REGULAR COURSE SYLLABUS

School of: Professional Studies
Department: Engineering Technology
Prefix & Course Number: EET 3690 Crosslisted With*: 
Course Title: Fiber Optics
Check All That Apply: Required for Major: _____ Required for Minor: _____ Specified Elective: X
Required for Concentration: _____ Elective: X Service Course: 
Credit Hours: 3 (2+2)

Total Contact Hours per semester (assuming 15-16 week semester):
Lecture 30 Lab 30 Internship _____ Practicum _____ Other (please specify type and hours): 
Schedule Type(s): B Grading Mode(s): L
Variable Topics Courses (list restrictions, including the maximum number of hours that can be earned**):

** NOTE: This information must be included in the course description.

Restrictions (Variable Topics Course): 
Prerequisite(s): EET 2145 and MTH 2410 with a grade of “C” or better
Corequisite(s): 
Prerequisite(s) or Corequisite(s): 

Banner Enforced:
Prerequisite(s): Prerequisite(s): EET 2145 and MTH 2410 with a grade of “C” or better
Corequisite(s): 
Prerequisite(s) or Corequisite(s): 

Catalog Course Description:
Fiber optics is studied, including ray propagation, emitters, detectors, connectorization and systems, FDDI and SONET.

APPROVED:

Department Chair OR Program Director

Dean OR Associate Dean

Associate VP, Academic Affairs

*If crosslisted, attach completed Course Crosslisting Agreement Form
Required Reading and Other Materials will be equivalent to:

Specific, Measurable Student Behavioral Learning Objectives:
Upon completion of this course the student should be able to:
1. Perform fiber optic parametric calculations.
2. Define the types of optical fibers, their characteristics, and applications.
3. Identify and compare optical transmission standards
4. Analyze and design fiber optic networks.
5. Compare and contrast optical light sources and receivers with respect to:
   a. Power Capacity
   b. Spectrum and Spectral Width
   c. Modulation types and speeds
   d. Applications

Detailed Outline of Course Content (Major Topics and Subtopics) or Outline of Field Experience/Internship
(experience, responsibilities and supervision):

I. Light Ray Propagation:
   A. Critical Angle
   B. Angle of Acceptance
   C. Types of Optical Fibers
   D. Manufacture of Optical Fibers
   E. Connectors, Splices and their losses

II. Emitters:
   A. Light Emitting Diodes (LED)
   B. Diode Laser

III. Detectors and Receivers:
   A. PIN (P-Intrinsic-N) Diodes
   B. Avalanche Detectors

IV. System Design

V. FDDI (Fiber Distributed Data Interface)

VI. SONET (Synchronous Optical Network)

Evaluation of Student Performance:
1. Written examinations
2. Homework
3. Research Project with oral presentation
4. Laboratory reports