

**IENG 660**  
**Human Factors System Design**  
**Spring 2015**

INSTRUCTOR: XIAOPENG NING  
OFFICE: 333D MRB  
PHONE: 304-293-9474

CLASS MEETING: Thursday 4:00pm-6:20pm  
CLASS LOCATION: MRB 205

OFFICE HOUR: By appointment  
Textbook (recommended): Wickens: Engineering Psychology and Human Performance (4<sup>th</sup> edition). Chaffin: Occupational Biomechanics (4<sup>th</sup> edition).

CLASS FORMAT: Lecture, Homework, Labs, Presentations, Exams,  
Group/individual project(s)

The instruction of this course will be primarily through lectures, although open class discussions will be strongly encouraged. Students will be expected to have reviewed the relevant material for each class before that class session begins. Quizzes will be given at the beginning of some classes to facilitate class preparation, as well as encourage regular and timely attendance.

Sufficient (and minimal) individual and group assignments will be assigned throughout the semester. Two MID-TERM exams will be given to gauge your progress and overall aptitude in this field. The FINAL exam will be cumulative, including the material presented after Mid-term #2 and related material presented and discussed earlier in the semester.

**Grade Allocation**

Exam #1:	15%
Exam #2:	15%
Final (Exam #3):	10%
Assignment:	10%
Project	40%
Performance:	10%
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Grand Total:	100%

Grades will be assigned based on 10% delineations (A > 90%, 89% > B > 80%, etc.). **REMEMBER** that 10% of your grade is based on (my perception of) your participation during the semester, which includes your attendance (which will not be taken), quiz answers, your participation in class discussions, and your professionalism.

Class Meeting	Lecture Topics
15-Jan	Fundamental Concepts of Human Factors and Ergonomics
22- Jan	Signal detection, information theory
29- Jan	Memory and decision making
5- Feb	Stress and human error
12- Feb	<b>MIDTERM #1</b>
19- Feb	Physical Ergonomics Intro
26- Feb	Musculoskeletal injuries
5-Mar	NIOSH Lifting Equation
12-Mar	Observational Risk Assessment Tools
19-Mar	<b>MIDTERM #2</b>
26-Mar	<b>Spring Recess</b>
2-Apr	Anthropometry
9-Apr	Introduction to student project
16-Apr	Statistical analysis
23-Apr	Student presentation
30-Apr	<b>Final Exam</b>

### **Student project**

Group project will account for 40% of the total grade. This semester the topic of the projects will be in the general area of graphic user interface design, which requires the use of MATLAB for interface design and data analyses. Other basic data analysis software such as Microsoft Excel may also be required.

### **Cheating**

**"Cheating: If you cheat** (copy someone else's answers on a test, knowingly allow someone to copy your test, use someone else's term paper, etc.), **then you can receive a failing grade in the class and could be subject to further disciplinary measures"**. (Mountie, 1998, p. 15)

**"Plagiarize ... vb.. to steal and pass off** (the ideas or words of another) **as ones own:use** (a created production) **without crediting the source ~ vi : to commit literary theft : present as new and original an idea or product derived from an existing source"**(Webster's New Collegiate Dictionary, 1979, p. 870)

In order to protect yourself from being accused of cheating you must reference (cite) any thought, idea, or fact that is not your original thinking. This means noting in the body of your paper (project report, etc.) the source of the fact or idea, and, if you are quoting a source directly, including the page number where the quote may be found. In this course we will use the Publication Manual of the American Psychological Association as a guide for citing works (APA, 1984).

To further protect yourself (and your grade), you must be sure that any work you hand in contains a substantial amount of your own thinking. It is not acceptable to paraphrase another's work (even if you refer to that work and give the author credit) and submit it as your work. Originality on your part is required to pass this course.

## **Social Justice**

West Virginia University is committed to social justice. I concur with that commitment and expect to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. Our University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin. Any suggestions as to further such positive and open environment in this class will be appreciated and given serious consideration.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in class, please advise me and make appropriate arrangements with Disability Services (293-6700).