**IE 4343**-**001 Fall 2017**

**TTH 11:00AM-12:20PM - Room 100 Life Science Building**

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

Office: 420F, Woolf Hall Email: jrogers@uta.edu Website: http://ie.uta.edu/

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

Required Text: Facilities Planning. Tompkins, White, et.al. John Wiley, 4th edition, 2010.

**Course Description:** IE 4343. FACILITIES PLANNING AND DESIGN (3-0) 3 hours credit. The course covers strategic facilities planning through detailed facilities layout design. Considerations include product flow, space and activity relationships, personnel requirements, material handling, and layout. Traditional and contemporary issues in manufacturing and their impact on facilities design including receiving, shipping, warehousing, and integration with manufacturing and supporting operations are explored. Facilities planning models and the process of evaluating, selecting, preparing, presenting, and implementing the facilities plan are covered. Prerequisite: IE 4303 or concurrent enrollment.

**Course Learning Goals/Objectives:** This course is designed to develop facilities planning and layout skills, including the ability to apply quantitative methods to decision-making in the areas of selecting, preparing, presenting, and implementing facilities plans. These skills have broad applications and can be useful for the planning and design of a manufacturing enterprise, hospital, airport, warehouse/distribution center, etc.

**By the end of the course, you should be able to:**

* Explain the “Winning Facilities Planning Process”
* Determine product, process, and schedule design interactions & Develop personnel requirements
* Analyze flow, space, and activity relationships with impact to material handling and layout alternatives
* Integrate receiving, shipping, warehousing with manufacturing and supporting operations
* Apply standards of professional and ethical responsibility
* Prepare and present a detailed facilities planning project report and layout documenting all steps taken (define problem, generate alternatives, evaluate, select) + justification of your final recommendation.

***General Policies/Guidelines:***

1. Class attendance is expected – “showing up” is the first step toward excellence in any endeavor.
2. 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.
3. Part of the course grade will be based on a term project (with oral presentation) in a relevant area of mutual interest to instructor and student. We will explore specific topics early in the semester to allow sufficient time for proper research and project preparation.
4. If you miss an exam with an approved excuse (e.g. from a doctor stating you are too ill to attend class), you may take a comprehensive final as a makeup.
5. **Course Evaluation & Final Grade:** Grades are based on performance. No curves planned. Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels.

* Course grade will be comprised of performance on exams, pop quizzes and projects.

Exams 60%

Quizzes 20%

Projects 20%

* Performance standard: D 60%, C 70%, B 80%, A 90%

**Key Dates:**

10/17 Project plan including *MSProject* due at beginning of class

10/19 Midterm Exam (Chapers 1-6 + additional relevant material)

11/30 Final Project Reports & Presentation Slides Due at the beginning of class.

12/12 Final Exam (Chapters 7 - 12 + additional relevant material) [11:00AM-12:30PM]

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**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.

**Attendance:** At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. 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. “I will take attendance sporadically” as in the instructor of this section. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients “begin attendance in a course.” UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

**Grade Grievances**: Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog. <http://catalog.uta.edu/academicregulations/grades/#undergraduatetext>

**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://wweb.uta.edu/aao/fao/>).

**Disability Accommodations:** UTArlington 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).Only those students who have officially documented a need for an accommodation will have their request honored. 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](http://www.uta.edu/disability) or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability).

**Counseling and Psychological Services, (CAPS)** [www.uta.edu/caps/](http://www.uta.edu/caps/) or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

**Non-Discrimination Policy:** *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit*[*uta.edu/eos*](http://www.uta.edu/hr/eos/index.php)*.*

**Title IX Policy:** The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated.*For information regarding Title IX, visit* [www.uta.edu/titleIX](http://www.uta.edu/titleIX) or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or [jmhood@uta.edu](file:///C:\Users\jrogers\Downloads\jmhood@uta.edu).

**Academic Integrity:** Students enrolled all UT Arlington courses 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.*

UT Arlington faculty members 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.

**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>.

**Campus Carry:** Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online 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.

**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. 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 individuals with disabilities.

**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](mailto:resources@uta.edu), or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).

**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](http://uta.mywconline.com/) .Classroom Visits, Workshops, and advanced services for graduate students and faculty are also available. Please see [www.uta.edu/owl](http://www.uta.edu/owl) for detailed information.

**Librarian to Contact**: Martin Wallace[martin.wallace@uta.edu](mailto:martin.wallace@uta.edu) **Subject guide:** <http://libguides.uta.edu/IMSE>

**Course Schedule**

*The following table provides a general description of subjects & an approximate timetable. Recall page 1 of this syllabus: As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. –K.J. Rogers*

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| **Week** | **Dates** | **Subject, Key Dates** |
| **01** | **08/24** | Course overview Ch1 Strategic Facilities Planning |
| **02** | **08/29** | Ch1 HW + Start Ch2 Product, Process, & Schedule Design |
| **02** | **08/31** | Ch2 (#24-end) + Ch3 Flow, Space, & Activity Relationships |
| **03** | **09/04** | Labor Day Holiday |
| **03** | **09/05** | Ch2 HW (thru 2-36) + Ch2 HW (2-39-end) + Ch3 HW (3.1-3.11) |
| **03** | **09/07** | ***WERC Conference 7:30am-4:30pm*** |
| **04** | **09/12** | Ch3 HW (3.14-end) + Ch4 Personnel Requirements |
| **04** | **09/14** | Ch4 HW + PE registration process discussoin |
| **05** | **09/19** | Ch5 Material Handling + Distribute Project Assignment to begin to form teams |
| **05** | **09/21** | Mat’l Handling videos + Ch5 HW |
| **06** | **09/26** | **UTA Engineering Career Fair *(10:00am-3:00pm)*** |
| **06** | **09/28** | **Ch6 Layout + Complete Project Team Formation**: Pro-Planner & Visio software discussion |
| **07** | **10/03-05** | Teams work together (VISIO assignment) |
| **08** | **10/10-12** | Teams work together (Proplanner assignment) |
| **09** | **10/17** | Project plan & *MS Project* schedule due + Review for midterm exam (Ch 1-6) |
| **09** | **10/19** | ***Midterm Exam*** |
| **10** | **10/24** | No class (work on projects) |
| **10** | **10/26** | Review midterm exam + Case Study Materials online |
| **11** | **10/31** | Ch7 Warehouse Operations + warehouse equipment discussion |
| **11** | **11/02** | Ch7 HW |
| **12** | **11/07** | Ch8 Manufacturing Operations + Ch9 Facilities Systems + Ch10 Quantitative Facilities Planning Models |
| **12** | **11/09** | Work together in teams on project |
| **13** | **11/14** | Ch10 HW + Ch12 Preparing, Presenting, Implementing the Facilities Plan |
| **13** | **11/16** | Ch11 HW + Ch12 HW + Project mgt. follow-up discussion + Last Q&A for project |
| **14** | **11/21** | Ethics case studies during class |
| **14** | **11/23** | Thanksgiving Holiday |
| **15** | **11/28** | Work together in teams on project |
| **15** | **11/30** | ***Projects due:*** Upload presentation files 11:00am + Oral presentations |
| **16** | **12/05** | Oral presentations cont'd. + Q&A for final exam |
| **16** | **12/06** | Last day of class |
|  | **12/12** | **Final Exam *Note Time!* [11:00AM-12:20PM]** |

**Emergency Phone Numbers**: In case of an on-campus emergency, call UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911.