Instructor: Prof. Ling Rothrock
Class Time and Location: 11:15-12:05pm on M,W,F; 202 Leonhard
Office Hours: 10-11am on Mondays-Wednesdays. All other times by appointment
Office: 213 Leonhard Building
Phone: (814) 865-7241
Email: We will use ANGEL (https://cms.psu.edu) for course correspondence and administration.
Prerequisites: IE323 and IE408

Course Description
This course will cover information processing and decision making models of the human in the modern workplace, emphasizing visual inspection and other industrial applications. Students will also learn to develop, use, and validate models of operator performance. MATLAB®, Micro Saint Sharp, and Minitab™ software packages may be used to construct some models.

Upon completion of the course, student should be able to:

- Apply appropriate methodology to model human interaction in the workplace
- Build and validate user models
- Conduct technical presentations

Academic Integrity
Academic integrity is the pursuit of scholarly activity in an open, honest and responsible manner. It is a basic guiding principle for all academic activity at The Pennsylvania State University, and all members of the University community are expected to act in accordance with it. Academic integrity includes a commitment not to engage in or tolerate acts of falsification, misrepresentation or deception. In this course, students are expected to respect other students’ dignity, rights and property. All homework and exam work for the course must reflect individual effort and no form of academic integrity violations will be tolerated.

Students are expected to familiarize themselves with the college's academic integrity policy. The minimum penalty for academic dishonesty is one letter grade deduction.
Fall Semester 2016, IE 558 (Engineering of Cognitive Work) Syllabus

**Students with Disabilities**

Penn State welcomes students with disabilities into the University's educational programs. If you have a disability-related need for reasonable academic adjustments in this course, contact the Office for Disability Services (ODS) at 814-863-1807 (V/TTY). For further information regarding ODS, please visit the Office for Disability Services Web site at [http://equity.psu.edu/ods/](http://equity.psu.edu/ods/).

In order to receive consideration for course accommodations, you must contact ODS and provide documentation (see the documentation guidelines at [http://equity.psu.edu/ods/guidelines/documentation-guidelines](http://equity.psu.edu/ods/guidelines/documentation-guidelines). If the documentation supports the need for academic adjustments, ODS will provide a letter identifying appropriate academic adjustments. Please share this letter and discuss the adjustments with your instructor as early in the course as possible. You must contact ODS and request academic adjustment letters at the beginning of each semester.

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**Materials Required:**


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**Grading:**

Homework assignments: 20%
Two examinations: 50%
Research Proposal: 30%

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<tr>
<th>Week, Date</th>
<th>Topic</th>
<th>Readings</th>
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<td>1, 8/22</td>
<td>Introduction</td>
<td>Chapter 1</td>
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<td>2, 8/29</td>
<td>Design to fit tasks, processes and people</td>
<td>Chapter 8</td>
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<td>3, 9/5</td>
<td>Labor Day (No Class)</td>
<td>Chapter 10</td>
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<td>Predicting human performance</td>
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<td>4, 9/12</td>
<td>Sampling methods in industrial ergonomics</td>
<td>Chapter 7</td>
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<td>5, 9/19</td>
<td>Questionnaires and interviews</td>
<td>Chapter 14</td>
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<td>6, 9/26</td>
<td>Simulation in ergonomic design</td>
<td>Chapter 9</td>
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<td>7, 10/3</td>
<td>Simulation in ergonomic design (cont.)</td>
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<td>Exam #1</td>
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<td>Date</td>
<td>Topic</td>
<td>Chapter</td>
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<td>8, 10/10</td>
<td>Design for crew-team operations</td>
<td>Chapter 19</td>
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<td>9, 10/17</td>
<td>Ergonomics of product quality and usability</td>
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<td>Inspection and quality control</td>
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<td>11, 10/31</td>
<td>Communications and display design</td>
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<td>12, 11/7</td>
<td>Decision making and decision support</td>
<td>See notes</td>
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<td>13, 11/14</td>
<td>Ergonomics of Control</td>
<td>Chapter 11</td>
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<td>14, 11/21</td>
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<td>15, 11/28</td>
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<td>Proposal Presentations</td>
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<tr>
<td>16, 12/5</td>
<td>Proposal Presentations</td>
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<td></td>
<td>No Final Exam</td>
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Course Policies

Policy on Late Assignments

A 10% deduction from the total assignment grade will be imposed for each day the assignment is late. Exceptions for late submission are allowed only if approved by the instructor prior to the assignment due date.

Policy on Grade Disputes

Grading disputes must be provided in writing along with the original graded work. Verbal arguments will not be accepted.

Grading errors (mistakes in adding or deducting the score) will be corrected upon receipt of the written dispute. Also, clarifications on why marks were given will be provided within 48 hours upon receipt of the dispute.

Written disputes on the number of points deducted or why points were deducted must be accompanied by a request for a regrade by the instructor of the entire work. Your score may increase or decrease based on the results of the regrade.

Written disputes must be submitted within one week from the date the student is advised of his or her score on the work in question.

Policy on Group Work

Unless specified by the instructor, students are expected to form their own groups to complete group assignments. Students are expected to address group problems (e.g., members who refuse to work) as soon as possible. The instructor may reassign groups at his discretion if the problems are brought to his attention within a reasonable timeframe for the assignment to be completed. Each member of the group will receive the same score.

Policy on Rescheduling of Exams and Quizzes

There are circumstances which may require a student to miss a scheduled examination or quiz. It is the responsibility of the student to notify the instructor prior to the event and to provide written verification of the reason for missing the event. In cases of emergency, it is the responsibility of the student to provide written verification within one week of the examination or quiz date. The instructor will work with the student to reschedule a time for the makeup exam or quiz.

Grades

Course grades are assigned based on a 100-point scale. The numerical equivalence to letter grades is as follows: A = 93-100; A- = 90-92; B+ = 86-89; B = 83-85; B- = 80-82; C+ = 76-79; C = 70-75; D = 60-69; F = below 60.