Las Positas College
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Course Outline for RADS 40C

SAFETY CONTROLS & REGULATION

Effective: Fall

I. CATALOG DESCRIPTION:
RADS 40C — SAFETY CONTROLS & REGULATION — 1.00 units

A modularized course designed to provide basic radiation safety instruction. Includes identification of the sources of radiation and radioactive materials, the nature of ionization radiation, biological effects, risk assessment, protection strategies, environmental impacts, and waste handling.

1.00 Units Lecture

Prerequisite
RADS 40B - Emergency Response and Monitoring
with a minimum grade of C

Grading Methods:

Discipline:

	MIN
Lecture Hours:	18.00
Total Hours:	18.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

Before entering the course a student should be able to:

A. RADS40B

IV. MEASURABLE OBJECTIVES:

Upon completion of this course, the student should be able to:

A. make appropriate decisions on the control of radiation by:
   1. knowing how to stay current on and with appropriate regulations;
   2. applying basic radiological safety and engineering measures;
   3. determining appropriate waste disposal process;
   4. determining when and how to apply emergency response;

B. learn how to stay current with changes in the field.

V. CONTENT:

A. Physical control
   1. external hazards (time, distance, shielding)
   2. internal hazards (contamination control)
   3. source reduction
   4. engineered (interlocks, ventilation, shields)

B. Administrative controls
   1. training
   2. procedures
   3. posting
   4. personal protective equipment
   5. other controls

C. Regulatory control
   1. environmental
   2. workplace
   3. human use
   4. licensing
   5. disposal
   6. transport

D. Waste management
   1. types of waste
   2. disposal methods
   3. disposal facilities

VI. METHODS OF INSTRUCTION:
- A. **Lecture** -
- B. Students, working in groups, solve problems by collecting and interpreting data
- C. Practical exercises, e.g., using equipment and personal protection equipment
- D. **Demonstration** - (classroom)
- E. **Guest Lecturers** - Guest presenters from industry and/or field trips
- F. Role playing
- G. peer interaction
- H. group reports
- I. **Audio-visual Activity** - Video and overhead presentation
- J. **Discussion** - (group)

VII. TYPICAL ASSIGNMENTS:
A. Reading: Read Gollnick Chapter 13 (pages 522-574). B. Problem solving, writing and critical thinking: 1. Identify the different types of Department of Transportation (DOT) Labels and how they are used for radioactive material.

VIII. EVALUATION:
- A. **Methods**
  1. Exams/Tests
  2. Class Participation
  3. Class Work
- B. **Frequency**

IX. TYPICAL TEXTS:
1. Gollnick, Daniel *Basic Radiation Protection Technology.* Latest ed., Pacific Radiation Press, 0.
2. - *Nuclides and Isotopes: Chart of Nuclides.*, GE Nuclear Energy, 0.

X. OTHER MATERIALS REQUIRED OF STUDENTS: