



Department of

Industrial Engineering

Mercer University

Syllabus for ISE 311.001
Ergonomics & Work Measurement
Spring Semester 2012
MWF
1:00 – 1:50 p.m.
Room SEB 201

Instructor: Dr. Laura Moody, Associate Professor
Department of Mechanical and Industrial Engineering

Office: 201G, School of Engineering

Phone: 301-2349 (w)
333-6011 (h)

Email: moody_le@mercer.edu

Textbooks and Supplies:

Required: Konz, Stephan and Johnson, Steven; (2008), *Work Design: Occupational Ergonomics (7th Edition)*, Holcomb Hathaway (ISBN 1-890871-79-6)

Web Site: http://faculty.mercer.edu/moody_le/ise311home.html

Class Listserv: ise31100112 SPMCN00@lists.mercer.edu

Catalog Description:

Design and evaluation of tools, work spaces, work methods, and work environments, with an emphasis on industrial environments. Task analysis, time/motion studies, and work sampling. Physiological and biomechanical considerations. Safety engineering.

Course Objectives:

Upon successful completion of this course, you should be able to do the following:

1. Analyze an operation using a variety of techniques.
2. Evaluate work places and work methods from physiological, biomechanical, and anthropometric perspectives.
3. Design work places and work methods for increased effectiveness, efficiency, and safety.
4. Develop and conduct studies to determine the time it takes to perform a task and to develop appropriate labor standards.
5. Understand the basics of predetermined time systems.

Prerequisites: C or better in EGR 252

Grading: See attached.

Course Standards:

1. This semester we will be using a *studio-based* approach to the study of ergonomics and work measurement. This means that instead of listening to me deliver a lecture, you will be engaging in a number of activities (laboratory experiments, online research, problem solving, etc.) designed to introduce you to the material and to help you learn to apply it to engineering design. My role in the class will be that of director, mentor, and guide – I will help you to stay on track and will provide feedback on your efforts, but my intention is to keep lectures to a minimum and to maximize opportunities for you to help each other understand the concepts and techniques of ergonomics and work design.

You will work in groups for the bulk of the semester and to encourage individual responsibility in group efforts the team's assessment of each member's contribution will factor into the each student's grade (more on this later.)

2. **Individual homework assignments are due at the beginning of the class period on the date due.** These assignments are designed to prepare you to begin work with your group, so you should come to class with your assignment completed *in writing* for your group. In some cases I will ask you to post your homework to the website – in those cases you should complete your assignment and post it *before* coming to class.

Group assignment “final submissions” (the submission that will be evaluated) will be posted by the group to Dropbox 5:00 p.m. on the date due. You are also encouraged to post intermediate work to the website for review and feedback by the class and instructor. This feedback may be very useful to you as you complete the assignment. In addition, 1 or 2 groups will be selected at random to present their work in class on the due date – for those groups the evaluation of the assignment will include the class presentation.

3. There will be one midterm exam and a final exam. The midterm exam will be closed book, closed notes. In addition, a series of Concept Inventory (CI) quizzes will be offered throughout the semester. The final exam will be a comprehensive CI.
4. There will be two team projects assigned during the course, one of which will be an ergonomic design project and the other of which will ask you to apply one or more of the techniques of work measurement. Your grade on the project will be based on both the final product (the team grade) and your individual contribution to the project.
5. All students are expected to attend all class meetings. Although failure to attend class in itself will not adversely affect your final grade, you will find it difficult to contribute to your group's work if you are not present. Occasionally, the Friday class will be designated a “lab” or “group work” day.
6. **Grading** encompasses every aspect of the course, from participation through final products. You can assume that every task requested directly or indirectly factors into your grade. For example, having your work prepared for your group is as important as having it ready for me. See the attached grading scheme for details on how your grade will be determined this semester.
7. Please **turn off** cell phones before entering the classroom. No food is allowed in class.

8. The **honor code** provisions as outlined in the *Bulletin* and in the student handbook, *The Lair*, will be assumed for everyone. When in doubt, please ask to avoid potentially embarrassing situations. Plagiarism is a violation of the honor code and is prohibited.
9. Students requiring accommodations for a disability should inform the instructor at the close of the first class meeting or as soon as possible. The instructor will refer you to the Disability Support Services Coordinator to document your disability, determine eligibility for accommodations under the ADAAA/Section 504 and to request a Faculty Accommodation Form. Disability accommodations or status will not be indicated on academic transcripts. In order to receive accommodations in a class, students with sensory, learning, psychological, physical or medical disabilities must provide their instructor with a Faculty Accommodation Form to sign. Students must return the signed form to the Disability Services Coordinator. A new form must be requested each semester. Students with a history of a disability, perceived as having a disability or with a current disability who do not wish to use academic accommodations are also strongly encouraged to register with the Disability Services Coordinator and request a Faculty Accommodation Form each semester. For further information, please contact Carole Burrowbridge, Disability Services Coordinator, at 301-2778 or visit the Disability Support Services website at <http://www.mercer.edu/studentaffairs/disabilityservices>.
10. This syllabus is subject to change. Changes will be announced in class and will appear on the class web site.

Electronic Communication:

Electronic communication is an important adjunct to face-to-face communication, including from professor to students, students to professor, and students to students. The majority of electronic communication in this class will be through Mercer email and Dropbox. You must have regular access to your **MERCER e-mail**. The class listserv notification emails are set up automatically to send email to your Mercer address. Dropbox is an online file system that allows us to share files as a group or individually. Each member of the class should send me an email address through which I can “invite” you to use the student Dropbox folder (note: if you already have a Dropbox account, send me the email address associated with that account; otherwise, you will need to create a new account). We will use this folder to share working files as a class. In addition, I will create an individual Dropbox folder for each student – you will use this folder to submit assignments and I will use it to provide feedback.

File-naming conventions will be prescribed in order to avoid needless confusion about electronically submitted documents. Please be sure to include “ISE 311” in the title of the email, followed by a specific descriptive subject (e.g., “ISE 311 project question”). While most assignments will be submitted via Dropbox, you may occasionally wish to email me a document directly. Attached documents should be in the form “ISE 311 *title.xxx*” with *title* being a descriptive title for the document (e.g., “homework 1”, “time study lab”). Be sure that your name and date are included in the body of the emailed document. You are responsible for using the correct mailing address either to me individually, or to the class listserv.