**MIDLAND COLLEGE**
**Syllabus**
**AERM 1314 – BASIC ELECTRICITY**
**SCH (2 Hours Lecture, 3 Hours Lab)**
**80 Hours**

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| Rodney Patridge - | AERM 1314 A555 |
| **Course Description:** | A study of aircraft electrical systems & their requirements including the use of ammeter, voltmeter & ohmmeter; series & parallel; inductance & capacitance; magnetism; converting alternating current (AC) to direct current (DC); controlling devices; maintenance & servicing of aircraft batteries; & reading & interpreting aircraft electrical diagrams to include solid state devices & logic functions. |
| **Text References And Supplies:** | 1. *A&P Technical General Textbook*, by Jeppesen, Current, Wing AERO<br>2. *General Test Guide, ASA-AMG, by Crane, Current Edition, Wing AERO*<br>3. *AC 43.13-1B/2B,* by ASA, or most Current Edition, Wing AERO<br>4. *FAR Handbook for AMT,* 0884873978, BY Jeppesen, Current Edition, Wing AERO<br>5. *Standard Aviation Maintenance Handbook EA-282-0,* 0891002820, by ASP, Current Edition, Wing AERO<br>6. *Dictionary of Aeronautical Terms,* 978-088487383-9, by ASA, Current Edition, ACtech Books |
| **Course Goals/ Objectives:** | Upon Successful completion of the course the student will:<br>1. Calculate and measure capacitance and inductance.<br>2. Calculate and measure electrical power.<br>3. Measure voltage, current, resistance and continuity.<br>4. Determine the relationship of voltage, current and resistance in electrical circuits.<br>5. Read & interpret aircraft electrical circuit diagrams including solid states devices and logic functions.<br>6. Inspect & services batteries. |
| **Student Contributions And** | 1. Students ***MUST*** actively participate by completing an academic assignment required by the instructor by the official census date. Students who do not actively participate in an academically-related activity will be reported as never attended & dropped from the course. |
| **Class Policies:** | 2. You are required to attend class regularly. Roll will be taken at each class meeting. Unexcused absences will not be tolerated. In case of an |

unavoidable absence, you are expected to contact your instructor as soon as possible. The instructor will evaluate each absence. He is particularly concerned with your progress in the course, your motivation, and your understanding of the material which you missed. **BE SURE TO CONTACT YOUR INSTRUCTOR TO SCHEDULE MAKE-UP WITHIN ONE WEEK OF THE ABSENCES.**

3. You are expected to arrive for class on time. Tardiness shows poor preparation and poor motivation. It is gross discourtesy to the instructor and to the other members of the class to interrupt their instruction.

4. If you are going to be absent from an exam, arrangements should be made prior to the absence. Make-up exams will be given only when an excused absence necessitates. All make up exams must be taken within one week after the original examination time. Under no circumstances will a make-up examination be given after papers are returned. (Postponement of a final exam must be approved by the Dean of Instruction.)

5. You will be counseled by your instructor for lack of attendance and informed of make-up policies. When the instructor feels that you are not keeping up with the class due to absence, he may recommend you withdraw from the course.

6. You must go through a formal procedure if you wish to drop a course. A student may withdraw from a course or from College with a grade of "W", through the half-way point of any semester or summer term. After half-way point of any semester term, but no later than seven calendar days prior to final examinations, a student may withdraw from a course with a grade of "WP" if passing or a grade of "WF" if failing. Specific dates and procedures are outlined in the College Catalog. No withdrawal is official unless processed by the campus Registrar's Office. Until that time, the student will remain on the class roll and may receive a final grade of "F".

6. You must be able to read, speak and understand the English language.

Tardy

1. For each three (3) times in excess of 15 minutes, the student will be assessed one (1) absence.
2. Each assessed absence will be required to be made up by the student according to the make-up policy.

Absence

1. Upon accumulation of three (3) absences or any lessor amount of hours considered to jeopardize the student's progress, an official warning will be mailed to the student.
2. If the student chooses not to respond to a warning by contacting the instructor, it will be his/her responsibility to withdraw from the course with a "W", "WP", "WF". Failing to take any action will result in an "F" for the course.
3. All time missed by the student must be made up before a passing grade may be recorded.
4. Make-up procedures all classroom material missed will be made up in the same subject area. All shop material missed will be made up in the same shop subject area.

<u>Make-up Policy</u>

1. Punctual class attendance is required of all students registered at Midland College. No excused absence or "cuts" are allowed. College and federal aviation regulations require that a student make-up all class and laboratory work covered during his absence, even in cases where he is able to satisfy the instructor that the absence was unavoidable.
2. Each instructor will schedule ten (10) office hours per week during which time he will be available for student help and make-up work. The schedule will be posted on the office door of each instructor at the beginning of each semester. At the beginning of each semester the instructor will pass out a schedule informing students of the date, time, and place for making up work missed.
3. All make-up work will be scheduled at a time other than regular class time. For instance, morning classes missed may be scheduled in the afternoon. Make-up work will be completed within two weeks after missed. Exceptions shall require the approval of the director of Aviation Maintenance Technology.
4. The different levels of work missed may be made up according to the levels of FAR 147, Appendix A.P7. Examples are as follows:
    a. Level one may be made up by a written assignment.
    b. Level two may be made up by a combination of written assignment and limited practical application.
    c. Level three must be made up through performance of practical application.
5. All make-up work will be made in the same subject area as the time missed whether it is in shop or class. Time.
6. Before the final grade for each course is given all quizzes and tests must be completed for the course.

**Evaluation of Students:**

Grades

This system, with appropriate grade points, is as follows:

A (90-100)
B (80-89)
C (70-79)
D (0-69)

Shop/Lab Grading

80% For successful and prompt completion of project
10% For proper use and availability of hand tools
10% For SAFETY

**Course Schedule:**

**AERM 1314 BASIC ELECTRICITY**

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|---|---|
| Informal | 1/3 |
| Laboratory (shop) procedures, safety & reports | 1/3 |
| Comprehensive final examination | 1/3 |

**SAFETY GLASSES MUST BE WORN IN SHOP AREA AT ALL TIMES!!**

**Applied Technology Division Information:**

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| Division Dean: | Pete Avalos |
| Division Office: | Marie Hall Academic Building Room 176 |
| Division Telephone: | (432) 685-4676 |
| Program Chair: | Chad Farris |
| AMT Telephone: | (432) 686-4931 |

**Americans with Disabilities Act (ADA)**

Any student who, because of a disabling condition, may require some special arrangements to meet course requirements should contact disabilities support services as soon as possible at: Accommodation Services. Conditions may include documented physical or educational disabilities. Please be aware that services or accommodations are not automatic. Each student must request them and secure the proper authorizations/documentation. Accessibility Links can be found on the Pages tab in Canvas.

**Midland College Non-Discriminatory Statement:**

Midland College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. For information and inquiries regarding Midland College's non-discrimination

policies, go to: Title IX For further information on notice of non-discrimination, visit the ED.gov Office of Civil Rights website, or call 1 (800) 421-3481.

***Syllabus subject to change as deemed necessary by the instructor to ensure learning objectives and course goals are met***