

NC STATE UNIVERSITY

JEM 123.602 Course Syllabus

Introduction to Computer Aided Design for Mechatronics Engineering

Spring, 2026

Instructor Information

Name	Phone	Email	Office Location
David Ramsey	828.251.6944	dramsey2@unca.edu daramse2@ncsu.edu	Rhoades- Robinson 204i



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Office Hours

Tuesday, Thursday 1:00 - 2:00

Preferred Method of Communication & Response Time

- **Preferred method of communication:** If you need to contact me directly, my preferred method of communication is email. You can expect to receive a response within two business days (i.e. not over the weekend). If I email you directly, please strive to respond within two business days. It is recommended that you check your NC State and UNCA email at least once a day to stay on top of course communications.
- **Asking questions about the course:** If you have a question about the course or its content, you can email me or post your question on the Student Help Forum in Moodle. You can expect to receive a response within two business days (i.e. not over the weekend).
- **Email guidelines:** Always include a descriptive, specific, but concise subject. Include your course number and section in your email, and provide adequate context for your question in order to ensure full understanding of your email. Be sure to use your NC State email account, and sign in with your name and Student ID number.

Course Information

Course Website: [NC State WolfWare](#)

Meeting Time and Location: Thursday, 12:00-12:50; Rhoades-Robinson 125

Course Credit Hours: 1

Catalog Description

This course presents the basic concepts of Computer Aided Design (CAD) for Mechatronics Engineering. Solidworks is used as the design tool. Students learn solid modeling of parts and assemblies, along with

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generation of engineering drawings. This includes standard practices for dimensioning and tolerances. Offered at UNC Asheville only.

Structure

The majority of this course is **synchronous**, delivered through real-time, face-to-face class sessions. Additional materials and activities are delivered through **Moodle**, a secure and easy-to-use online learning platform.

Learning activities in this course will include reading assignments, videos, narrated PowerPoint presentations, and CAD homework assignments.

This course consists of 14 modules. Most modules last one week, while a few may require two weeks to cover all topics. Each module begins on Sunday and ends the following Sunday. Assignments are due by midnight on Sunday.

Meeting Time and Tool Used

Classes are scheduled for Thursday, 12:00 -12:50 in Rhoades-Robinson 125

Prerequisites/Corequisites

Prerequisite: E 101

Minimum Technical and Digital Information Literacy Skills

- Navigate and use Moodle, NC State's Learning Management System.
- Use Gmail, including attaching files to email messages.
- Create and submit files in commonly used word processing program formats (MS Word, text editors, Google Docs).
- Download and install software as needed (see [section on required software](#)).
- Download and upload attachments.

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- Use spreadsheets, presentations, graphics programs, and other applications in digital environments.
- Use web conferencing tools including Zoom and Google Meet.
- Post to discussion boards and forums.

Artificial Intelligence

Use of AI permitted, but not required.

General Education Program (GEP) Information

GEP Category Fulfilled

None.

GEP Corequisites

None.

Learning Outcomes

Upon completion of this course, students will be able to:

1. Demonstrate the role of CAD tools in the design process
2. Create 3-D solid models of simple parts and assemblies
3. Create basic engineering drawings with standard dimensioning and tolerances

Course Materials

Required textbook

A Hands-On Introduction to Solidworks 2025

Author: Kirstie Platenberg, SDC Publications, eTextbook; RedShelf Version; \$62.

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Technology Requirements

NC State University Libraries offers [Technology Lending](#), where many devices are available to borrow for a 7-day period. The computer lab in RRO 203 on the campus of UNC Asheville is available for student use.

Computer

A Windows-based laptop computer is highly recommended for students taking this course. Departmental desktop computers are also available. NC State's Office of Information Technology provides recommendations for [your computer at NC State](#).

Other devices

None.

Software and digitally-hosted course components

The following software and tools will be used in this course. Some tools are a part of NC State's enterprise tools. See [information about their purpose, how to access them, accessibility information, and privacy policies](#). The same information for any other tools required in this course is provided in the list below.

- Solidworks Student Edition. See <https://it.engr.ncsu.edu/engineering-software/> for download information.
- TopHat for attendance.

Other Student Expenses

- None.

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Communication Guidelines

Respecting our learning community

The [NC State Code of Student Conduct](#) outlines expectations for behavior in the classroom (whether virtual or physical) and the consequences for students who violate these expectations. Any behavior that impacts other students' ability to learn and succeed will be addressed, but expressing diverse viewpoints and interpretations of course content is welcome.

