

Syllabus for ME 4331, ME 5327: Design for Manufacturing
Fall 2017

Instructor(s): Rob Taylor
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Office Hours: 11:00-12:00 MWF
Section Information: MAE 4331—001, ME 5327-001
Class Meetings: 108 Nedderman Hall, MWF 8:00-8:50 a.m.
Faculty Profile: mentis.uta.edu/explore/profile/robert-taylor

Description of Course Content: Manufacturing methods and operations. The interaction between design and manufacturing stressed in terms of drawing specifications versus process capability and tolerances, including standards applications and redesign for producibility. Students will execute a project to disassemble, analyze, and redesign a product while obtaining feedback from industry concerning manufacturability.

Student Learning Outcomes: After completing the course, the student should

- Understand the product development cycle and manufacturing issues that must be considered in the mechanical engineering design process
- Be familiar with tools and methods to facilitate development of manufacturable mechanical designs

Prerequisites:

Undergraduate students: MAE 3242 Machine Design, MAE 3344 Intro to Manufacturing Engineering
Graduate Students: ME 5326 Manufacturing Processes and Systems

Required Textbooks and Other Course Materials:

Required

Engineering Design, 5th ed., 2013, by George Dieter and Linda Schmidt

Additional references

Design for Manufacturability Handbook, 2nd Ed., by James Bralla

Product Design for Manufacturability and Assembly, 3rd ed., by G Boothroyd, P Dewhurst, and W Knight

Descriptions of major assignments and examinations:

A class schedule will be provided. *Tentative* exam and project schedule is as follows:

- Midterm Exam 1: Oct 13
- Midterm Exam 2: Dec 1
- Final Project: Wednesday, Dec 13, 12:00 p.m.

Attendance: Lecture attendance will not be recorded but you are expected to attend every class and are responsible for information communicated during class times, including lecture material, assignments, and class schedule changes. Students who fail to attend class can expect an impact on their grade.

Quizzes will be given during class time. The lowest quiz score will be dropped in order to accommodate the very occasional urgent matter or sickness that could necessitate an absence.

Shop Exercise: One small group shop exercise lasting 2 hours will be completed outside of normal class time. A sign-up sheet will be passed around during class time and you must sign up for a time that best fits your schedule during a 3 week period indicated on the schedule. The shop exercise assignment will be due at a later date and count as a homework grade.

Grading: Grades will be calculated as follows:

Weighting in Final Score		Letter Grade for Final Scores
Midterm Exam 1:	25%	A ≥ 90% of full credit
Midterm Exam 2:	25%	B ≥ 80%
Final Project:	25%	C ≥ 70%
Homework:	20%	D ≥ 60%
Quizzes:	5%	

Final scores will be calculated from grades recorded in Blackboard. Students are expected to ensure grades are recorded in Blackboard correctly and to promptly request any corrections by providing graded assignment hard copies. Students are also expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor and graduate teaching assistant) if their performance drops below satisfactory levels; see “Student Support Services,” below.

Homework: Weekly homework will be assigned. Homework submission deadlines and policies will be strictly enforced as follows:

- All homework assignments are due at the beginning of class
- All homework assignments must be clearly handwritten on engineering paper using only one side of the paper—if the instructor or TA can’t follow your work or read your writing it will be marked wrong
- Late homework will be accepted for 50% credit with the approval of the instructor (do not submit late assignments to the TA)
- No homework submission will be accepted beyond 72 hours after the deadline
- Late additions to incomplete assignments will not be accepted—turn in everything to be graded at the time of submission
- Homework will not be accepted by email
- Include your name (last name, first name—per university records) and student ID

Make-up Exam Policy: There will be NO make-up exams except in extraordinary circumstances. Missed exams will receive a grade of zero unless the student has an excused absence.

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.

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.

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, which is located out the classroom door and to the right. 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. Students can subscribe to the MavAlert system at <https://mavalert.uta.edu/> or <https://mavalert.uta.edu/register.php>. This system will send information in case of an emergency to cell phones or email accounts.

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>

Course Schedule: A course schedule will be provided in Blackboard. As the instructor for this course, I reserve the right to adjust the schedule in any way that serves the educational needs of the students enrolled in this course.

<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>
