

IE 4303: Production and Inventory Control
Fall 2015

Instructor(s): Dr. Bonnie Boardman

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Office Hours: Monday: 10:00—12:00; Wednesday: 10:00-12:00

Section Information: IE 4303-001

Time and Place of Class Meetings: TR 2:00-3:20; 311 Woolf Hall

Description of Course Content: Fundamental theory and design of systems for the control of production, inventories and their economic interaction, particularly in cases involving uncertainty of demand, of supply availability, and of production rates.

Student Learning Outcomes:

- Identify and solve appropriate inventory control model problems given demand characteristics.
- Use MRP to devise a manufacturing schedule.
- Identify the basic metrics of a factory and describe their relationships.
- Measure and explain the effects of variability on a manufacturing system.
- Compare and contrast push versus pull systems.
- Compute a schedule of jobs and evaluate the schedule effectiveness.

Required Textbooks and Other Course Materials: Factory Physics, 3rd edition, Wallace J. Hopp and Mark L. Spearman

Course Topics:

Manufacturing in America (Chapter 1)
Factory Physics? (Chapter 0)
Inventory Control: From EOQ to ROP (Chapter 2)
The MRP Crusade (Chapter 3)
Test 1
From the JIT Revolution to Lean Manufacturing (Chapter 4)
Basic Factory Dynamics (Chapter 7)
Variability Basics (Chapter 8)
The Corrupting Influence of Variability (Chapter 9)
Test 2
Push and Pull Production Systems (Chapter 10)
A Pull Planning Framework (Chapter 13)
Production Scheduling (Chapter 15)
Final Exam – Thursday, 12/10/15, 2:00-3:20

Course Requirements:

Assignments and Quizzes – There will be many in class and out of class assignments and quizzes throughout the semester. Homework must be turned in at the beginning of the class on the day they are due, no late assignments will be accepted. You must be in class in order to do the in class assignments and quizzes. No makeup assignments will be given. Quizzes may be announced or unannounced. Class assignments will count towards 40% of your final grade.

Examinations – There will be two regular tests and a final given during this course. You must take all tests at their scheduled times. If you miss a test with either a certified medical excuse or prior instructor approval, you will take a makeup test at a designated time during the last week of the semester. The makeup exam will be fair but comprehensive (covering all the course material) and challenging. Tests missed without certified medical excuses or prior instructor approval will result in a score of zero. Only one missed test can be made up with the comprehensive final. Examinations will count for 60% of your final grade. The final exam is scheduled for **Thursday, December 10th, 2:00-3:20.**

Grading: Grades in this course will be earned based on the following criteria:

A = 90% and above

B = 80% - 89%

C = 70% - 79%

D = 60% - 69%

F = 0% - 59%

Attendance: At the University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. While I will not take attendance, participation in classroom exercises will be part of your assignments grade. If you are not present to complete an in class grade, you will not be allowed to make up that grade.

Expectations for Out-of-Class Study: Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 9 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/ses/fao>).

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA)*, *The Americans with Disabilities Amendments Act (ADAAA)*, and *Section 504 of the Rehabilitation Act*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the **Office for Students with Disabilities (OSD)**. Students experiencing a range of conditions (Physical, Learning, Chronic

Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364.

Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671.

Title IX: The University of Texas at Arlington is committed to upholding U.S. Federal Law “Title IX” such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

Academic Integrity: All students enrolled in this course are expected to adhere to the UT Arlington Honor Code: *I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence. I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

Instructors may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents’ Rule* 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory shall be directed to complete a Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Inclement Weather Policy: In the event that weather or other conditions are such that normal campus operations could be impeded the following policy will apply for this class. If the University is closed, this class will not meet. Any assignments due or examinations scheduled will be due or rescheduled to the very next class period that the class meets. Local media should announce any closings. You can also get information on UTA's homepage.

The English Writing Center (411LIBR): Hours are 9 am to 8 pm Mondays-Thursdays, 9 am to 3 pm Fridays and Noon to 5 pm Saturdays and Sundays. Walk In **Quick Hits** sessions during all open hours Mon-Thurs. Register and make appointments online at <http://uta.mywconline.com>. Classroom Visits, Workshops, and advanced services for graduate students and faculty are also available. Please see www.uta.edu/owl for detailed information.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, you can find this information posted near the doors in this room. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.

<p>Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381.</p>
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