

IE 5310 Summer 2015
MWTR 10:30AM-12:30PM, Room #221, Woolf Hall

Instructor: Dr. K.J. Rogers, P.E. Phone: (Woolf Hall) 817-272-2495

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Office Hours: MW before and after class (other times by appointment as requested)

Required Text: Factory Physics. Wallace Hopp and Mark Spearman, Waveland Press, Inc. 3rd ed. reissued 2011.

Course Description: 5310. PRODUCTION SYSTEMS DESIGN (3-0). Methods for the design and analysis of manufacturing and logistics systems. Emphasis is placed on reducing cycle time, increasing throughput, lowering variation, and improving both quality and customer responsiveness through modeling techniques. Prerequisites: IE 5317 or equivalent, IE 5301 or concurrent and IE 5329 or concurrent or equivalent.

Course Learning Goals/Objectives: This course is designed for the student already knowledgeable of basic queuing theory, inventory control, and probability models. By the end of the course, the student will be able to analyze and evaluate the underlying behavior of manufacturing systems using a systematic approach.

Tentative Lecture Schedule (Course Content):

- Philosophy of Factory Physics, Modeling & Basic Manufacturing Principles
- Manufacturing Systems in America
- JIT and Lessons From History...
- Factory Objectives, Measures, & Controls
- The Basics of Variability & Its Corrupting Influence
- Push & Pull Production Systems, "Lean" Manufacturing
- People – the Human Element
- Principles in Practice: TQM, CONWIP, Supply Chain and Capacity Issues, etc.
- Synthesis – “Putting It All Together”

General Policies/Guidelines:

- ◆ If you require an accommodation based on disability, I would like to meet with you in the privacy of my office, during the first week of the semester, to make sure you are appropriately accommodated.
- ◆ If you miss a test with an approved excuse (e.g. from a doctor stating you are too ill to sit for the test), you may take a comprehensive final as a makeup.
- ◆ **Course Evaluation & Final Grade:** Grades are based on performance. No curves planned.
 - ◆ Course grade will be comprised of performance on exams.

Midterm Exam	50%
Final Exam	50%
 - ◆ Performance standard: $D \geq 60\%$, $C \geq 70\%$, $B \geq 80\%$, $A \geq 90\%$

Key Dates:

06/23	Midterm Exam
07/09	Final Exam (10:30AM – 12:30PM)

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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, which is located immediately next to the classroom door. 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.

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. Contact the Financial Aid Office for more information.

Americans with Disabilities Act: The University of Texas at 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)*. 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 that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Academic Integrity: It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. According to the UT System Regents' Rule 50101, §2.2, "Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts."

Student Support Services Available: The University of Texas at Arlington has established a variety of programs to help students meet the challenges of college life. Support to students includes advising, counseling, mentoring, tutoring, supplemental instruction, and writing assistance. For a complete list of academic support services, visit the Academic Assistance resource page of the Office of Student Success Programs, www.uta.edu/uac/studentsuccess/academic-assistance. To help students address personal, academic and career concerns, individual counseling is also available. For more information, students are encouraged to contact Counseling Services www.counseling.uta.edu at (817) 272-3671 or visit a counselor in 216 Davis Hall.

Electronic Communication Policy: The University of Texas at Arlington has adopted the University "MavMail" address as the sole official means of communication with students. MavMail is used to remind students of important deadlines, advertise events and activities, and permit the University to conduct official transactions exclusively by electronic means. For example, important information concerning registration, financial aid, payment of bills, and graduation are now sent to students through the MavMail system. All students are assigned a MavMail account. **Students are responsible for checking their MavMail regularly.** Information about activating and using MavMail is available at <http://www.uta.edu/oit/email/>. There is no additional charge to students for using this account, and it remains active even after they graduate from UT Arlington.

Distance Education Policies: The Industrial & Manufacturing Systems Engineering Department offers most graduate IE courses on-line through streaming-video and Blackboard. This allows graduate students in the IE Program who are enrolled off-campus or part-time to access their classes at their convenience. Log on using your netID and password at <http://elearn.uta.edu> for access to class notes and assignments. A distance student is defined as a student enrolled in the distance section (typically "002" or "003") of an IE course. Please visit the IMSE http://www.uta.edu/ie/current-students/distance-learning.php#distance_policy for details. Pay special attention to Policy #2: **Distance students are required to communicate with the faculty before the second class period.** This "first contact" helps insure that the distance student is not left behind at the beginning of the semester. **I look forward to hearing from all distance students via email soon.**

Librarian to Contact: Sylvia George-Williams sylvia@uta.edu **Subject guide for IMSE:** <http://libguides.uta.edu/IMSE>