General Description and Course Objectives
Upon completion of this course, students will be able to perform specific types of ergonomic analyses as well as design jobs and systems consistent with human factors engineering principles. Based on a survey at the beginning of the course, some topics may be changed if there is specific demand. Currently, the goal is to have students be proficient in the following:

1. Be able to analyze and design work to fit human anthropometric requirements;
2. Be able to analyze and design work to meet human physiological limitations, including lifting tasks;
3. Be able to conduct time studies and use predetermined time system modeling;
4. Be able to perform task analysis and process mapping;
5. Be able to analyze and design work to meet human cognitive limitations;
6. Be able to determine function allocation between automation and human tasks;
7. Be able to model basic human performance at movement, detection, and control tasks;
8. Identify common human errors and perform human reliability analysis; and
9. Be able to design displays that meet basic human-computer interaction principles.
10. Be able to write technical reports describing the results of human factors analysis.
11. Be able to present technical material describing the results of human factors analysis.

Readings

Assessment
- There will be numerous (approximately 24) lecture assignments due nominally before the lecture(s) on each topic is/are conducted. These will be fairly simple and short assignments walking you through the material step-by-step. **To pass the class you must submit 20 out of 24 of these assignments.** The lecture assignments are worth 45% of your grade, based on the average of the top 20 of the 24 assignment grades. (If you’ve done more than 20, then the others will provide up to 2 points extra credit, weighted by your grade on the assignment.)
- There will be nine (9) mini-projects, one on each of the first nine objectives listed above, for which you will submit a technical report describing the results. **To pass the class you must submit all 9 of these technical reports.** 45% of your grade is the average of the 9 technical reports.
- You will be asked to submit one 7 minute video presentation of one of your projects. You can choose any of the 9 projects. Additional guidance will be given on this presentation later in the semester. This presentation will be worth 10% of your grade. **You must submit this video presentation to pass the class.**
- You will also be given a pass/fail grade for ethics. Any violation of Purdue’s student code of conduct ([http://www.purdue.edu/usp/acad_policies/student_code.shtml](http://www.purdue.edu/usp/acad_policies/student_code.shtml)) will result in a failing grade for ethics. **You must get a passing grade in ethics to pass the class.**
- There are no tests or quizzes.
- All assignments will be submitted through SafeAssign on Blackboard Learn.