

SAM HOUSTON STATE UNIVERSITY

Department of Engineering Technology

ETDD 4380 (section 01) Material Handling & Plant Layout

Spring 2018

Instructor: Junkun Ma
Office Location: Room 400J, Pirkle
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Lecture Time: 13:00 ~ 14:50 Tuesday & Thursday
Lecture Location: Room 240, Pirkle
Office Hours: 13:00 ~ 17:00 Monday & Wednesday
10:00 ~ 12:00 Tuesday
Other time by appointment only

The instructor reserves the right to make changes to the schedule, policies, assignments, and grading scale described in the syllabus in the event of extenuating circumstances or by mutual agreement between the instructor and the students.

Course Description:

This course is the study of the basic requirements needed to develop the most efficient layouts of equipment and of operating and service facilities whether in manufacturing plants, warehouses, or other industrial or business applications. Special emphasis is on the necessary coordination between plant layout, materials handling, work simplification and production planning, and operation control.

Required Course Material:

Manufacturing Facilities Design & Material Handling, 5th Ed.
Matthew P. Stephens & Fred E. Meyers
Purdue University Press
ISBN-13 978-1-55753-650-1 Copyright 2013

Supplies:

Portable storage device (such as flash drive) with minimum 10 MB free space

Course Objectives:

1. To provide students with an organized approach to manufacturing facility design and material handling through the engineering design process.
2. To provide students with the opportunity to design and equip a modern production facility through a simulation activity.
3. To provide students with the opportunity to function as an integral part of a team vested with major planning responsibilities reflective of modern industry.

4. To provide students with an understanding of supply chain management and its role in modern manufacturing.
5. To introduce students to factory-warehouse automation, materials handling, and storage control and space utilization plans.
6. To provide students with experiences in planning for safety during the initial planning stages of a manufacturing facility.

Lecture/Demonstrations:

The scheduled class meeting time is used for instructional lectures, demonstrations, discussion, lab activities, and evaluation. Lectures will focus upon the essential procedures, techniques, and other information needed to complete manufacturing facilities design and material handling. Lecture sessions are intended to introduce the necessary fundamentals of manufacturing facilities design and material handling as well as practices.

Term Project / Report:

A group project will be assigned for this course. The main purpose of the project is for the student to apply various concepts and theories introduced in this course to develop a manufacturing facility producing mechanical equipment. A final report is expected to be submitted at the end of the semester.

Attendance Policy:

1. **Attendance:** Every student is expected to be present and ***on time*** for every class. Roll will be taken at the beginning of each class or lab session. In case you are absent, whether excused or unexcused, you are still responsible for the material covered.
2. Each student should be prepared for class/lab by having carefully read and studied all assigned textbook readings and/or handouts. Drawings / Assignments turned in late will be penalized. Absences do not exempt you from the responsibility of turning materials/assignments in on time and they do not extend the due date of the assignment schedule.
3. There will be no makeup exams, quizzes, or assignments except for special events (documented illness, business trip on behalf of SHSU etc.) or by mutual agreement prior to the absences between the instructor and the student.

****(Exempt attendance notification is the responsibility of the student and all info referring to the absent must be presented to the instructor prior to or within one week from the date in question. Therefore, the student should call or e-mail the instructor as soon as possible when becoming aware of the absence.)

Course Evaluation:

Each student should be prepared for class/lab by having carefully read and studied all assigned textbook readings and/or handouts. Each assignment is to be done on an individual basis unless being instructed differently. You should expect to spend a minimum of three to four hours per week in lab. The final grade for the course will be based on the following grading scale:

Grading Scale:

Assignments	25%
Project & Report	25%
Mid-term exam	25%

Final exam

25%

Percentage range	Grade
90 – 100	A
80 – 89	B
70 – 79	C
60– 69	D
0-59	F

Tentative Schedule:

