



COURSE SYLLABUS

College Name: College of Science & Technology

Department Name: Physics

Course Name: Weather and Climate Studies

COURSE INFORMATION

- Course Number/Section: ASME 234-05B
- Term: Spring 2021
- Semester Credit Hours: 3
- Times and Days: Online – any day, anytime
- Class Location: Wherever there is internet

<https://www.ncat.edu/employee-bio.php?directoryID=1518728835>

INSTRUCTOR CONTACT INFORMATION

- Instructor: Dr. Yuh-Lang Lin
- Office Location: 302H Gibbs Hall
- Office Phone: 336-285-2127 (Try to use email during pandemic)
- Email Address: ylin@ncat.edu
- *Student's questions will be answered within 48 hours. Send a reminder if you don't hear from me within 48 hours.*

STUDENT HOURS

Email me anytime

Monday Tuesday Wednesday Thursday Friday

COURSE PREREQUISITES

“Climate Studies: Introduction to Climate Science” by Chad M. Kauffman. American Meteorological Society, 2016. [<https://edubooks.ametsoc.org/CLTX-Ed1>]

COURSE DESCRIPTION

This course introduces students to scientific inquiry and the scientific method through a study of the principles of meteorology and climatology. It covers the basics of climate extremes, climate change and global warming, and atmospheric circulations along with the role of oceans in the climate system. The course will address common misconceptions in weather and climate, natural and anthropogenic climate change that we often encounter in the media and private conversations. It will assess climate change and public policy issues. The course aims to include historical case studies such as the impact of weather extremes on famous war battles, movement of communities and settlements. The course will also introduce GIS tools for mapping weather and climate anomalies, major historical wars and community movements.

- Distinguish weather information from climate information,
- Critical thinking and analysis of weather and climate issues,
- Know the different components of the Climate system,
- Understand the differences or similarities of natural and anthropogenic climate change and global warming,
- Understand the potential causes of global warming and have a greater appreciation of the importance of climate science in our everyday lives and its role in influencing policy decision-making,
- Learn major weather systems and circulation patterns and form a basic understanding of the mechanisms of the atmospheric system,
- Learn about the national and international responses of climate change.

Class motto: “*Weather and Climate affect everything and everyone in different ways.*”
“*Weather is what you get, climate is what you expect!*”

Important questions:

“How do different components of the climate system work together to effect changes?”

“How does the changing climate affect our life styles? Should we be concerned?”

STUDENT LEARNING OBJECTIVES/OUTCOMES (SLO)

This course is a General Education Course.

REQUIRED TEXTBOOKS AND MATERIALS

REQUIRED TEXTS:

“**Climate Studies: Introduction to Climate Science**” by **Chad M. Kauffman**. American Meteorological Society, 2016. [<https://edubooks.ametsoc.org/CLTX-Ed1>]

REQUIRED MATERIALS:

NA

SUGGESTED COURSE MATERIALS

SUGGESTED READINGS/TEXTS:

“Meteorology Today: An Introduction to Weather, Climate, and the Environment” by C. Donald Ahrens.

SUGGESTED MATERIALS:

www.meted.ucar.edu. Relevant topics will be announced from time to time. This is a free website but you need to register.

GRADING POLICY

94% and above	A	76% - 74%	C
93% - 90%	A-	73% - 70%	C-
89% - 87%	B+	69% - 67%	D+
86% - 84%	B	66% - 64%	D
83% - 80%	B-	63% - 60%	D-
79% - 77%	C+	59% - 00%	F

GRADING ALLOCATION

Course grades are based on a weighted grading scale of 100%. The breakdown for the course is as follows:

40%	Homework assignments/Quizzes
30%	Midterm
30%	Final Exam

COURSE POLICIES

MAKE-UP EXAMS

Any request for a make-up should follow the University's policies and procedures. Penalty may be applied.

EXTRA CREDIT

NA

LATE WORK

Penalty will be applied for late submission of assignments. For an assignment, a 10% per day will be applied.