Community guidelines for this course include:

- Use a respectful tone in all forms of communication (email, written, oral, visual).
- Maintain professionalism (avoid slang, poor grammar, etc.) in your written communication.
- Respect regional dialects and culturally embedded ways of oral communication.
- Stay home or in your dorm room if you are exhibiting symptoms of a contagious illness (fever, chills, etc.).
- Enter our virtual and/or physical classroom community respectfully by refraining from lewd or indecent speech or behavior, helping to maintain a safe physical environment, not using your cell phone for voice or text communication except when explicitly given leave to do so, and not attending class under the influence of any substance.
- Treat each community member with respect by not recording others without their consent or engaging in any form of hazing, harassment, intimidation, or abuse.
- Respect cultural differences that may influence communication styles and needs.]

Expectations for learner participation and interaction

Some course activities, including synchronous class sessions, Moodle Forums, Yellowdig, and group work, will require you to interact with other students in the course. Communication expectations, including frequency and content, are detailed in the information about each assignment or activity when it appears in the course.

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Grading and Feedback

Grading criteria, details, and timing of feedback

Percent age of grade	Component	Details and timing of feedback
10%	Attendance	• TopHat will be used to track lecture attendance
90%	Weekly assignments	• Textbook problems and exercises • You will receive a grade/feedback within one week of the due date.*

*modifications to the timing of grades/feedback, if required, will be announced via email.

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Grading scale

This course uses this grading scale:

Low	Letter	High
97 ≤	A+	≤ 100
93 ≤	A	< 97
90 ≤	A-	< 93
87 ≤	B+	< 90
83 ≤	B	< 87
80 ≤	B-	< 83
77 ≤	C+	< 80
73 ≤	C	< 77
70 ≤	C-	< 73
67 ≤	D+	< 70
63 ≤	D	< 67
60 ≤	D-	< 63

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$0 \leq$	F	< 60
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Course Schedule

Please note: the course schedule is subject to change.

We ek	Topic	During Class	Homework
1	Course Introduction; Graphical Communication	Lecture	Chapter 1 Reading and Exercises (see Moodle)
2	Basic Modeling in Solidworks	Lecture	Chapter 2 Reading and Exercises (See Moodle)
3	Basic Part Drawings	Lecture	Chapter 3 Reading and Exercises (See Moodle)
4	Intermediate Part Modeling	Lecture	Chapter 4 Reading and Exercises (See Moodle)
5	Intermediate Part Drawings	Lecture	Chapter 5 Reading and Exercises (See Moodle)
6	Configurations in Solidworks	Lecture	Chapter 7 Reading and Exercises (See Moodle)
7	Basic Assemblies in Solidworks	Lecture	Chapter 8 Reading and Exercises (See Moodle)
8	Assembly Drawings in Solidworks	Lecture	Chapter 9 Reading and Exercises (See Moodle)
9	Advanced Modeling in Solidworks	Lecture	Chapter 10 Reading and Exercises (See Moodle)

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10	Intermediate Assembly in Solidworks	Lecture	Chapter 11 Reading and Exercises (See Moodle)
11	Tolerancing and Threads in Solidworks	Lecture	Chapter 12 Reading and Exercises (See Moodle)
12	Parametric Modeling in Solidworks	Lecture	Chapter 13 Reading and Exercises (See Moodle)
13	Advanced Assembly in Solidworks	Lecture	Chapter 14 Reading and Exercises (See Moodle)
14	3D Sketches in Solidworks	Lecture	Chapter 15 Reading and Exercises (See Moodle)
15	Rendering in Solidworks Visualize	Lecture	

Course Policies

Proctored exams

Not applicable.

Late assignments

Late assignments will be accepted with a 2% penalty for every day submitted late. Assignments submitted later than 2 weeks past the original due date will NOT be accepted.

Incomplete grades, withdrawals

Information on incomplete grades can be found at [REG 02.50.03 – Grades and Grade Point Average](#). If you encounter a serious disruption to your work not caused by you and you would have otherwise successfully completed the course, contact your instructor as soon as you can to discuss the possibility of earning an incomplete in the course for the semester, including an agreement on when the remaining work must be done in order to change the grade to the appropriate letter grade. UNCA requirements apply as well.

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If your student must withdraw from a course or from the University due to hardship beyond their control, see [Withdrawal Process and Timeline | Student Services Center](#) for information and instructions. UNCA requirements apply as well.

Attendance

- Attendance is required. Unexcused absences >2 will result in grade penalties
- Excuses for unanticipated absences must be presented to the instructor within one week after the return to class.

Related NC State Policy: [REG 02.20.03 – Attendance Regulations](#)

University Policies (NCSU and UNCA)

Academic integrity and honesty

NC State

Students are required to comply with the university policy on academic integrity found in the [Code of Student Conduct 11.35.01 sections 8 and 9](#). Therefore, students are required to uphold the Pack Pledge: “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](#).

