu.edu).

**Withdrawals and Incompletes:** A syllabus constitutes a contract between the student and the course instructor. Participation in this course indicates your acceptance of its teaching focus, requirements, and policies. Please review the syllabus and the course requirements as soon as possible. If you believe that the nature of this course does not meet your interests, needs or expectations, if you are not prepared for the amount of work involved or if you anticipate that the class meetings, assignment deadlines or abiding by the course policies will constitute an unacceptable hardship for you, you should drop the class by the drop/add deadline. **Incompletes will not be offered in this course.**