



**Mel and Enid Zuckerman College of Public Health  
University of Arizona**

**SYLLABUS  
Physical Exposures CPH 510  
SPRING 2013**

**Time:** Tuesday 3 to 6 pm; please consult D2L notes week to week to confirm schedule

**Location:** Room A119 Drachman **Instructor:** Dr. Terry Stobbe, CSP, CIH, CPE

**email:** [tjs9@email.arizona.edu](mailto:tjs9@email.arizona.edu) **phone:** 520-626-4912

**Office Hours:** Immediately before and after class; otherwise by appointment

**Course Description:** There are a variety of “physical exposures” that create health, safety, and production/quality issues in the workplace. This course will cover Ergonomics/Human Factors, anthropometry, noise, light, thermal stress, ionizing, and non-ionizing radiation – how these exposures can lead to workplace issues, and some approaches to hazard controls..

**Course Prerequisites:** An open mind, and an ability to think logically

**Course Learning Objectives:** Students will learn the concepts underlying ergonomics (work physiology, cumulative trauma disorders, low back injuries, and the various lifting guides) , noise (measurement for legal purposes, for control purposes, hearing loss, hearing protection, noise control methods), human factors engineering, lighting, thermal stress (cold and heat), and non-ionizing/ionizing radiation. In addition the hands on use of some of the equipment typically used to quantify and evaluate these hazards will be done. The importance of perception in job design and work method choice will be explored. This will include learning the classic OHS approach of anticipation, recognition, evaluation and control of these workplace hazards. Students will learn about how to address the ethical issues involved in the balancing of exposure to these hazards with cost of prevention in the workplace.

**Course Competencies Covered**

Competencies

A. ANALYTICAL SKILLS:

A. 1. Defines a problem

A. 2. Determines appropriate uses and limitations of data

A. 4. Evaluates the integrity and comparability of data and identifies gaps in data sources

A.5.\* Understands the qualitative and quantitative aspects of the creation of workplace OHS hazards.

A.5.\*\* Understands the physiological, psychological, contributions to workplace stressors on the human body.

A.5.\*\*\* Can identify basic engineering and administrative controls appropriate to the reduction/elimination of workplace hazards and stressors.

A. 7. Makes relevant inferences from data

**B. COMMUNICATION SKILLS:**

B. 1. Communicates effectively both in writing and orally (unless a handicap precludes one of those forms of communication)

B. 3. Soliciting input from individuals and organizations

B. 7. Demonstrating cultural competency in all of the above.

**C. POLICY DEVELOPMENT/PROGRAM PLANNING SKILLS:**

C. 6. Identifying public health laws, regulations, and policies related to specific programs

**D. CULTURAL SKILLS:**

D. 2. Interacting competently, respectfully, and professionally with persons from diverse backgrounds

D. 3. Identifying and examining the role of cultural, social, ethnic, religious, spiritual, and behavioral factors in determining injury prevention

D. 4. Developing and adapting approaches to occupational health and safety problems that take into account cultural differences

D. 5. Determining health related consequences of social structure

**E. BASIC PUBLIC HEALTH SCIENCE SKILLS:**

E. 3. Applying the behavioral and social sciences, biostatistics, epidemiology, and industrial & environmental health to the prevention of chronic diseases and injuries

E. 4. Understanding of the historical development and structure of state, local, and federal regulatory agencies concerned with occupational health and safety

**F. FINANCIAL PLANNING AND MANAGEMENT SKILLS:**

F. 1. Developing and presenting a budget

F. 3. Developing strategies for determining priorities

F. 4. Monitoring program

**Course Notes:** Some notes will be handed out in class and some will be available thru D2L

**Texts/Readings:** The text is “Work Design”, by Konz, 7<sup>th</sup> edition; Wiley -- other readings will be available via the library and/or D2L

**Course Requirements:** Complete all the assignments in a timely manner; **participate** both in class discussions and in the on-line discussion for that part of the course. Specific directions for participation in various parts of the on-line class will be given (on D2L) – please read them. Assignments should be turned in via the dropbox on D2L.

**Grading/Student Evaluation:** Course assignment values:

Ergonomics/Hum factors	24%
Noise	20%
Lighting	10%
Non-ionizing radiation	20%
Ionizing radiation	10%

Thermal stress	11%
Class Participation	5%

**Testing:** testing is based on the topics, so after each topic there will be a test. Most of the testing will be individual oral exam. The grade for each of these topics will be based on the topic test, and performance on the projects/papers/presentations/homework associated with each topic.

