

IE 6302-004: Facilities Planning and Design
Fall 2017

Instructor(s): Karthik Ayodhiramanujan

Office Number: Woolf Hall Room 420

Office Telephone Number: 817-272-3092

Email Address: karthik.ayodhiramanujan@uta.edu

Faculty Profile: <https://mentis.uta.edu/explore/profile/karthik-ayodhiramanujan>

Office Hours: Mon and Wed (6:00 – 7:00 PM) Virtual; Available 30 mins before and after class on Thursdays.

Section Information: 004

Time and Place of Class Meetings: NH 229; Th 5:30PM to 8:20PM

Description of Course Content: Facilities planning through layout design. Product flow, space-activity relationships, personnel requirements, and material handling are considered, as well as receiving, shipping, warehousing, and integration with manufacturing. Facilities planning models are explored. Prerequisite: IE 5317 or equivalent, IE 5301 or concurrent, and IE 5329, or concurrent or equivalent.

Student Learning Outcomes: 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, Analyze, Select) + Justification of your final recommendation.

Required Textbooks and Other Course Materials: Facilities Planning. Tompkins, White, et.al. John Wiley, 4th edition, 2010. Other course materials such as journal papers and appropriate licensed software will be provided electronically.

Descriptions of major assignments and examinations: Homework will be assigned on regular basis and students are expected to work alone and/or provide appropriate references to their work. There will be two exams (mid-term and final; 30% points each). Project involves the development of an original synthesis report on topic of your interest. Maximum of two students can work together in the project. The report will follow the ISERC 2016 template; available at http://www.iise.org/uploadedFiles/Annual_Conference/Program/ISERC2016_Full_Paper_Template.doc

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. As the instructor of this section, [insert your attendance policy and/or expectations, e.g. "I will take attendance sporadically" or "I have established the following attendance policy: ..."] 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.

Grading: 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 and projects.
 - Homework & pop-quizzes 30%
 - Exams 60%
 - Projects 10%
- Performance standard: D \geq 60%, C \geq 70%, B \geq 80%, A \geq 90%

Make-up Exams: No plans for make-up exams.

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/#graduatetext>.

For student complaints, see <http://www.uta.edu/deanofstudents/student-complaints/index.php>.

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/aao/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). 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 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.

Counseling and Psychological Services (CAPS) 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.*

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 or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or 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 in their courses by 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. Additional information is available at <https://www.uta.edu/conduct/>.

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 face-to-face and online classes categorized as "lecture," "seminar," or "laboratory" are 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 via the SFS database is aggregated with that of other students enrolled in the course. Students' anonymity will be protected to the extent that the law allows. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: for semester-long courses, 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, or view the information at <http://www.uta.edu/universitycollege/resources/index.php>.

University Tutorial & Supplemental Instruction (Ransom Hall 205): UTSI offers a variety of academic support services for undergraduate students, including: 60 minute one-on-one tutoring sessions, Start Strong Freshman tutoring program, and Supplemental Instruction. Office hours are Monday-Friday 8:00am-5:00pm. For more information visit www.uta.edu/utsi or call 817-272-2617.

The IDEAS Center (2nd Floor of Central Library) offers **FREE** tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. Students can drop in, or check the schedule of available peer tutors at www.uta.edu/IDEAS, or call (817) 272-6593.

The English Writing Center (411LIBR): The Writing Center offers **FREE** tutoring in 15-, 30-, 45-, and 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Register and make appointments online at <https://uta.mywconline.com>. Classroom visits, workshops, and specialized services for graduate students and faculty are also available. Please see www.uta.edu/owl for detailed information on all our programs and services.

The Library's 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library's hours of operation. <http://library.uta.edu/academic-plaza>

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

Course Schedule

8/24	Course Overview Ch. 1 – Strategic facilities planning/Introduction Ch. 2 – Product, Process and Schedule design (start)
8/31	Ch. 2 – (end) Ch. 3 – Flow Systems, Activity Relationships, Space requirements
9/7	Ch. 3 – (end) Ch. 4 – Personnel Requirements
9/14	Ch. 5 – Developing Alternatives (Material Handling)
9/21	Pro-Planner Software
9/28	Ch. 6 – Layout Planning Models (Start) Project abstract Due
10/5	Ch. 6 – (End)
10/12	First Mid-Term Exam Chapters 1-6
10/19	Ch. 7 – Warehouse Operations (start)
10/26	Ch. 7 – (end) Ch. 8 – Manufacturing (start)
11/2	Ch. 8 – (end)
11/9	Ch. 10 – Quantitative Facilities Planning Models (start)
11/16	Ch. 10 – (continue)
11/23	Thanksgiving
11/30	Ch. 10 – (Finish) Assorted topics Project Due
12/14	Final Exam (During Class Hours)

“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. – Karthik Ayodhiramanujan

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

LIBRARY library.uta.edu

RESOURCES FOR STUDENTS

Research or General Library Help

Academic Plaza Consultation Services library.uta.edu/academic-plaza

Ask Us ask.uta.edu/

Library Tutorials library.uta.edu/how-to

Subject and Course Research Guides libguides.uta.edu

Librarians by Subject library.uta.edu/subject-librarians

Research Coaches <http://libguides.uta.edu/researchcoach>

Resources

A to Z List of Library Databases libguides.uta.edu/az.php

Course Reserves pulse.uta.edu/vwebv/enterCourseReserve.do

FabLab fablab.uta.edu/

Scholarly Communications (info about digital humanities, data management, data visualization, copyright, open educational resources, open access publishing, and more) <http://library.uta.edu/scholcomm>

Special Collections library.uta.edu/special-collections

Study Room Reservations openroom.uta.edu/

OTHER RESOURCES

Environmental Health & Safety (<http://www.uta.edu/ehsafety>)