Course Information

Course Title	Fiber Optic Communication System Installation and Repair
Course Prefix, Num. and Title	CSIR 2351 – Fiber Optic Communication System Installation and Repair
Division	Technology and Business Division
Department	Computer Science
Course Type	WECM Course
Course Catalog Description	Focus on installation, and repair of fiber optic communication systems including networks and peripherals. Topics include fiber optic technology, state-of-the-art networking systems, installation/repair of fiber optic systems, and testing equipment. Prepares students for the Electronics Technicians Association Fiber Optics Installer Certification exam.
Pre-Requisites	None
Co-Requisites	None

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours: Lab/Other Hours	3:2:2
Equated Pay Hours	3
Lab/Other Hours Breakdown: Lab Hours	2
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).

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

History of fiber optic cabling
Principles of fiber optic transmission
Basic principles of light
Optical fiber construction and theory
Optical fiber characteristics
Fiber optic cabling safety
Fiber optic cables
Splicing
Connectors
Fiber optic light sources
Fiber optic detectors and receivers
Cable installation and hardware
Fiber optic system design considerations
Test equipment and link cable testing

Course Learning Outcomes:

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

Install a state-of-the-art fiber optics system and diagnose and repair a networking system and a fiber optic system.

Methods of Assessment:

Individual/Group Assignments Individual/Group Projects Reading Assignments Presentations
Lab Works/Assignments Quizzes/Tests/Exams Terminology/Spelling Test, Quizzes
Mid Term, Exam Safety Examination
Artifact Reflection Journal, Final Exam

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

Like FIBER OPTICS INSTALLER CERTIFICATION. EXAM GUIDE | Edition: 1ST
Author: WOODWARD ISBN: 9781119011507
Publication Date: 11/24/2014 Publisher: WILEY

CERTIFICATION EXAMINATION VOUCHER Author: ELECTRONIC TEC ISBN: 2815000000442

- USB Flash Drive or Cloud Storage for student saved files
- High-speed Internet Connection

Suggested Course Maximum:

20

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

Students are required to do both fusion splicing and mechanical splicing, and are required to utilize fiber tools to connectorize cables. Optical Loss Test Sets are used to test student cables.

Class requires the following fiber optic hardware:

Fiber cable three eight-foot lengths per student, ST (qty. six per student), SC (qty. six per student), and anaerobic (qty. six per student) connectors for cable preparation loss on a fiber cable.

Optical Time Domain Reflectometer to test dB loss on a fiber span with both fusion (qty. two per student) and mechanical splices (qty. two per student in the span.

Fusion splicer for fusing fiber spans together.

Visual fault locator to determine visual breaks in the fiber cable span. Dual Core Intel Processor desktop computers to build a fiber network Fiber Switches and Fiber Network Interface Cards

Tables or workbenches to fabricate fiber cables

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

Cleanliness of work area, tools and equipment 05%

Homework and Quizzes 10%

Labs 40%

Tests and Final Exam 45%

100 -90 = A
89 - 80 = B
79 - 70 = C
69 - 60 = D
and below = F

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