Week	Date	Topics
1	01/18	Review of Course Syllabus
		Introduction
2	01/23	Introduction (continue)
		Sources of Information for Manufacturing Facilities Design
2	01/25	Sources of Information for Manufacturing Facilities Design
3	01/30	Time Study
3	02/01	Time Study
4	02/06	Process Design
4	02/08	Process Design
5	02/13	Flow Analysis
5	02/15	Flow Analysis
6	02/20	Activity Relationship Analysis
6	02/22	Activity Relationship Analysis
7	02/27	Ergonomics Design
7	03/01	Auxiliary Services
8	03/06	Auxiliary Services
8	03/08	Midterm Exam
9	03/13	*** Spring Break ***
9	03/15	*** Spring Break ***
10	03/20	Employee Services
10	03/22	Material Handling
11	03/27	Material Handling
11	03/29	Material Handling Equipment

12	04/03	Material Handling Equipment
12	04/05	Material Handling Equipment
13	04/10	Office Layout
13	04/12	Office Layout
14	04/17	Area Allocation
14	04/19	Facilities Layout
15	04/24	Facilities Layout
15	04/26	Computer Simulation & Modelling
16	05/01	Computer Simulation & Modelling
16	05/03	Selling the Layout

*****All Assignments DUE*****

*****No Assignments accepted after Friday 05/04*****

17 **05/07 ~ 05/10** **FINAL WEEK**

Academic Dishonesty:

When under the pressure of deadlines, some students may be tempted to copy another student's drawing and hand it in as their own. Before yielding to such temptation, the student should be aware of the University's policy statement on academic ethics, and that the instructor would consider failure for the course a more appropriate punishment. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating, plagiarism, collusion, and abusing resource materials on an examination or other academic work which is to be submitted.

Classroom Rules of Conduct:

Students will avoid doing behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, obstructs the mission of the university. **Cellular telephones, ear phones and pagers must be turned off before class begins.** Students are prohibited from eating and drinking in class, using tobacco products, making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

Student Absences On Religious Holy Days Policy:

Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

University policy 861001 provides the procedures to be followed by the students and instructor. A student desiring to absent himself/herself from a scheduled class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the religious holy day(s). This request must be made in the first fifteen days of the semester or the first seven days of a summer session in which the absence(s) will occur. The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed.

Tobacco Policy:

In order to promote a healthy, safe, and aesthetically pleasing work, educational, and living environment, Sam Houston State University (SHSU) will endorse a smoke free and tobacco free environment. The primary purpose of this policy is to establish guidelines prohibiting smoking and the use of all tobacco products. Tobacco products include cigarettes, cigars, pipes, smokeless tobacco, and all other tobacco products.

Cell Phone Policy:

The use by students of electronic devices that perform the function of a telephone or text messages during class-time may be prohibited if deemed disruptive by the instructor to the conduct of the class. Arrangements for handling potential emergency situations may be granted at the discretion of the instructor. Failure to comply with the instructor's policy could result in expulsion from the classroom or with multiple offenses, failure of the course.

Any use of a telephone or text messages or any device that performs these functions during a test period is prohibited. These devices should not be present during a test or should be stored securely in such a way that they cannot be seen or used by the student. Even the visible presence of such a device during the test period will result in a zero for that test. Use of these devices during a test is considered evidence of cheating and could result in a charge of academic dishonesty.

Disabled Student Policy:

- It is the policy of Sam Houston State University that no otherwise qualified disabled individual shall, solely by reason of his/her handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any academic or Student Life program or activity. Disabled students may request help with academically related problems stemming from individual disabilities from their instructors, school/department chair, or by contacting the Chair of the Committee for Continuing Assistance for Disabled Students and Director of the Counseling Center, Lee Drain Annex, or by calling (936) 294-1720.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Counseling Center and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. **NOTE: no accommodation can be made until you register with the Counseling Center**

No assignments will be accepted after the last day of lecture for Spring 2018 at 5:00PM on Friday, May. 04, 2018