Please refer to the [Academic Integrity](#) web page for a detailed explanation of the University’s policies on academic integrity and some of the common understandings related to those policies.

UNC Asheville

The university’s policy on academic honesty states that “As a community of scholars dedicated to learning and the pursuit of knowledge UNC Asheville relies on the honesty and academic integrity of all the members of its community. Any act of plagiarism or cheating is academic dishonesty. A person who knowingly assists another in cheating is likewise guilty of cheating. According to the instructor’s view of the gravity of the offense, a student may be punished by a failing grade or a grade of zero for the assignment or test, or a failing grade in the course. If it seems warranted, the instructor may also recommend to the Provost dismissal or

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other serious university sanction.” I expect that you will exercise integrity in all quizzes, exams, and written assignments. Please email me or pop in during student hours if you have additional questions or need clarification on any point. You can find additional information regarding the policy and potential grievance procedures here: <https://studenthandbook.unca.edu/student-conduct/academic-misconduct-and-grievances-procedures/>

Student privacy

Originality Checking Software

Software is not used in this course to detect the originality of student submissions.

Class recording statement:

Students will not be able to be identified in any course recordings, or the course will not be recorded at all.

Class privacy statement:

This course requires online exchanges among students and the instructor, but NOT with persons outside the course. Students may be required to disclose personally identifiable information to other students in 13 the course, via electronic tools like email or web postings, where relevant to the course. Examples include online discussions of class topics and posting of student coursework. All students are expected to respect the privacy of each other by not sharing or using such information outside the course.

Other Policies

Students are responsible for reviewing the NC State University PRR's which pertain to their course rights and responsibilities:

- [Equal Opportunity and Non-Discrimination Policy Statement](#) and [additional references](#)
- [Code of Student Conduct](#)
- [Grades and Grade Point Average](#)
- [Credit-Only Courses](#)
- [Audits](#)

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Student Resources (UNCA)

Academic and Student Affairs maintains a website with links for student support on campus, including academic support, community support, health and wellness, financial hardship or insecurity, and more. [Find Help on UNCA's Campus.](#)

Disability resources

UNC Asheville is committed to providing accessible learning environments and equal opportunity to individuals with disabilities in accordance with the [Americans with Disabilities Act \(ADA\)](#) and [Section 504 of the Rehabilitation Act](#).

If you are a student experiencing barriers to access or full participation in this course on the basis of a disability, contact the Office of Accessibility (OA) to apply for reasonable accommodations and discuss available resources. You may contact the [OA](#) at academicaccess@unca.edu or 828-251-6292 or visit Zageir Hall Room 120.

To discuss approved academic accommodations, please contact me as early in the semester as possible and provide your letter of accommodation (LOA) from the OA. I want to ensure that we have adequate time and a confidential setting to discuss and arrange your approved accommodations. Accommodations are not retroactive and will be implemented when the LOA is discussed.

Supporting Fellow Students in Distress

The Campus Assessment, Response, and Education (CARE) Team is an interdisciplinary unit that works collaboratively to provide intervention, resources, and assistance to students that are struggling with their success at UNC Asheville. College is a time of continual growth and transition and some of these transitions and life events may spark personal crises that inhibit a student's personal and academic success. The CARE Team partners with faculty, staff, students, parents, and families to address these concerns and ensure the health and safety of all our students. Members of the Team include representatives from the Dean of Students Office, Residence Life, Academic Success, Accessibility, Campus Safety, and the Health and Counseling Center. If you are concerned about your student and are not sure what office or department would best help you address the concern, please complete the [Student Support Referral Form](#) as soon as possible.

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Course Evaluations (NCSU)

ClassEval is the end-of-semester survey for students to evaluate the instruction of all university classes. The current survey is administered online and includes 12 closed-ended questions and 3 open-ended questions. Deans, department heads, and instructors may add a limited number of their own questions to these 15 common-core questions.

Each semester students' responses are compiled into a ClassEval report for every instructor and class. Instructors use the evaluations to improve instruction and include them in their promotion and tenure dossiers, while department heads use them in annual reviews. The reports are included in instructors' personnel files and are considered confidential.

Online class evaluations will be available for students to complete during the last two weeks of the semester for full-semester courses and the last week of shorter sessions. Students will receive an email directing them to a website to complete class evaluations. These become unavailable at 8 am on the first day of finals.

- Contact ClassEval Help Desk: classeval@ncsu.edu
- [ClassEval website](#)
- [More information about ClassEval](#)

Syllabus Modification Statement

Our syllabus represents a flexible agreement. It outlines the topics we will cover and the order in which we will cover them. Dates for assignments represent the earliest possible time they would be due. The pace of the class depends on student mastery and interests. Thus, minor changes in the syllabus can occur if we need to slow down or speed up the pace of instruction.