SPECIAL ASSIGNMENTS

Students are expected to attend class and participate on a regular basis in order to successfully achieve course learning outcomes and meet federal financial aid requirements ([34 CFR 668.22](#)). [Class attendance in online courses is defined as active participation in academically-related course activities.](#) Active participation may consist of course interactions with the content, classmates, and/or the instructor. Examples of academically-related course activities include, but are not limited to:

- Completing and submitting assignments, quizzes, exams, and other activities within Blackboard or through Blackboard (3rd-party products).
- Participating in course-related synchronous online chats, discussions, or meeting platforms such as Blackboard Collaborate in which participation is tracked.

CLASSROOM CITIZENSHIP

Courtesy, civility and respect must be the hallmark of your interactions.

COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT

North Carolina A&T State University (N.C. A&T) is committed to following the requirements of the Americans with Disabilities Act Amendments Act (ADAAA) and Section 504 of the Rehabilitation Act.

If you need an academic accommodation based on the impact of a disability, you must initiate the request with the Office of Accessibility Resources (OARS) and provide documentation in accordance with the Documentation Guidelines at N.C. A&T. Once documentation is received, it will be reviewed. Once approved, you must attend a comprehensive meeting to receive appropriate and reasonable accommodations. If you are a student registered with OARS, you must complete the Accommodation Request Form to have accommodations sent to faculty.

OARS is located in Murphy Hall, Suite 01 and can be reached at 336-334-7765, or by email at accessibilityresources@ncat.edu. Additional information and forms can be found on the internet at <https://www.ncat.edu/provost/academic-affairs/accessibility-resources/index.php>.

Please note: Accommodations are not retroactive and begin once the Disability Verification Form is provided to faculty.

TITLE IX

North Carolina A&T State University is committed to providing a safe learning environment for all students—free of all forms of discrimination and harassment. Sexual misconduct and relationship violence in any form are inconsistent with the university’s mission and core values, violate university policies, and may also violate federal and state law. Faculty members are considered “Responsible Employees” and are required to report incidents of sexual misconduct and relationship violence to the Title IX Coordinator. If you or someone you know has been impacted by sexual harassment, sexual assault, dating or domestic violence, or stalking, please visit the Title IX website to access information about university support and resources <https://www.ncat.edu/legal/title-ix/index.php>. If you would like to speak with someone confidentially, please contact the Counseling Services at 336-334-7727 or the Student Health Center at 336-334-7880.

TECHNICAL SUPPORT

If you experience any problems with your N.C. A&T account, you may call Client Technology Services (formerly Aggie Tech Support and Help Desk) at 336-334-7195, or visit <https://hub.ncat.edu/administration/its/dept/ats/index.php>.

FIELD TRIP POLICIES / OFF-CAMPUS INSTRUCTION AND COURSE ACTIVITIES

If applicable:

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and university policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at <https://www.ncat.edu/campus-life/student-affairs/index.php>.

STUDENT HANDBOOK

<https://www.ncat.edu/campus-life/student-affairs/departments/dean-of-students/student-handbook.php>

STUDENT TRAVEL PROCEDURES AND STUDENT TRAVEL ACTIVITY WAIVER

https://hub.ncat.edu/administration/student-affairs/staff-resources/student_activity_travel_waiver.pdf

OTHER POLICIES (e.g., Copyright Guidelines, Confidentiality, etc.)

STUDENT HANDBOOK

<https://www.ncat.edu/campus-life/student-affairs/departments/dean-of-students/student-handbook.php>

[Graduate Catalog](#)

SEXUAL MISCONDUCT POLICY

<https://www.ncat.edu/legal/title-ix/sexual-harassment-and-misconduct-policies/index.php>

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)

<https://www.ncat.edu/registrar/ferpa.php>

STUDENT COMPLAINT PROCEDURES

<https://www.ncat.edu/current-students/student-complaint-form.php>

STUDENT CONDUCT AND DISCIPLINE

North Carolina A&T State University has rules and regulations that govern student conduct and discipline meant to ensure the orderly and efficient conduct of the educational enterprise. It is the responsibility of each student to be knowledgeable about these rules and regulations.

Please consult the following about specific policies such as academic dishonesty, cell phones, change of grade, disability services, disruptive behavior, general class attendance, grade appeal, incomplete grades, make up work, student grievance procedures, withdrawal, etc.:

- Undergraduate Bulletin
<https://www.ncat.edu/provost/academic-affairs/bulletins/index.php>
- Graduate Catalog
<https://www.ncat.edu/tgc/graduate-catalog/index.php>
- Student Handbook
<https://www.ncat.edu/campus-life/student-affairs/departments/dean-of-students/student-handbook.php>

ACADEMIC DISHONESTY POLICY

Academic dishonesty includes but is not limited to the following:

1. Cheating or knowingly assisting another student in committing an act of cheating or other academic dishonesty;
2. Plagiarism (unauthorized use of another's words or ideas as one's own), which includes but is not limited to submitting exams, theses, reports, drawings, laboratory notes or other materials as one's own work when such work has been prepared by or copied from another person;
3. Unauthorized possession of exams or reserved library materials; destroying or hiding source, library or laboratory materials or experiments or any other similar actions;
4. Unauthorized changing of grades, or marking on an exam or in an instructor's grade book or such change of any grade record;
5. Aiding or abetting in the infraction of any of the provisions anticipated under the general standards of student conduct;

6. Hacking into a computer and gaining access to a test or answer key prior to the test being given. N.C. A&T reserves the right to search the emails and computers of any student suspected of such computer hacking if a police report of the suspected hacking was submitted prior to the search; and
7. Assisting another student in violating any of the above rules.

A student who has committed an act of academic dishonesty has failed to meet a basic requirement of satisfactory academic performance. Thus, academic dishonesty is not only a basis for disciplinary action but may also affect the evaluation of a student's level of performance. Any student who commits an act of academic dishonesty is subject to disciplinary action.

In instances where a student has clearly been identified as having committed an act of academic dishonesty, an instructor may take appropriate disciplinary action, including a loss of credit for an assignment, exam or project; or awarding a grade of "F" for the course, **subject to review and endorsement by the chairperson and dean.**

For GRADUATE STUDENTS: Reference for academic dishonesty – 2021-2021 Graduate Catalog, p.59

For GRADUATE STUDENTS: STUDENT RELIGIOUS OBSERVANCE (see Graduate Catalog, p.55)

ASSIGNMENTS AND ACADEMIC CALENDAR

Topics, Reading Assignments, Due Dates, Exam Dates (optional: withdrawal dates, holidays, etc.)

Date	Chapter	Topic	Remarks
1/25 – 1/31	1	Earth's Climate as a Dynamic System	Assignment 1 due
2/1 – 2/7	2	Observing Earth's Climate System	Assignment 2 due
2/8 – 2/14	3	Tools for Investigating Earth's Climate System	Assignment 3 due
2/15 – 2/21	4	Radiation and Heat in the Climate System	Assignment 4 due
2/22 – 2/28	5	Water in Earth's Climate System	Assignment 5 due
3/1 – 3/7	6	Global Atmospheric Circulation	Assignment 6 due
3/10 (W)		Midterm (Ch. 1-6)	Report due – 3/15/21
3/15 – 3/21	7	Atmosphere-Ocean Relationships	Assignment 7 due
3/22 – 3/28	8	Natural and Anthropogenic Drivers of Climate Change	Assignment 8 due
3/29 – 4/4	9	Paleoclimatic Investigations: Relevancy to the Present State of Climate	Assignment 9 due
4/5 – 4/11	10	Future Projections and Extremes of Climate	Assignment 10 due
4/12 – 4/18	11	Human and Ecosystem Vulnerabilities	Assignment 11 due
4/19 – 4/25	12	Climate Change Mitigation and Energy Use	Assignment 12 due
4/26 – 5/2	13	Human Needs, Actions and Public Policy	Assignment 13 due
5/5 (W)		Final (Ch. 7-13)	