IE 407.001 PRODUCTION SYSTEMS OPERATIONS
COURSE SYLLABUS: FALL 2014
TR 2:00 pm – 3:15 pm / AGIT 118A

Instructor: Dr. Pelin Altintas-de Leon
            Assistant Professor
Office Location: Department of Engineering & Technology
                Charles J. Austin Engineering & Technology Building (AGIT), Room 215
Office Hours: MWF 9:00 am – 11:00 am
                TR 3:30 pm – 4:30 pm or by appointment
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COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings:

Textbook(s) Required: Operations Management, Eleventh Edition, William J. Stevenson
Publisher: McGraw-Hill Irwin
ISBN-13: 978-0-07-352525-9

Course Description: Analytical principles of manufacturing systems design, analysis and control; emphasis placed on stochastic analysis; role of variability and impact on cycle time; push versus pull production strategies including Kanban and constant WIP control; probability, queuing theory, Little's Law, heavy traffic approximation and queuing networks. Course Prerequisite: IE 316 – Manufacturing Systems Design and Control.
(2013-2014 Undergraduate Catalog, Texas A&M University-Commerce,
http://catalog.tamuc.edu/)

Student Learning Outcomes:

1. Understand the major production planning and control issues in both service and manufacturing industries.
2. Present and illustrate qualitative and quantitative forecasting techniques and their influence on production planning and control.
3. Solve aggregate planning problems.
4. Solve inventory control and planning issues using either deterministic or stochastic modeling.
5. Understand the push and pull philosophies in production planning and compare different methods in production scheduling.
6. Demonstrate operation scheduling methods in variety shop environment.

Instructional / Methods / Activities Assessments

This course utilizes lectures, assignments (take home and in-class) to assist students in achieving the course learning outcomes. The assessment criteria for the stated student learning outcomes (SLO) will include assignments, midterm exams, and a final exam.

Assignments – SLO1 through SLO6

Exam1 – Production systems, forecasting, aggregate planning: SLO1, SLO2, SLO3

Exam2 – Inventory control: SLO4

Exam3 – Push&Pull production, Scheduling SLO5, SLO6

Final Exam – Queuing theory SLO1

Grading

Exam 1	20%	Final Grade:	A	90 – 100
Exam 2	20%		B	80 – 89
Exam 3	20%		C	70 – 79
Assignments	20%		D	60 - 69
Final Exam	20%		F	Below 60

TECHNOLOGY REQUIREMENTS

The following technologies will be required for this course.
- A scientific calculator
- Microsoft Word, Excel, PowerPoint.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures:

Course Policies:
- No late assignments will be accepted!
- You will be expected to do all the readings throughout the semester.
- 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. Use of unauthorized aids on exams will result in a grade of zero.
- I reserve the right to make changes to this syllabus as needed. The changes will be announced in class.
- 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 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.

- 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 condone plagiarism in any form. Plagiarism represents disregard for academic standards and is strictly against University policy. Plagiarized work can result in a "0" on a given assignment(s) or an "F" for the course as well as further administrative sanctions permitted under University policy.

Guidelines for properly quoting someone else's writings and the proper citing of sources can be found in the APA Publication Manual. If you do not understand the term "plagiarism", or if you have difficulty summarizing or documenting sources, contact your professor for assistance.

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
StudentDisabilityServices@tamuc.edu

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 -* *http://www.tamuc.edu/studentLife/documents/studentGuidebook.pdf*).

COURSE OUTLINE / CALENDAR

WEEK	DATE	TOPIC	READING
1	August 26	Introduction to Production Systems Operations.	Chapter 1 and
	August 28	Introduction to Production Systems Operations.	Chapter 2
2	September 2	Forecasting.	Chapter 3
	September 4	Forecasting.	Chapter 3
3	September 9	Aggregate Planning.	Chapter 11
	September 11	Aggregate Planning.	Chapter 11
4	September 16	Aggregate Planning.	Chapter 11
	September 18	Inventory Control	Chapter 12
5	September 23	Exam 1	
	September 25	Inventory Control (known demand)	Chapter 13
6	September 30	Inventory Control (known demand)	Chapter 13
	October 2	Inventory Control (uncertain demand)	Chapter 13
7	October 7	Inventory Control (uncertain demand)	Chapter 13
	October 9	Inventory Control (uncertain demand)	Chapter 13
8	October 14	Inventory Control (uncertain demand)	Chapter 13
	October 16	Inventory Control (uncertain demand)	Chapter 13
9	October 21	Exam 2	
	October 23	Push & Pull Production Control Systems.	Chapter 12
10	October 28	Push & Pull Production Control Systems.	Chapter 14
	October 30	Operations Scheduling.	Chapter 16
11	November 4	Operations Scheduling.	Chapter 16
	November 6	Operations Scheduling.	Chapter 16
12	November 11	Operations Scheduling.	Chapter 16
	November 13	Queuing Theory.	Chapter 18
13	November 18	Exam 3	
	November 20	Queuing Theory.	Chapter 18
14	November 25	Queuing Theory.	Chapter 18
	November 27	Thanksgiving Day / University is closed	
15	December 2	Queuing Theory.	Chapter 18
	December 4	Queuing Theory.	Chapter 18
16	December 9	Final Exam (1:15 pm – 3:15 pm)	