IE 318-001 ANALYSIS OF PRODUCTION SYSTEMS
COURSE SYLLABUS: SPRING 2015
MWF 11:00am – 11:50 am, AGIT211

Instructor: Pelin Altintas-deLeon, Ph.D.
Assistant Professor / Department of Engineering & Technology

Office Location: Charles J. Austin Engineering & Technology Building
Room 215 (AGIT)

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COURSE INFORMATION


Course Description:
Analytical principles of production systems analysis and control; emphasis placed on stochastic analysis; role of variability and impact on cycle time; push versus pull production strategies; inventory models; production planning and scheduling; queuing models. Prerequisites: IE 311 and IE 312. (2014-2015 Undergraduate Catalog, Texas A&M University-Commerce, http://coursecatalog.tamuc.edu/undergrad/)

Student Learning Outcomes:
After completing this course;
1. Illustrate qualitative and quantitative forecasting techniques and their influence on production planning and control.
2. Solve aggregate planning problems.
3. Solve inventory control and planning issues using either deterministic or stochastic modeling.
4. Understand the push and pull philosophies in production planning.
5. Demonstrate operation scheduling methods in variety shop environment.
6. Analyzing queuing models.

COURSE REQUIREMENTS

Instructional / Methods / Activities Assessments
This course utilizes facilitated lectures, and a series of assignments to assist students in achieving the course learning outcomes. The assessment criteria for the stated student learning outcomes will include homework assignments, exams, and a final exam.
Assignments – SLO1 through SLO6
Exam1 – Production systems, forecasting, aggregate planning: SLO1, SLO2
Exam2 – Inventory control: SLO3
Exam3 – Push&Pull production, Scheduling SLO4, SLO5
Final Exam – Queuing theory SLO6

Grading

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Weight</th>
<th>Final Grade Range</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>Homework</td>
<td>20%</td>
<td>90 – 100</td>
<td>A</td>
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<tr>
<td>Exam 1</td>
<td>20%</td>
<td>80 – 89</td>
<td>B</td>
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<tr>
<td>Exam 2</td>
<td>20%</td>
<td>70 – 79</td>
<td>C</td>
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<tr>
<td>Exam 3</td>
<td>20%</td>
<td>60 – 69</td>
<td>D</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
<td>Below 60</td>
<td>F</td>
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TECHNOLOGY REQUIREMENTS

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

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures:
1. No late homework 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. Use of unauthorized aids on exams will result in a grade of zero.
4. I reserve the right to make changes to this syllabus as needed. The changes will be announced in class.
5. 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.
6. No make-up exams will be permitted unless official documentation for absences is provided (e.g., death in the family, illness).

University Specific Procedures:

ADA Statement

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 132  
Phone (903) 886-5150 or (903) 886-5835  
Fax (903) 468-8148  
StudentDisabilityServices@tamuc.edu  
Student Disability Resources & Services

Non-Discrimination Statement

A&M-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).

Academic Honesty Policy

Texas A&M University-Commerce does not tolerate plagiarism and other forms of academic dishonesty. "Academic dishonesty" includes, but is not limited to, plagiarism (the appropriation or stealing of the ideas or words of another and passing them off as one's own), auto-plagiarism (duplicate submission of single work for credit in multiple or repeated classes), cheating on exams or other course assignments, collusion (the unauthorized collaboration with others in preparing course assignments), and abuse (destruction, defacing, or removal) of resource material. Works submitted are subject to submission to TurnItIn, or other similar services, to verify the absence of plagiarism. Immediate consequence of academic dishonesty will result in F on the assignment/exam.

To avoid plagiarism, an individual must give credit whenever they:
   a) use another individual's idea, opinion, or theory;
   b) use facts, statistics, graphs, and drawings that are not common knowledge;
   c) use quotations of another individual's spoken or written words; or
   d) paraphrase another individual’s spoken or written words.

Any works referenced should be properly cited in accordance with APA 6th edition style.
<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATES</th>
<th>TOPIC</th>
<th>READING ASSIGNMENT</th>
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<td>Week1</td>
<td>1/21, 1/23</td>
<td>Introduction to Production Systems</td>
<td>Chp. 1, Chp. 2</td>
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<td>Week2</td>
<td>1/26</td>
<td>Introduction to Production Systems Forecasting</td>
<td>Chp. 1, Chp. 2, Chp. 3</td>
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<td>Week3</td>
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<td>Forecasting Aggregate Planning</td>
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<td>Week4</td>
<td>2/9, 2/11, 2/13</td>
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<td>Week5</td>
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<td>Chp. 12</td>
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<td>Week6</td>
<td>2/23, 2/25, 2/27</td>
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<td>Week7</td>
<td>3/2, 3/4, 3/6</td>
<td>Inventory Control (uncertain demand)</td>
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<td>Inventory Control (uncertain demand)</td>
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<td>Spring Break 3/16 – 3/20</td>
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<td>Week9</td>
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<td>Inventory Control (uncertain demand)</td>
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<td>EXAM 2</td>
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<td>Week10</td>
<td>3/30</td>
<td>Pull Production Control System Operations Scheduling</td>
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<td>Week11</td>
<td>4/6, 4/8, 4/10</td>
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<td>Week12</td>
<td>4/13, 4/15</td>
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<td>4/17</td>
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<td>4/20, 4/22, 4/24</td>
<td>Queuing Theory</td>
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<td>Week14</td>
<td>4/27, 4/29, 5/1</td>
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<td>Week15</td>
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<td>Chp. 18</td>
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<td>Week16</td>
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<td>F I N A L   E X A M</td>
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