



**IE 409-001 MANUFACTURING SYSTEMS DESIGN
COURSE SYLLABUS: FALL 2015
MW 2:30pm – 3:45pm, AGIT211**

Instructor: Pelin Altintas-deLeon, Ph.D.
Assistant Professor / Department of Engineering & Technology
Office Location: Charles J. Austin Engineering & Technology Building
Room 215 (AGIT)
Office Hours: MW 10:00am – 11:30am
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COURSE INFORMATION

Textbook Recommended:

Niebel's Methods, Standards, and Work Design (13th ed.). Freivalds, A. and Niebel, B. W. (2014).

References:

Introduction to Manufacturing Processes. Groover, M. P. (2012).

Course Description:

Advanced course emphasizing the analysis and design of job requirements, workplace arrangements, human-machine system design processes and principles which improve the human workplace. Students will research and create a system design project. Prerequisites: IE 318.

(2015-2016 Undergraduate Catalog, Texas A&M University-Commerce,
<http://catalog.tamuc.edu/undergrad/colleges-and-departments/college-of-science-and-engineering/engineering-technology/industrial-engineering-ie-bs/>)

Student Learning Outcomes:

After completing this course;

1. The student will have an understanding of professional and ethical responsibility.
2. The student will be able to perform motion study, time study, work sampling, and performance rating.
3. The student will have an understanding of manufacturing systems, its components, and the impact of engineering solutions.
4. The student will have ability to design a system, component, or process to meet desired needs.

COURSE REQUIREMENTS

Instructional / Methods / Activities Assessments

This course utilizes lectures, assignments to assist students in achieving the course learning outcomes. The assessment criteria for the stated student learning outcomes will include homework assignments, a term project, exams, and a final exam.

Grading

Assignments	20%	Final Grade:	90 – 100	A
Exam 1	20%		80 – 89	B
Exam 2	20%		70 – 79	C
Project	20%		60 – 69	D
Final Exam	20%		Below 60	F

TECHNOLOGY REQUIREMENTS

The following technologies will be required for this class.

- A scientific calculator for exams.
- Microsoft Word, Excel, PowerPoint.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures:

1. One day late assignment is accepted with a 20% grade deduction; after this, no assignment will be accepted.
2. You will be expected to do all the readings throughout the semester.
3. Each exam will be given in class. Exams are closed book and notes (necessary formulas will be provided on a separate page). Students will need a scientific calculator for exams. Cell phones are not acceptable as a calculator. Use of unauthorized aids on exams will result in a grade of zero.
4. There will be one design assignment and it will be a group project.
5. The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.
6. No make-up exams will be permitted unless official documentation for absences is provided (e.g., death in the family, illness).

Academic Dishonesty

Texas A&M University-Commerce will not allow plagiarism in any form. The students' course works should be their own. Plagiarism represents disregard for academic standards and is strictly against University policy. If you have a question regarding academic dishonesty and integrity, please talk to the instructor or refer to the Code of Student Conduct from Student Guide Handbook.

University Specific Procedures:

ADA Statement

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library- Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: Rebecca.Tuerk@tamuc.edu

Website: Office of Student Disability Resources and Services

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Student Conduct: All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See Code of Student Conduct from Student Guide Handbook).

Students are expected to attend all class periods and to be prepared for each class. Students are expected to refrain from any disruptive behaviors during class, which includes but is not limited to working on assignments/projects from another course, reading non-course materials, or using the computer for non-class purposes. Cell phones, iPods, and other electronic devices should be turned off during class.

COURSE OUTLINE / CALENDAR			
WEEK	DATES	TOPIC	ASSIGNMENT
	8/31	First day of class	
Week1	8/31, 9/2	Introduction to Manufacturing	
	9/7	Labor Day – University Closed.	
Week2	9/9	Manufacturing processes and materials	Team member Formation
Week3	9/14, 9/16	Manufacturing processes and materials Manufacturing systems	
Week4	9/21, 9/23	Manufacturing systems Work design, Problem solving tools Operation analysis	Assignment 1
Week5	9/28, 9/30	Motion study, Job evaluation Exam 1	
Week6	10/5, 10/7	Time study	
Week7	10/12, 10/14	Time study, Performance rating	Assignment 2
Week8	10/19, 10/21	Allowances, Standard data	
Week9	10/26, 10/28	Pre-determined time systems	Assignment 3
Week10	11/2, 11/4	Work sampling, Wage Payment	
Week11	11/9, 11/11	Systems productivity	Assignment 4
Week12	11/16, 11/18	Exam 2 Today's manufacturing environment	
Week13	11/23	Presentation (Research paper)	
	11/26 and 11/27	Thanksgiving Break – University Closed.	
Week14	11/30, 12/2	Emerging technologies	
Week15	12/7, 12/9	Project Presentation	
	12/11	Last day of class.	
Week16		Final Exam	