

Administrative Master Syllabus

Course Information

Course Title	Electromechanical Systems
Course Prefix, Num. and Title	ELMT 2441 - Electromechanical Systems
Division	Technology & Business
Department	Electronics Engineering Technology
Course Type	WECM Course
Course Catalog Description	Application of electromechanical systems. Emphasizes programmable control devices and solid-state systems. Study of various electromechanical systems used in the power generation industry.
Pre-Requisites	CETT 1409, and INTC 1350, and ELMT 2437
Co-Requisites	Credit for concurrent enrollment in INTC 1457

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours: Lab/Other Hours	4:3:3
Equated Pay Hours	4.5
Lab/Other Hours Breakdown: Lab Hours	3
Lab/Other Hours Breakdown: Clinical Hours	0
Lab/Other Hours Breakdown: Practicum Hours	0
Other Hours Breakdown	0

Approval Signatures

Title	Signature	Date
Department Head:		
Division Chair:		
VPI:		

Additional Course Information

Topical Outline: Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

Lecture - 3hrs/wk

The lecture entails in-depth coverage of the operation, maintenance, troubleshooting, and application of electromechanical systems, including an emphasis on programmable control devices and solid-state systems. The lecture will also cover various power generation industry specific electromechanical system topics.

Lab - 3hrs/wk

The course will feature an integrated lab depicting electromechanical system components, such as pneumatics, power systems, manipulators, electrical loads, electrical control devices, control systems, PLCs, electric motors, and logic. The lab will also entail various power generation industry specific electromechanical system topics.

Course Learning Outcomes:

Learning Outcomes – Upon successful completion of this course, students will:

1. Develop existing electromechanical systems to meet specific performance criteria.
2. Troubleshoot electromechanical systems.
3. Compile documentation to meet industrial standards.
4. Explain the function of various electromechanical systems used in the power generation industry.

Methods of Assessment:

Assessment of outcomes 1, 2, 3 and 4 will be completed through periodic written quizzes, exams, and hands-on laboratory exercises.

Required text(s), optional text(s) and/or materials to be supplied by the student:

Course specific text will be specified and/or industry specific student handouts will be provided for each class session. Scientific calculators are also required.

Suggested Course Maximum:

30/15

List any specific or physical requirements beyond a typical classroom required to teach the course.

Power generation industry related electrical maintenance lab. Lab will only accommodate 15 students at one time.

Course Requirements/Grading System: Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

Quizzes, homework assignments, and class participation: 25%

Lab and Cross Disciplinary Skills (work ethic, safety, teamwork, housekeeping, attitude): 25%

Mid-term Exam: 25%

Final Exam: 25%

Grade Scale:

90 to 100: A

80 to 89: B

70 to 79: C

60 to 69: D

0 to 59: F

Note: For the additional NUCP certificate, the student must complete the course with a minimum of 80%.

Curriculum Checklist:

- Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.
- Administrative WCJC Core Course.** Attach the Core Curriculum Review Forms
 - Critical Thinking
 - Communication
 - Empirical & Quantitative Skills
 - Teamwork
 - Social Responsibility
 - Personal Responsibility
- WECM Course** -If needed, revise the Program SCANS Matrix and Competencies Checklist