

IE 3123: Industrial Ergonomics Fall 2013

Catalog Description: Industrial Ergonomics. Three hours lecture. Analysis of work tasks; ergonomic design principles for manual work design, workplace design, and work environment design; work measurements; and design of wage payment plans.

Co-requisites: IE 4613 (Engineering Statistics I)
IE 3121 (Industrial Ergo Lab; applies to undergraduate students only)

Class Meetings: MWF 9:00am – 9:50am McCain 120

Professor: Lesley Strawderman, Ph.D., P.E.
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Office hours: Tuesdays 1:00-2:00pm
Fridays 10:00-11:00am
Other times and methods by appointment

Student Learning Outcomes:

By the end of this course, students will be able to

- Utilize problem solving tools in order to properly select areas for improvement, collect and analyze data related to those areas, and develop solution strategies in work environments.
- Analyze, design/re-design ergonomically correct workplaces using ergonomic principles of motion economy, anthropometry, manual material handling, and workstation design.
- Understand the principles of performance rating and allowances and apply them to time study in order to develop standard times.
- Apply work sampling to determine utilization, allowances, and standard times.
- Understand the impact of work task design on work and operator performance.
- Understand human capacities and limitations and apply that information to the design, development, and evaluation of systems.

Course Materials:

- Konz, S. and Johnson, S., *Work Design: Occupational Ergonomics, 7th Edition*, Holcomb Publishers, 2008 (ISBN: 9781890871796).
- Additional materials will be distributed through myCourses as needed.

myCourses Website: We will be using myCourses to distribute course information. Assignments, grades, course documents, and announcements will be posted to this website. You can access this website at <https://mycourses.msstate.edu/>.

Course Exams: Three midterm examinations will be given. All exams are closed book and closed notes, unless otherwise stated. No make-up exams will be given without a university documented excuse.

In Class Assignments: In class assignments will be given throughout the semester. They may include (but aren't limited to) group quizzes, worksheets, reflection questions, and activity responses. All in class assignments will be graded as 1 (Complete), 0.5 (Incomplete), or 0 (Did not attempt). Attendance in lecture is required to complete the in class assignment. No make-up assignments will be given without a university documented excuse.

Service Learning Project: The service learning project will take place throughout the entire course. The team-based project will be completed with a local partner. Teams are required to work with the partner on a defined operations analysis and ergonomics improvement project. As part of the project, teams will be required to communicate with the partner throughout the semester, visit the partner at least twice, and submit two project plans, a technical project report, a dissemination product with executive summary, and a final presentation. Each student will also complete a reflective journal each week. The final presentation will be given during the class final examination period. Additional details including deliverable requirements, partner information, and due dates will be provided.

Course Communication: Course announcements and communication will be sent via MSU email listserv. Students are responsible for checking their MSU email frequently or forwarding it to their primary email account.

Reading and Attendance Policy: It is expected that students will read assigned course material prior to the lecture. Though attendance is not recorded, it is expected that students will attend class regularly and actively participate in class discussions. Should an absence be foreseen, the student should contact Dr. Strawderman to inform her of the absence.

Regrade Policy: Requests for regrades must be submitted in writing (along with the graded exam or assignment) within one week after the material was returned. In the event of a regrade request, the entire exam/assignment will be regraded considering the student's request, though the grade may change in either direction, or remain the same. Grades will not be changed after this deadline.

Grading: An overall course grade will be assigned based on performance using the following distribution and grading scale. Grades will NOT be rounded or changed at the end of the semester. Students are encouraged to keep track of course grades throughout the semester using the grade book on myCourses.

Service Learning Project	30%
In Class Assignments	10%
Midterm Exam 1	20%
Midterm Exam 2	20%
Midterm Exam 3	20%

A: 90%+
B: 80-89%
C: 70-79%
D: 60-69%
F: <60%

Academic dishonesty: Mississippi State University has an approved Honor Code that applies to all students. The code is as follows:

"As a Mississippi State University student I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do."

Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code. For additional information please visit: <http://students.msstate.edu/honorcode/>.

The Honor Code will be strictly adhered to in this course, particularly as it pertains to individual versus group assignments, allowable resources, exam completion, and plagiarism.