JEM 123 – Fall, 2023:

Introduction to Computer Aided Design for Mechatronics Engineering

Course Syllabus

Times, Places, and Instructors:

Lecture: Tuesday, 8:30 – 9:20, MJH 139

David Ramsey, Ph.D. dramsey2@unca.edu Office: RRO 204i

Office Hours: T,Th 10:00-11:00

Labs: Section 6L1 - Tuesday, 10:00AM to 11:50AM, RRO 203

Section 6L2 – Tuesday, 1:00PM to 2:50PM, RRO 203

Section 6L3 - Wednesday, 3:00PM to 4:50PM, RRO 203

Section 6L4 - Thursday, 1:00PM to 2:50PM, RRO 203

Laboratory Teaching Assistants:

John Sauvigne   jsauvign@unca.edu

Textbook:

Learn Solidworks – Second Edition

Author: Tayseer Almattar

Publisher: Packt Publishing

eTextbook recommended (see Moodle)

Electronic Resources

This course uses Moodle through NC State University. Log in at https://wolfware.ncsu.edu This course also uses the TopHat app for attendance.

Course Description

This course presents the primary concepts of Computer Aided Design (CAD), using Solidworks as the design tool. This includes solid (parametric) modeling of parts and assemblies, along with generation of engineering drawings – including standard practices for dimensioning and tolerances.

Each week will include a lecture which will introduce new ideas, followed by a "lab" wherein students will be exposed to various aspects of the design process.

Pre- or Co-requisite: E101

Attendance Policy:

Students are expected to attend all lectures and all lab sessions; attendance will be taken.

Course Learning Objectives:

- Students understand the engineering design process and the role that drawings play in that process.
- Students can create 3D solid models of mechanical components using CAD software.
- Students can create mechanical assemblies using CAD software.
- Students can prepare engineering drawings for 3D solid models.
- Students understand engineering drawing conventions.
- Students develop an understanding of select manufacturing processes

Course Schedule

See the separate course schedule in Moodle. The schedule is subject to change at any time. Updates will be discussed in class and/or via email. The most current schedule will be posted on the Moodle site.

Food and Drink

No food will be allowed in the classroom. Water will be allowed in closed containers.

Class Attendance

Attendance and promptness are expected. Students may not enter the classroom until 5 minutes before class starts to allow time for the previous class to exit. Students are expected to stay in class until the class has ended.

In accordance with NCSU policy, instructors in 100- and 200-level courses must keep a record of attendance throughout the semester. One absence is permitted. Each additional unexcused absence will result in points lost from the attendance portion of the grading system. A student is considered absent from class if not present at the time when attendance is taken. Absences will be excused only on a case-by-case basis, at the discretion of the instructor. All work missed due to absences, whether excused or unexcused, must be made up and turned in within one week of the end of the absence period. Contact Ms. Linton to obtain access to closed assignments on Moodle.

Grading

This course follows NCSU policy on grading. Assignment due dates will be listed in Moodle. Late assignments will not be accepted unless previously approved or in cases of excused absences. Questions regarding grading must be submitted via email within one week of the return of the assignment.

Lecture & Lab Attendance:	20%
Lab (Hands-On) Assignments:	10%
Solidworks Assignments:	70%

Grading Scale:

A standard NCSU letter grade scale will be used:

A+ >98; A 93-98; A- 90-93; B+ 87-90; B 83-87; B- 80-83; C+ 77-80; C 73-77; C- 70-73; D+ 67-70; D 63-67; D- 60-63; F below 60.

University Academic Policies

NCSU Policies:

https://policies.ncsu.edu/category/academic-affairs/

UNCA Policies:

http://catalog.unca.edu/content.php?catoid=20&navoid=1217

Academic Integrity

All work in this class shall be done alone by each individual student, without help from anyone else. If a student is suspected of violating this policy, then the NCSU and UNCA academic integrity policies and procedures will be followed.

Students are required to comply with the NCSU policy on academic integrity in the Code of Student Conduct found at *http://policies.ncsu.edu/policy/pol-11-35-01.*

Students are also required to comply with the UNCA policy on academic misconduct found at *https://studenthandbook.unca.edu/student-conduct/academic-misconduct-and-grievances-procedures/*.