**Class Attendance/Participation:** Class attendance not required – BUT, much of the class lecture material will not be in the book – if you don't come to class and miss something, it is YOUR RESPONSIBILITY to find out what you missed.

All holidays or special events **observed** by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students (or Dean's designee will be honored.)

**Tentative Course Schedule:**

Week #	Topic area	Text Readings	assignments
Week 1	Intro to HF/Ergo	C8-14	see D2L for assignment
Week 2	Work Physiology	C8-14	see D2L
Week 3	Work Phys/Biomechanics	C8-14	see D2L
Week 4	Biomechanics	C8-14	see D2L
Week 5	Workplace Design	C8-14	see D2L
Week 6	CTDs	C8-14	see D2L
Week 7	Workplace design	C8-14	see D2L
Week 8	Human Factors/Shiftwork	C15-16, 19	see D2L
Week 9	Spring Break	up to you	see D2L
Week 10	Noise	C21	see D2L
Week 11	Noise & Control	C21	see D2L
Week 12	Noise/Vibration	C21	see D2L
Week 13	Radiation	IH book	see D2L
Week 14	Lighting	C20	see D2L
Week 15	Plant trip		see D2L
Week 16	Thermal Stress	C22	see D2L

Other thoughts----The IH book also has relevant information on some subjects--from a different point of view----The plant trip is likely to be on a different day---there will be advance notice---note the word tentative at the top of schedule----we'll go by feel, subj by subject--other subjects of class interest can be covered as well

**Required Statements:**

**Communications:** You are responsible for reading emails sent to your UA account and on D2L and the announcements that are placed on the course web site. Information about readings, news events, your grades, assignments and other course related topics will be communicated to you with these electronic methods. The official policy can be found at: <http://www.registrar.arizona.edu/emailpolicy.htm>

**Disability Accommodation:** If you anticipate issues related to the format or requirements of this course, please meet with me. I would like us to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with Disability Resources (621-3268; [drc.arizona.edu](http://drc.arizona.edu)) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations. The official policy can be found at: <http://catalog.arizona.edu/2008%2D09/policies/disability.htm>

**Academic Integrity:** All UA students are responsible for upholding the University of Arizona Code of Academic Integrity, available through the office of the Dean of Students and online: The official policy found at: <http://dos.web.arizona.edu/uapolicies/scc5308abcd.html> and <http://dos.web.arizona.edu/uapolicies/cai1.html>.

**Classroom Behavior:** (Statement of expected behavior and respectful exchange of ideas) Students are expected to be familiar with the UA Policy on Disruptive Behavior in an Instructional Setting found at <http://web.arizona.edu/~policy/disruptive.pdf> and the Policy on Threatening Behavior by Students found at <http://web.arizona.edu/~policy/threatening.pdf>

**Grievance Policy:** Should a student feel he or she has been treated unfairly, there are a number of resources available. With few exceptions, students should first attempt to resolve difficulties informally by bringing those concerns directly to the person responsible for the action, or with the student's graduate advisor, Assistant Dean for Student and Alumni Affairs, department head, or the immediate supervisor of the person responsible for the action. If the problem cannot be resolved informally, the student may file a formal grievance using the [Graduate College Grievance Policy](http://grad.arizona.edu/catalog/policies/academic-policies/grievance-policy) found at <http://grad.arizona.edu/catalog/policies/academic-policies/grievance-policy>

**Grade Appeal Policy:** <http://catalog.arizona.edu/2008%2D09/policies/gradappeal.htm>. If you feel you have been unfairly graded, make an apt and we will look into your situation.

**Syllabus Changes:** Please note: the syllabus is tentative – the information contained in the course syllabus is subject to change with reasonable advance notice, as deemed appropriate.

**Plagiarism:** is not allowed - do your own work – you are here to learn not to learn to copy – you probably already learned that somewhere else

Examples of plagiarism?

- Copying and pasting information from a web site or another source, and then revising it so that it sounds like your original idea.
- Quoting a passage without quotation marks or citations, so that it looks like your own.
- Paraphrasing a passage without citing it, so that it looks like your own.
- Hiring another person to do your work for you, or purchasing a paper through any of the on-line or off-line sources.