

UNIVERSITY OF NORTHERN COLORADO
SCED 530: Laboratory, Field, and Studio Safety
Spring 2010 (1 graduate credit hour)

Instructor: Ann Ratcliffe

Time: Online, 2/1/10 – 3/5/10

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Course Description

Laboratory, Field, and Studio Safety is designed to prepare preservice and inservice K-12 teachers to create a **culture of safety** in their respective science disciplines or in visual arts. Upon completion of the course, students will be able to

- instill the **safety culture** concept into their classrooms/labs/studios
- examine risk and liability in the context of classroom/laboratory/studio responsibility
- critique their own concepts of safety preparedness in their classrooms/labs/studios
- address issues related to OSHA's Laboratory Standard, Hazard Communication Standard, and Bloodborne Pathogen Standard, as each regulation relates to their field of study
- apply Colorado Department of Public Health and Environment's "Rules and Regulations Governing Schools in Colorado" to science laboratories/art studios, using both the Rules and Regs and CDPHE's Inspector's Fieldbook
- use safety equipment properly
- read and understand Material Safety Data Sheets (MSDS) and inventory chemicals, concentrating on reducing inventory
- prepare a **Laboratory/Studio Safety Manual** for their classrooms/laboratories/studios that includes the following parts: Emergency Response, Safety Forms, Poison First Aid Procedures, Chemical Inventory, MSDSs, Chemical Storage Plans, Chemical Hygiene Plan and Standard Operating Procedures, Annual Safety Training Plan for science/art/tech ed colleagues, Safety Equipment (in place and still needed), Safety Topics (discipline specific), Chapter 8 and lists of Prohibited and Restricted Chemicals from "Rules and Regulations Governing Schools in Colorado," other resources.

The use of Discussion Forums in UNC's Blackboard Learning System provides opportunity for students with common interests to dialog with each other, the instructor, and invited experts. Depending upon class make-up, discussions may include very specific problems in science disciplines (organic chemistry, microbiology, for example), and art media (painting, photography, etching, ceramics, welding, etc.).

Grading

Letter graded (A = 90 – 100; B = 80 – 89; C = 70 – 79; D = 60 – 69; F = <60)

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| 1. Written assignments | 10% |
| 2. Participation in online discussion | 35% |
| 3. Safety Manual (See above) (Due electronically by March 5, 2010) | 45% |
| 4. Final Exam | 10% |

Textbook

There is no textbook required. All required resources will be provided for downloading. Some additional references are:

Fleming, Diane O. and Debra Long Hunt. *Biological Safety: Principles and Practices*, 3rd ed, American Society of Microbiology, 2000.

Fischer, Louis, David Schimmel, and Leslie Stellman, *Teachers and the Law*, 6th ed., Allyn and Bacon, 2003.

Flinn Biological and Chemical Catalog Reference Manual, 2003. Flinn Scientific, Inc. (www.flinisci.com)

Kwan, Terry and Juliana Texley. *Exploring Safely: A Guide for Elementary Teachers*, NSTA Press, 2002.

Kwan, Terry and Juliana Texley. *Inquiring Safely: A Guide for Middle School Teachers*, NSTA Press, 2003.

McCann, Michael. *Artist Beware: The Hazards in Working with All Art and Craft Materials and the Precautions Every Artist and Craftsperson Should Take*, 2nd Ed. The Lyons Press, 2005.

Prudent Practices in the Laboratory: Handling and Disposal of Chemicals. National Academy Press, 1995.

Rossol, Monona. *The Artist's Complete Health and Safety Guide*, 3rd Ed. Allworth Press, 2001. *Safety in Academic Chemistry Laboratories*, 7th ed, vols 1&2, American Chemical Society, 2003. (AP and college level: One copy of each volume is free at 800.227.5558.)

Texley, Juliana, Terry Kwan, and John Summers, *Investigating Safely: A Guide for High School Teachers*, NSTA Press, 2004.

Disability Support Services

Any student requesting disability accommodation for this class must inform the instructor giving appropriate notice. Students are encouraged to contact Disability Support Services at (970) 351-2289 to certify documentation of disability and to ensure appropriate accommodations are implemented in a timely manner.

Honor Code

All members of the University of Northern Colorado community are entrusted with the responsibility to uphold and promote five fundamental values: *Honesty, Trust, Respect, Fairness, and Responsibility*. These core elements foster an atmosphere, inside and outside of the classroom, which serves as a foundation and guides the UNC community's academic, professional, and personal growth. Endorsement of these core elements by students, faculty, staff, administration, and trustees strengthens the integrity and value of our academic climate.

UNC's Policies

UNC's policies and recommendations for academic misconduct will be followed.

Notice

The Office of Extended Studies reserves the right to cancel or reschedule courses based upon enrollment. Enrolled students will be contacted with information of any change.