Course Information

Course Title	AC/DC Motor Control
Course Prefix, Num. and Title	INTC 1457 - AC/DC Motor Control
Division	Technology and Business
Department	Electronics Engineering Technology
Course Type	WECM Course
Course Catalog Description	A study of electric motors and motor control devices common to a modern industrial environment. A presentation of motor characteristics with emphasis on starting, speed control, and stopping systems.
Pre-Requisites	CETT 1409, INTC 1350, ELMT 2437 (for NPT- Electrical Technician) or PTAC 2436 (for NPT- Instrumentation and Control Technician)
Co-Requisites	Credit for or concurrent enrollment in ELMT 2441 (for NPT- Electrical Technician) or ELMT 2452 (for NPT- Instrumentation and Control Technician)

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
Prepared by:		
Department Head:		
Division Chair:		
Dean/VPI:		
Approved by CIR:		

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
In-depth coverage of electric motors and motor control devices common to a modern industrial environment. A presentation of motor characteristics with emphasis on starting, speed control, and stopping systems is included.

Lab: 3hrs/wk
The course will feature an integrated lab depicting electric motors and motor control devices common to a modern industrial environment. Students gain hands-on experience of motor characteristics with emphasis on starting, speed control, and stopping systems.

Course Learning Outcomes:

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

1. Describe the types of electric motors.
2. Explain the operation and function of various motor control devices.
3. Describe the different types of motor drives.
4. Explain the different motor control, and motor control schemes 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.

Student workstations equipped with test and measurement equipment used in industry. 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.

1. Quizzes, homework assignments, and class participation 25%
2. Cross Disciplinary Skills (Lab, project, attendance, cooperation, work ethic, safety, teamwork, housekeeping, attitude, etc.) 25%
3. Mid-term Exam 25%
4. Final Examination 25%

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