

**IME 3150: Work Analysis and Design Lab
Course Syllabus – Fall 2010**

2003/2005 Catalog Data

The purpose of this design course is to use the knowledge, skills, and abilities learned in IME 305 and apply them to an industry-based project. Major elements included in the project include: human factors, work design principles, work environment, economic justification, work measurement, and the design process. NOT FOR ENGINEERING CREDIT. **Prerequisite: IME 3050 or taken concurrently**

Prerequisites by Topic:

1. Basic knowledge of methods engineering, measurement of human work systems, techniques for operational analysis, work measurement, and work sampling. Working knowledge of basic predetermined motion-time systems and standard data development are expected.
2. Effectively communicate (written and oral).
3. Basic knowledge of word processing, spreadsheets, World Wide Web, and e-mail.

Objectives:

In accordance with the above stated course description, at the conclusion of the semester the students should have the ability to:

1. Apply the knowledge skills and abilities learned in Work Design (IME 305) and apply them to an industrial base problem. (a,b,c,d,e,f,g,j,k)

More specifically the objective of this project is to select a process and/or workstation, evaluate it, document problems, and make appropriate recommendations. The culmination of this project will be a double spaced typed report (25 pages) and a Power Point presentation.

Course Instructor:

Mr. James Burns, Department of Industrial and Manufacturing Engineering

E-mail: j.burns@wmich.edu

Office Hours: Mon & Wed 12:30-1:30pm, or by appointment.

Textbook:

Konz & Johnson (2008). Work Design, Occupational Ergonomics. Holcomb Hathaway, Seventh Edition.
Niebel, Benjamin, and Freivalds, Andris (2003). Methods, Standards, and Work Design. McGraw Hill, Twelfth Edition. (Reference)

Week	Tentative Schedule of Topics	
Wk 2 (9/13)	Introduction to Course, Objectives, Form Groups (2-4 individuals per group)	
Wk 3 (9/20)	Topic Development, Pre-proposal, Weekly Notebooks	
Wk 4 (9/27)	Pre-Proposal, Weekly Notebooks	
Wk 5 (10/4)	Interview Questions, Pre-Proposal, Weekly Notebooks	
Wk 6 (10/11)	Interview Questions, Weekly Notebooks	
Wk 7 (10/18)	Guidelines for Mid-term Presentation, Weekly Notebooks	
Wk 8 (10/25)	Mid-term Progress Presentation	
Wk 9 (11/1)	Weekly Notebooks	
Wk 10 (11/8)	Guidelines for Draft and Final Report, Weekly Notebooks	
Wk 11 (11/15)	1 st Draft Due (optional), Weekly Notebooks	
Wk 12 (11/22)	Weekly Notebooks	
Wk 13 (11/29)	Weekly Notebooks	
Wk 14 (12/6)	Weekly Notebooks	
Wk 15 (12/13)	Semester Project Reports and Presentations Due Monday Lab 43104: Monday, December 13, 2010 7:15 – 9:15 p.m. Tuesday Lab 43807: Thursday, December 16, 2010 8:00 – 10:00 a.m.	

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Points Distribution:

Written Report	40%
Final Presentation	20%
Weekly Reports & Assignments	15%
Peer Evaluations	15%
Midterm Presentation	10%

Grading Scale (Tentative):

A	90-100
BA	88-89.9
B	80-87.
CB	78-79.9
C	70-77.9
DC	68-69.9
D	60-67.9
E	Below 60

Performance Criteria²:

The students should have the ability to:

Objective 1

- 1.1 Accurately define a problem and its corresponding constraints. (1)
- 1.2 Function as a productive and effective member of a team. (1)
- 1.3 Document work in a scholarly manner. (1)
- 1.4 Document reasonable recommendations accompanied by justification acceptable within the profession. (1)
- 1.5 Present information and ideas in a professional manner. (1)

Computer Usage:

Use of PC based software (Word, Excel, Power Point) and the worldwide web is required for the project. All tools/techniques will make use of these technologies in one form or another.

Oral and Written Communications:

Effective communication (oral and written) is a requirement for success in this class. Semester projects will be presented to the class and the industrial partner at the end of the semester.

Calculus Usage:

Calculus is not directly used in this course however may be used during design/redesign of recommendations.

Library Usage:

Reference material is on reserve at the library and is expected to be used to supplement the material discussed during class.

Course Coordinator:

Dr. T.K. Fredericks, Department of Industrial and Manufacturing Engineering. Office: E-223 Parkview Campus, Phone: (269) 276-3360, FAX: (269) 276-3353, E-mail: fredericks@wmich.edu.

Accommodation for Disabilities:

Any student with a documented disability (e.g., physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact Ms. Beth Denhartigh at 387-2116 and/or at beth.denhartigh@wmich.edu at the beginning of the semester. A disability determination must be made by this office before any accommodations are provided by the instructor.

Student Academic Conduct:

You are responsible for making yourself aware of and understanding the academic policies and procedures in the Undergraduate or Graduate Catalogs (found online, <http://catalog.wmich.edu>) that pertain to Student rights and responsibilities. These policies include cheating, fabrication, falsification and forgery, multiple submission, plagiarism, complicity, and computer misuse. If there is reason to believe you have been involved in academic dishonesty, you will be referred to the Office of Student Judicial Affairs. You will be given the opportunity to review the charge(s). If you believe you are not responsible, you will have the opportunity for a hearing. You should consult with me if you are uncertain about an issue of academic honesty prior to the submission of an assignment or test.

¹ Letters in parentheses at the end of each objective refer to ABET Engineering Criteria 2000.

² Numbers in parentheses refer to the method of evaluation as listed in previous section.