

Fall 2015

ENME 4733

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University of New Orleans

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MACHINE DESIGN

ENME 4733

Department of Mechanical Engineering
Fall Semester 2015
Tuesdays and Thursdays 2:00 – 3:25 pm
EN 320

Instructor

Paul Herrington	
office	EN 920
office hrs	11:00 a.m. – noon T/TH/F or by appointment
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Catalog Description

Course Prerequisites: ENGL 2152, ENME 3734 and credit or registration in ENME 3735. Theory and practice of machine design applied to entire machines. Complete design including drawings, analysis, written report, and oral presentation are required.

Textbook

- *Text* – The Mechanical Design Process, by Ullman, David, 5th Ed., McGraw-Hill (ISBN 978-0-07-339826-6).

Course Topics

- Design Process
- Project Scheduling
- Teamwork
- Need Identification and Problem Definition
- Information Gathering
- Concept Generation
- Concept Evaluation
- Product Generation
- Product Evaluation
- Design of Experiments
- Design Considerations
- Legal and Ethical Issues

Grading

	WEIGHT	DATE
Assignments	10%	VARIES
Midterm Exam	17.5%	OCT 8
Final Exam	17.5%	DEC 3
Design Project	55%	DEC 10
TOTAL =	100%	

Course Administration

- Assignments – Assignments will be given during the course of the semester. Both in-class and out of class assignments will be given.
- Examinations – midterm and final exams will cover textbook material discussed in lectures and found in lecture notes/handouts.
- Design Project – Your participation in a group design project is required. Your team will present and defend your design to a design review jury. Grading for the design project includes the proposal (Sept 17), feasibility study (November 3), design notebook, final report, and oral presentation (December 10).
- Attendance policy - attendance is required in order to excel in this course. At times during the class period, you will be working together as a team and your team is depending on you.
- Classroom conduct – Class starts promptly at 2:00 pm. Late arrivals, phones, and other disturbances are distracting to the instructor and your fellow students. After arriving late on two occasions, each subsequent late arrival will result in the loss of an assignment score.
- It is UNO policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities should contact the Office of Disability Services as well as their instructors to discuss their individual needs for accommodations. For more information, please go to www.ods.uno.edu.
- Academic integrity – academic integrity is fundamental to the process of learning. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Refer to the Student Code of Conduct for further information. The Code is available online at <http://www.studentaffairs.uno.edu>.

Student Learning Outcomes

After completing this course, students will be able to:

- Investigate an engineering problem and define goals and objectives for its solution.
- Evaluate the quality of a design and optimize to meet specific needs.
- Create a project plan that includes identification of significant tasks and deliverables.
- Functionally decompose a problem.
- Demonstrate independent learning skills by devising and investigating feasible ideas.
- Apply statistical design of experiments to improve product performance.
- Identify critical parameters of a design that influence function and performance.
- Communicate deliverables with clarity.
- Work effectively within a design team to create and deliver an effective, professional design presentation.

Program Outcomes Addressed

After completing this course, students will demonstrate:

- an ability to apply knowledge of mathematics, science, and engineering
- an ability to design and conduct experiments, analyze and interpret data
- an ability to design a system, component, or process to meet desired needs
- an ability to function on multi-disciplinary teams
- an ability to identify, formulate, and solve engineering problems
- an understanding of professional and ethical responsibility
- an ability to communicate effectively
- an understanding of the impact of engineering solutions in a global and societal context
- a recognition of the need for, and ability to engage in life-long learning
- knowledge of contemporary issues
- an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
- an ability to apply advanced mathematics, including multi-variate calculus and differential equations
- an ability to apply solid mechanics concepts to mechanical engineering practice.

Important Dates*

Last day to adjust schedule w/out fee 08/18/2015
Semester Classes Begin 08/19/2015
Last day to adjust schedule w/fee,
or withdraw with 100% refund 08/25/2015
Last day to apply for December commencement 09/25/2015
Final day to drop a course or resign 10/14/2015
Mid-semester examinations 10/05-10/09/2015
Final examinations 12/07-12/11/2015
Commencement 12/18/2015

**Note: check Registrar's website for Saturday and A/B sessions, and for items not listed here:
<http://www.registrar.uno.edu>*

Fall Semester Holidays

Labor Day 09/07/2015
Mid-semester break..... 10/15-10/16/2015
Thanksgiving..... 11/26-11/27/2015

Withdrawal Policy – Undergraduate only

Students are responsible for initiating action to resign from the University (withdraw from all courses) or from a course on or before dates indicated in the current Important Dates* calendar. Students who fail to resign by the published final date for such action will be retained on the class rolls even though they may be absent for the remainder of the semester and be graded as if they were in attendance. Failure to attend classes does not constitute a resignation. Check the dates on the Registrar's website, <http://www.registrar.uno.edu>. Please consult The Bulletin for charges associated with dropping and adding courses.

Incomplete Policy – Undergraduate only

The grade of I means *incomplete* and is given for work of passing quality but which, because of circumstances beyond the student's control, is not complete. The issuance of the grade of I is at the discretion of the faculty member teaching the course. For all graduate and undergraduate students, a grade of I becomes a grade of F if it is not converted before the deadline for adding courses for credit (as printed in the Important Dates Calendar) of the next regular semester including summer semester.

Repeat Policy

When a student is permitted to repeat a course for credit, the last grade earned shall be the one which determines course acceptability for degree credit. A student who has earned a C or better in a course may not repeat that course unless, (1) the catalog description indicates that the course may be repeated for credit, or (2) the student's Dean gives prior approval for documented extenuating circumstances.

Graduate Policies

Graduate policies often vary from undergraduate policies. To view the applicable policies for graduate students, see the Graduate Student Handbook:

<http://www.uno.edu/grad/documents/GraduateStudentHandbook2014.pdf>

Academic Dishonesty Policy

<http://www.uno.edu/student-affairs-enrollment-management/documents/academic-dishonesty-policy-rev2014.pdf>

Safety Awareness Facts and Education

Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here:

<http://www.uno.edu/student-affairs-enrollment-management/>

UNO Counseling Services and UNO Cares

UNO offers care and support for students in any type of distress. Counseling Services assist students in addressing mental health concerns through assessment, short-term counseling, and career testing and counseling. Find out more at <http://www.uno.edu/counseling-services/>. First-year students often have unique concerns, and UNO Cares is designed to address those students succeed. Contact UNO Cares through <http://www.uno.edu/fye/uno-cares.aspx>.

Emergency Procedures

Sign up for emergency notifications via text and/or email at E2Campus Notification:

<http://www.uno.edu/ehso/emergency-communications/index.aspx>. All emergency and safety procedures are explained at the Emergency Health and Safety Office: <http://www.uno.edu/ehso/>.

Diversity at UNO

As the most diverse public university in the state, UNO maintains a Diversity Affairs division to support the university's efforts towards creating an environment of healthy respect, tolerance, and appreciation for the people from all walks of life, and the expression of intellectual point of view and personal lifestyle. The Office of Diversity Affairs promotes these values through a wide range of programming and activities. <http://diversity.uno.edu/index.cfm>

Learning and Support Services

Help is within reach in the form of learning support services, including tutoring in writing and math and other supplemental instruction. Visit the Learning Resource Center in LA 334, or learn more at <http://www.uno.edu/lrc/>.

Affirmative Action and Equal Opportunity

UNO is an equal opportunity employer. The Human Resource Management department has more information on UNO's compliance with federal and state regulations regarding EEOC in its Policies and Resources website: <http://www.uno.edu/human-resource-management/policies.aspx>