

I. CATALOG DESCRIPTION:

- A. Department Information:
Division: Technical
Department: Transportation
Course ID: RAIL 051
Course Title: Railroad Technical Career
Units: 3
Lecture: 3 Hours
Prerequisite: None
- B. Catalog Description:
The primary objective of Railroad Careers is to examine the various technical positions and work groups responsible for the day-to-day operations of a railroad. Students will have an opportunity to learn about the typical organizational structure of a railroad, the inter and intra-departmental relationships, and the purposes, responsibilities, accountabilities, tasks, challenges, conditions, requisite skills, physical requirements, tools and challenges of several specific positions. The course of study will focus on railroad jobs involved with train operations, maintenance of equipment (locomotives and cars), track and structures, and installation of signaling and control systems.
- C. Schedule Description:
This course includes information about technical careers in railroading enabling students to choose suitable career paths. This course includes field trips, which will demonstrate the relationship among technical work groups in day-to-day railroad operations.

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: One

III. EXPECTED OUTCOMES FOR STUDENTS:

- Upon completion of this course, students will be able to:
- A. List the railroad industry's technical work groups.
 - B. Distinguish the basic job of railroad industry technical work groups.
 - C. Identify the following for each essential job in the three key work groups: Why the job exists; responsibilities, accountabilities, and tasks; knowledge, skills, and abilities; physical requirements; tools and equipment; and challenges.
 - D. Evaluate the working conditions for each group, including the environment, time shifts, travel and relocation requirements, and safety considerations.
 - E. Assess the working relationships and roles craft plays.
 - F. Define 5-10 craft-specific terms for each group.
 - G. Analyze possible career paths for each group and corresponding pay ranges.

IV. CONTENT:

- A. The Railroad Work Environment
 - 1. Introduction, course objectives and outline
 - 2. The learning model
 - 3. Railroad industry changes affecting jobs since 1950
 - 4. Railroads' visions, missions and objectives
 - 5. Customer identification and needs assessment
 - 6. Railroad organizational structure
 - 7. General railroad terminology
 - 8. Teamwork and brainstorming
 - 9. Job assessment strategies
 - 10. Expectations of employees and railroads
 - 11. Railway Labor Art

12. Discipline
13. Drug and alcohol free environment
- B. Railroading and the Employee
 1. A way of life
 2. Safety in the railroad workplace
 3. Communicating on the railroad
 4. Safety in the railroads' communities
- C. Transportation Careers
 1. Train service
 2. Engine service
 3. Dispatching
 4. Yard operations
- D. Mechanical Careers
 1. Freight cars maintenance
 2. Locomotive maintenance
- E. Engineering Services Careers
 1. Track installation and maintenance
 2. Signal installation and maintenance
 3. Structures construction and maintenance (bridges, tunnel, and buildings)
 4. Work equipment operations and repair
- F. Non-operating Departments and Special Programs
 1. Special services
 2. Marketing and customer service
 3. Supply
 4. Accounting
 5. Information technology and computer programming
 6. Equal employment opportunity and harassment
 7. Trauma and train crews
 8. Wellness
 9. Social services and special counseling-Operation Redblock

V. METHODS OF INSTRUCTION:

- A. Lecture
- B. Discussion
- C. Video
- D. Demonstration

VI. TYPICAL ASSIGNMENTS:

- A. A written report is an optional assignment. Its appropriateness is to be determined by the instructor. Student must provide a three-sentence, hand written description on the topic for approval by the instructor before the 4th class session. At least two different references will be cited in the report and appropriately documented, or two interviews of people who are working or have worked in a railroad position will suffice, three will be a plus! An example of a written report is: "Write a report analyzing the 'General Rules' and what the rules say about alcohol and drug use."
- B. An oral report will be presented to the class covering the same topic. The oral report can utilize between 10 to 15 minutes of class time. At least one handout will be provided as part of the oral presentation. Oral reports will be delivered during the 12th, 13th or 14th class sessions, etc.
- C. Each student will be given 12 job assessments. Assessments will be developed in class.
- D. Each student will keep a Video Learning Journal to record and process information gathered from in-class videos. A learning journal will be prepared by each student for a certain number of videos of their choice. This learning journal will be legibly hand written and have three sections: 1.) The key points. 2.) Writer's personal reactions (attitude) to the key points. (These should include personal opinion, judgments, thoughts and

feelings.) 3.) A description of what the writer learned. (That is, brand new information received.)

VII. EVALUATION(S):

A. Methods of Evaluation:

1. Tests or Quizzes
2. Written Report and Homework Assignments
3. Oral Report
4. Comprehensive Examination
5. Video Learning Journal

B. Frequency of Evaluation:

1. Tests and/or Quizzes bi-weekly
2. Weekly Written Report and Homework Assignments
3. Two Oral Reports
4. Video Learning Journal weekly
5. Comprehensive Examination midterm-final

C. Typical Questions:

1. Compare and contrast the various technical positions in the rail industry.
 1. Differentiate the departments in the industry and give a description of the function of each?
 2. Assess one of the non-operating technical positions available in the rail industry. Use the Job Assessment criteria as your guide.

VIII. TYPICAL TEXT(S):

Armstrong, J. H., The Railroad – What It Is, What It Does, Fourth Edition, Omaha: Simmons-Boardman Publishing Co., 1998

IX. OTHER SUPPLIES REQUIRED OF STUDENTS: None