

IE 3123: Industrial Ergonomics Fall 2017

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 185

Professor: Lesley Strawderman, Ph.D., P.E.
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662-325-7214 (phone); 662-325-4618 (fax)

Office hours: Mondays 10:00am-11:00am; Thursdays 1:00pm-2:00pm
Other times and methods by appointment

Student Learning Outcomes:

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

- Analyze, design/re-design ergonomically correct workplaces using ergonomic principles of motion economy, anthropometry, manual material handling, and workstation design.
- 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.
- Identify and communicate the benefits of ergonomics to productivity, safety, and employee satisfaction.
- 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: Two midterm examinations will be given, in addition to a comprehensive final examination. All exams are closed book and closed notes, unless otherwise stated. No make-up exams will be given without a university documented excuse. Exam dates are:

- Exam 1: Friday, September 22, 9:00am-9:50am
- Exam 2: Friday, November 3, 9:00am-9:50am
- Final Exam: Monday, December 4, 8:00am-11:00am

Reflection Papers: Four reflection papers will be assigned throughout the semester. Each paper will be written and submitted online. A grading rubric will be provided in advance. **NO LATE WORK WILL BE ACCEPTED.**

Formal Paper: One formal paper assignment will be assigned. The assignment is made up of five deliverables: initial check, draft 1, peer review, draft 2, and final draft. Students will work on the paper throughout the semester, culminating in a final draft of 3-5 pages, single spaced. The paper must demonstrate critical thinking and use reliable sources. Writing workshops will also be held periodically during lecture. Detailed assignment instructions and a grading rubric will be provided. **NO LATE WORK WILL BE ACCEPTED.**

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.

Course Schedule: A schedule of course lectures, assignment due dates, exams, and university holidays has been posted on myCourses. The exam dates and assignment due dates are firm and will not change. The lecture topics are tentative, and subject to change.

Attendance Policy: Attendance is recorded for every class meeting, and is posted to myState. 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. Students with excessive unexcused absences will receive a deduction to their final course grade as follows:

- 0-3 unexcused absences: 0% deduction
- 4-6 unexcused absences: 2% deduction
- 7-9 unexcused absences: 5% deduction
- 10+ unexcused absences: 10% deduction

Students should monitor their attendance records to ensure accuracy, and inform Dr. Strawderman of any discrepancies within one week of the error. Detailed information regarding the definition of excused and unexcused absences can be found here: <http://www.policies.msstate.edu/policypdfs/1209.pdf>.

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 grades throughout the semester using the grade book on myCourses. However, cumulative grades on myCourses are often incorrect, and should not be considered.

Reflection Papers	5%
Formal Paper	20%
Midterm Exam 1	25%
Midterm Exam 2	25%
Comprehensive Final Exam	25%

A	90.00%+
B	80.00-89.99%
C	70.00-79.99%
D	60.00-69.99%
F	<60.00%

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.

Title IX: MSU is committed to complying with Title IX, a federal law that prohibits discrimination, including violence and harassment, based on sex. This means that MSU's educational programs and activities must be free from sex discrimination, sexual harassment, and other forms of sexual misconduct. If you or someone you know has experienced sex discrimination, sexual violence and/or harassment by any member of the University community, you are encouraged to report the conduct to MSU's Director of Title IX/EEO Programs at 325-8124 or by e-mail to titleix@msstate.edu. Additional resources are available at <http://www.msstate.edu/web/security/title9-12.pdf>, or at <http://students.msstate.edu/sexualmisconduct/>.

Support Services: Students who need academic accommodations based on a disability should visit the Office of Student Support Services, 01 Montgomery Hall, 662-325-3335, www.sss.msstate.edu.