Wharton County Junior College

Administrative Master Syllabus

Course Information

Course Title	Electronic Troubleshooting, Service and Repair
Course Prefix, Num. and Title	ELMT 2437 - Electronic Troubleshooting, Service and Repair
Division	Technology and Business
Department	Electronics Engineering Technology
Course Type	WECM Course
Course Catalog Description	In-depth coverage of electronic systems, maintenance, troubleshooting, and repair. Topics include symptom identification, proper repair procedures, repair checkout and preventative maintenance. Emphasis on safety and use of test equipment. This is a capstone course.
Pre-Requisites	PTAC 1432
Co-Requisites	Credit for or concurrent enrollment in CETT 1409 and INTC 1350

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:	David Kucera — Digitally signed by David Kucera DN: cn=David Kucera, o=Wharton County Junior College, ou=Division of Technology and Business, email=davidk@wcjc.edu, c=US Date: 2020.06.09 10:51:25 -05'00'	06/09/2020
Division Chair:	David Kucera — Digitally signed by David Kucera DN: cn=David Kucera, o=Wharton County Junior College, ou=Division of Technology and Business, email=davidk@wcjc.edu, c=US Date: 2020.06.09 10:51:36 -05'00'	06/09/2020
Dean/VPI:	Paul J. Quinn — Digitally signed by Paul J. Quinn Date: 2020.06.12 09:09:18 -05'00'	06/12/2020
Approved by CIR:	Paul J. Quinn — Digitally signed by Paul J. Quinn Date: 2020.06.12 09:09:38 -05'00'	06/12/2020

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 electronic systems, maintenance, troubleshooting, and repair. Topics include symptom identification, proper repair procedures, repair checkout, and preventative maintenance. Emphasis on safety and use of test equipment. This course is offered as a capstone course.

Lab - 3hrs/wk
The course will feature an integrated lab depicting electronic systems, maintenance, troubleshooting, and repair. Topics include symptom identification, proper repair procedures, repair checkout, and preventative maintenance. Emphasis on safety and use of test equipment.

Reviews & Exams are included with lecture hours.

Course Learning Outcomes:

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

1. Utilize test equipment for problem analysis
2. Find test point locations from schematics or prints
3. Isolate faults and repair
4. Perform routine maintenance
5. Establish baseline values and waveforms for troubleshooting and repair
6. Demonstrate component repair and replacement techniques
7. Analyze system/component failures and MTBF intervals to increase system up-time

Methods of Assessment:

Assessment of outcomes 1, 2, 3, 4, 5, 6 and 7 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.

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