Your name on any test or assignment, on paper or through electronic means, indicates "I have neither given nor received unauthorized aid on this test or assignment." Violations of academic integrity will be handled in accordance with the Student Discipline Procedures (NCSU REG 11.35.02, UNCA SD 43965).

Disability Resources

The Joint NCSU/UNCA Engineering Program is committed to making courses accessible to persons with documented disabilities. Students requiring reasonable accommodations must register with the UNCA Office of Academic Accessibility (*https://accessibility.unca.edu/*) by providing supporting documentation. All information provided will remain confidential. For more information, please contact the Office of Academic Accessibility at *academicaccess@unca.edu* or (828) 251-6646. Students in the Joint Engineering Program do not need to register with NCSU's Disability Resource Office.

Non-Discrimination Policy

NC State provides equal opportunity and affirmative action efforts, and prohibits all forms of unlawful discrimination, harassment, and retaliation ("Prohibited Conduct") that are based upon a person's race, color, religion, sex (including pregnancy), national origin, age (40 or older), disability, gender identity, genetic information, sexual orientation, or veteran status (individually and collectively, "Protected Status"). Additional information as to each Protected Status is included in NCSU REG 04.25.02 (Discrimination, Harassment and Retaliation Complaint Procedure). NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at *http://policies.ncsu.edu/policy/pol-04-25-05* or *https://oied.ncsu.edu/divweb/*. Any person who feels that he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Equal Opportunity (OEO) at 919-515-3148.

The University of North Carolina at Asheville is committed to equality of educational experiences for students and is an Equal Employment Opportunity employer. UNC Asheville will not discriminate against students, applicants or employees on the basis of race, color, religion, sex, sexual orientation, genetic information, national origin, age, disability, political affiliation or any other legally protected status with respect to all terms, conditions or privileges of university-sponsored activities, employment and the use of university facilities.

Bullying will not be tolerated in the Joint NCSU/UNCA Engineering Programs.

Promoting Gender Equity; Addressing Sexual Misconduct

UNC Asheville is dedicated to cultivating and maintaining a safe, respectful, and inclusive environment, free from harassment and discrimination. We strive to ensure that all have equal access to the educational and employment opportunities the University provides. If you or someone you know has been affected by sexual misconduct, including sexual or gender-based harassment, sexual assault, dating or domestic violence, or stalking, please know that help and support are available. UNC Asheville strongly encourages all members of the community to take action, seek support, and report incidents of sexual harassment to the Title IX Office. You may contact the Title IX Office or Heather Lindkvist, the Title IX Coordinator, directly at (828) 232-5658 or at *titleix@unca.edu*. Learn more by visiting *https://titleix.unca.edu/*.

As a faculty member, I am a "responsible employee" and private resource. This means that if you share any information or discuss an incident with me regarding sexual or gender-based harassment, I must disclose this information to the Title IX Coordinator. Our goal is to ensure you are aware of the range of options available to you and have access to the resources you may need.

If you wish to speak with a confidential resource, contact University Health and Counseling Services at (828) 251-6520. Off-campus confidential resources include Our Voice (24-Hour Hotline at (828) 255-7576) and HelpMate (24-Hour Hotline at (828) 254-0516).

Health and Well-Being Resources

These are difficult times, and academic and personal stress is a natural result. Everyone is encouraged to take care of themselves. If you need additional support, there are many resources on campus to help you:

- Health and Counseling Center: (*https://healthandcounseling.unca.edu/*)
- If the personal behavior of a classmate concerns or worries you, either for the classmate's well-being or yours, we encourage you to report this behavior to the UNCA CARE and Crisis team: (*https://dos.unca.edu/referring-a-concern/concerned-about-a-fellow-student/*)

- If you or someone you know are experiencing food, housing, or financial insecurity, please contact the UNCA Dean of Students (*https://dos.unca.edu/*).

Other Important Resources

- *https://engineering.unca.edu/*

- Learning with Moodle, a student's guide to using Moodle: *https://moodle-projects.wolfware.ncsu.edu/course/view.php?id=226*

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