

# Minnesota State College Southeast

## ELEC 1255: Fiber Optics

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 2

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

The student will gain a practical knowledge of fiber optic theory, codes, standards and installation practices. A large percentage of the class will be devoted to practicing industry standard terminations and preparing premise and outside plant cables in various enclosures. Skills in fusion splicing and splice tray preparation will be gained. A complete system will be built and tested with an OTDR and optical loss equipment. Certification for the Fiber Optics Installer by the ETA International can also be optionally taken at the completion of the courses. (Prerequisites: None) (3 credits: 2 lecture/1 lab)

**B. COURSE EFFECTIVE DATES:** 02/01/2013 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Learn about terminology, principals of light and equipment as it relates to fiber optic communication systems
2. Identify different types of fiber optic cable and connectors
3. Work with test equipment for fiber optic systems
4. Install fiber optic cable and connectors and test their operation
5. Identify with industry standards and installation practices for optical communication systems

### D. LEARNING OUTCOMES (General)

1. Practice safety when working with fiber optics systems
2. Test system to EIA/TIA 568 C standard using OLTS
3. Identify fiber optic color codes
4. Install and test fiber optic connectors
5. Interrupt OTDR trace
6. Make fusion splice

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted