

ENV H 566 A Wi 18: Introduction To Ergonomics

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Course Description: ENV H 566 / IND E 566 / NSG 508 (Three Quarter Credits). Basic principles of ergonomics in the work environment applied the worker. Topics include musculoskeletal disorders, assessing physical exposure in the workplace, workplace and work tool design, evaluating lifting and material handling activities, applied biomechanics, and implementing ergonomic programs.

Prerequisites: Basic human anatomy and physiology or permission of instructor

Location and Time: Thursdays 9:30 – 12:20 SIG 230

Instructors: Peter Johnson, PhD; Professor, Department of Environmental and Occupational Health Sciences, phone: 221-5240; e-mail: petej@uw.edu

Office Hours: Drop in or by appointment, 4225 Roosevelt Way NE, Room 120

Textbooks: Occupational Ergonomics – Principal and Applications F. Tayyari and J.L. Smith Manufacturing Systems Engineering Series, Vol. 3, 1997, 464 p., Hardcover, ISBN: 0-412-58650-9

Supplemental reading materials to be distributed electronically on class website

Class Website: <https://canvas.uw.edu/courses/112564>

Learning Objectives: At the end of this course, the student will be able to:

1. Identify and be familiar with the physical, individual and organizational factors which can contribute to musculoskeletal disorders.
2. Identify and be familiar with common musculoskeletal disorders which can result from occupational activities.
3. Identify and be familiar with the structure and anatomy of the upper extremities and low back
4. Use various assessment tools to identify and evaluate various upper extremity hazards in the workplace.
5. Use various assessment tools to identify and evaluate lifting and manual material handling activities:
6. Identify ergonomic hazards and implement solutions in office and manufacturing environments.
7. Use various economic techniques to identify, propose and justify implementing ergonomic solutions in the workplace.
8. Be able to set-up, establish and maintain a workplace ergonomics program

Grading: 10% Class participation, 15% Homework, 20% Midterm Exam, 25% Research Assignment, 30% Final Exam

Final: Wednesday, March 15, 2017, 10:30-12:20, [HST](#) [_\(http://www.washington.edu/students/maps/map.cgi?HST\)_T663](http://www.washington.edu/students/maps/map.cgi?HST_T663)

Changes: The instructor reserves the right to make changes to the syllabus during the course. Any

necessary changes will be announced in class and posted on the class website.



Access and Accommodations: Your experience in this class is important to us, and it is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law. If you experience barriers based on a disability or temporary health condition, please seek a meeting with DRS to discuss and address them. If you have already established accommodations with DRS, please communicate your approved accommodations to your instructor at your earliest convenience so we can discuss your needs in this course.

Disability Resources for Students (DRS) offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (this can include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or [uwdrs@uw.edu \(mailto:uwdrs@uw.edu\)](mailto:uwdrs@uw.edu) or [disability.uw.edu \(http://depts.washington.edu/uwdrs/\)](http://depts.washington.edu/uwdrs/)

Academic Integrity Statement - Students at the University of Washington (UW) are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity.


The UW School of Public Health (SPH) is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, and other misconduct are serious violations of the University of Washington Student Conduct Code (WAC 478-120). We expect you to know and follow the university's policies on cheating and plagiarism, and the [SPH Academic Integrity Policy \(http://sph.washington.edu/students/academicintegrity/\)](http://sph.washington.edu/students/academicintegrity/). Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the University of Washington Community Standards and Student Conduct website

Course Summary:


Date	Details	
Thu Jan 4, 2018	 No Class - Cascadia Public Health Meeting (https://canvas.uw.edu/calendar?event_id=1079698&include_contexts=course_1126564)	9:30am to 12:20pm
	 Intro and Anthro (https://canvas.uw.edu/calendar?)	9:30am

[event_id=1079688&include_contexts=course_1126564](#))

Thu Jan 11, 2018

 [Assignment #1 - Anthopometry: Good and Bad Design](#)
([https://canvas.uw.edu/calendar?
event_id=1079694&include_contexts=course_1126564](https://canvas.uw.edu/calendar?event_id=1079694&include_contexts=course_1126564))

12:20pm to 12:30pm

 [Assignment #2 - Safety Shower](#)
([https://canvas.uw.edu/calendar?
event_id=1079693&include_contexts=course_1126564](https://canvas.uw.edu/calendar?event_id=1079693&include_contexts=course_1126564))

12:30pm

 [Low Back - Part I](#) ([https://canvas.uw.edu/calendar?
event_id=1079682&include_contexts=course_1126564](https://canvas.uw.edu/calendar?event_id=1079682&include_contexts=course_1126564))

9:30am to 12:20pm


 [Assignment #3 - Job Application](#)
([https://canvas.uw.edu/calendar?
event_id=1079692&include_contexts=course_1126564](https://canvas.uw.edu/calendar?event_id=1079692&include_contexts=course_1126564))

12:20pm to 12:30pm

Thu Jan 18, 2018

 [Assignment #4 - Statics](#) ([https://canvas.uw.edu/calendar?
event_id=1079691&include_contexts=course_1126564](https://canvas.uw.edu/calendar?event_id=1079691&include_contexts=course_1126564))

12:20pm

 [Assignment #1 - Ergonomics and Anthropometry in Design](#)
(<https://canvas.uw.edu/courses/1126564/assignments/3957176>)

due by 12:40pm

 [Assignment #2 - Anthropometry, Safety Shower](#)
(<https://canvas.uw.edu/courses/1126564/assignments/3957177>)

due by 12:40pm


 [Low Back Part II](#) ([https://canvas.uw.edu/calendar?
event_id=1079683&include_contexts=course_1126564](https://canvas.uw.edu/calendar?event_id=1079683&include_contexts=course_1126564))

9:30am to 12:20pm

Thu Jan 25, 2018

 [Assignment #3 - Job Application](#)
(<https://canvas.uw.edu/courses/1126564/assignments/3957178>)

due by 12:40pm


 [Assignment #5 - Lifting Problem](#)
([https://canvas.uw.edu/calendar?
event_id=1079697&include_contexts=course_1126564](https://canvas.uw.edu/calendar?event_id=1079697&include_contexts=course_1126564))

12:50pm to 1pm

Thu Feb 1, 2018

 [Upper Extremities](#) ([https://canvas.uw.edu/calendar?
event_id=1079689&include_contexts=course_1126564](https://canvas.uw.edu/calendar?event_id=1079689&include_contexts=course_1126564))

9:30am to 12:20pm

 [Assignment #4 - Static Analyses](#)
(<https://canvas.uw.edu/courses/1126564/assignments/3957179>)

due by 12:40pm

 [Assignment #5 - Lifting Analysis](#)
(<https://canvas.uw.edu/courses/1126564/assignments/3957180>)

due by 12:40pm

 [Midterm and Hand Arm Vibration](#)
([https://canvas.uw.edu/calendar?
event_id=1079687&include_contexts=course_1126564](https://canvas.uw.edu/calendar?event_id=1079687&include_contexts=course_1126564))

9:30am to 12:20pm


 [Midterm](#)
(<https://canvas.uw.edu/courses/1126564/assignments/3957185>)

due by 9:30am

Thu Feb 8, 2018

 [Assignment #6 - Ergonomic Websites](https://canvas.uw.edu/calendar?event_id=1079695&include_contexts=course_1126564) 12:20pm
(https://canvas.uw.edu/calendar?event_id=1079695&include_contexts=course_1126564)

 [Midterm Extra Credit](https://canvas.uw.edu/courses/1126564/assignments/3957186) due by 12:30pm
(<https://canvas.uw.edu/courses/1126564/assignments/3957186>)


 [Upper Extremity Assessment Tools](https://canvas.uw.edu/calendar?event_id=1079686&include_contexts=course_1126564) 9:30am to 12:20pm
(https://canvas.uw.edu/calendar?event_id=1079686&include_contexts=course_1126564)

Thu Feb 15, 2018

 [Assignment #7 - Upper Extremity Analysis](https://canvas.uw.edu/calendar?event_id=1079690&include_contexts=course_1126564) 12:30pm
(https://canvas.uw.edu/calendar?event_id=1079690&include_contexts=course_1126564)

 [Assignment #6 - Ergonomic Websites](https://canvas.uw.edu/courses/1126564/assignments/3957181) due by 12:40pm
(<https://canvas.uw.edu/courses/1126564/assignments/3957181>)

Thu Feb 22, 2018

 [Hand Tool Design and Cost Justification - No Class Flipping the Classroom](https://canvas.uw.edu/calendar?event_id=1079685&include_contexts=course_1126564) 12am
(https://canvas.uw.edu/calendar?event_id=1079685&include_contexts=course_1126564)

 [Assignment #7 - Upper Extremity Analysis](https://canvas.uw.edu/courses/1126564/assignments/3957182) due by 12:40pm
(<https://canvas.uw.edu/courses/1126564/assignments/3957182>)

Thu Mar 1, 2018

 [Targeted Research Presentations](https://canvas.uw.edu/calendar?event_id=1079684&include_contexts=course_1126564) 9:30am to 12:20pm
(https://canvas.uw.edu/calendar?event_id=1079684&include_contexts=course_1126564)

Thu Mar 8, 2018

 [Targeted Research Presentations](https://canvas.uw.edu/calendar?event_id=1079696&include_contexts=course_1126564) 9:30am to 12:20pm
(https://canvas.uw.edu/calendar?event_id=1079696&include_contexts=course_1126564)

Tue Mar 20, 2018

 [Final Grade](https://canvas.uw.edu/courses/1126564/assignments/3957184) due by 11:59pm
(<https://canvas.uw.edu/courses/1126564/assignments/3957184>)

 [Final](https://canvas.uw.edu/courses/1126564/assignments/3957183) (<https://canvas.uw.edu/courses/1126564/assignments/3957183>)

 [Targeted Research Paper](https://canvas.uw.edu/courses/1126564/assignments/3957187)
(<https://canvas.uw.edu/courses/1126564/assignments/3957187>)

 [Targeted Research Presentation](https://canvas.uw.edu/courses/1126564/assignments/3957188)
(<https://canvas.uw.edu/courses/1126564/assignments/3957188>)
