

*Physical Science, Math & Engineering Division  
Earth & Space Science Program – Dept. of Meteorology*

**Logistical Information:**

Course	MET 10.63Z (CRN 32554) Weather & Climate Processes – Winter 2024
Instructor	Bridget James
Class Location	Canvas: <a href="https://deanza.instructure.com">https://deanza.instructure.com</a>
Office Hours	Wednesdays 2 pm – 4 pm (Instant Email Replies or Canvas Messages)
E-mail	jamesbridget@fhda.edu

**Course Description:**

Introduction to the principles of the sciences of meteorology and climatology, including the history of the sciences; origin, evolution, and structure of the atmosphere; major atmospheric variables that determine weather; global and local wind circulations; air masses and frontal systems; birth and development of extratropical and tropical cyclones and associated severe weather phenomena; weather map analysis and interpretation; objective techniques used by meteorologists to forecast weather; air pollution; atmospheric optics, global climate and the processes that produce climate change including "global warming."

**Textbook & Materials Needed:**

- Nugent, Alison, et al., 2020, Atmospheric Processes and Phenomenon, 1<sup>st</sup> Edition, Open Educational Resource: <http://pressbooks-dev.oer.hawaii.edu/atmo/>
- Regular and reliable access to a computer with reliable high-speed Internet.

**Grading:**

Best 4 out of 5 Discussions (75 pts each)	30% (300 points)
Best 10 out of 11 Activities (50 pts each)	50% (500 points)
Midterm Project (100 points)	10% (100 points)
<u>Final Exam (100 points)</u>	<u>10% (100 points)</u>
Total Points for course	1000 points

FINAL GRADES			
Grade	Points Needed	Grade	Points Needed
A	920-1000	C	700-779
A-	900-919	D+	680-699
B+	880-899	D	620-679
B	820-879	D-	600-619
B-	800-819	F	BELOW 600
C+	780-799		

**About Asynchronous Online Courses:**

The content covered between an in-person and an online course is the same, but some benefits and challenges must be considered when taking an asynchronous online course such as this one. Asynchronous online courses offer much more flexibility in completing course material than other course modalities. However, you must have good self-discipline in promptly completing these tasks. Remember that the due date should never be the “do” date. Completing assignments well before the deadline will go a long way toward your success in this course. Use a calendar to set aside “class time” and “homework” to satisfy course requirements. Since this is a 5-unit course, this includes 5 hours per week engaged in direct instructional activities such as watching recorded lectures and documentaries and participating in instructor-facilitated, peer-led discussion forums (some lectures and/or documentaries are a bit longer, some a bit shorter - see each module in Canvas for details). In addition, you should spend at least 300 minutes on average per week on assigned readings, completing module activities, completing the midterm project, and studying and completing the final exam in this course. If your work schedule changes week-to-week, schedule your “class time” immediately after your work schedule is set to help hold yourself accountable for the class time and homework required for this course that week.

**About Online Office Hours:**

The time listed as "online office hours" is time dedicated to you. I will reply to your email within a few minutes during this time. We can discuss course assignments, topical interests, career choices focused on the planet we call home, or anything else to help you succeed in this course. Just send me an email to get the conversation started. Also, feel free to email me anytime outside of office hours. Outside of office hours, you will hear back from me anywhere from a few minutes to within a few hours and, at most, within 24 hours (although this is rare), depending on the timing of your email and my work schedule. Note that evening emails may not be responded to until the next day, and weekend emails may not be responded to until Monday afternoon due to other obligations.

**Modules:**

A module is a specific and discrete learning segment that leads to understanding a given topic in the course. Modules will be assigned by topic on Canvas, which include 1.) Lectures and/or documentaries; 2.) Assigned Reading; 3.) Module

Activities. In addition to these module assignments, there will be Discussion Forum assignments, a Midterm Project, and a Final Exam for this course. Please read the instructions below for the details of each of these tasks.

### **Overview of Weekly Topics & Tasks (See Canvas for Details)\***

- Module 1: Intro to Weather & Climate (1/8 - 1/14)
- Module 2: Heat & Temperature (1/15 - 1/21)\*\*
- Module 3: Humidity & Clouds (1/22 - 1/28)
- Module 4: Atm. Stability & Precipitation (1/29 - 2/4)
- Module 5: Air Pressure & Wind (2/5 - 2/11)
- Module 6: Atmospheric Circulation (2/12 - 2/18)\*\*\*
- Module 7: Air Masses & Weather Fronts (2/19 - 2/25)\*\*
- Module 8: Thunderstorms (2/26 - 3/3)
- Module 9: Hurricanes (3/4 - 3/10)
- Module 10: Climate Change, Part I (3/11 - 3/17)
- Module 11: Climate Change, Part II (3/18 - 3/24)
- Final Exam: Monday, March 25th (8 am - 11:59 pm)

\*The overview of weekly topics and tasks above does not include the Discussion Assignment schedule. See the "Discussion Assignment" section below for this schedule. This schedule is also available on Canvas.

\*\*Martin Luther King Jr. Holiday falls on January 15th. Module 2 and the Discussion assignment will remain open for those of you who would like to use this holiday to complete these assignments.

\*\*\*Presidents' Day Holiday falls between February 16th and 19th. Modules 4 and 5 and the Discussion assignment will remain open for those of you who would like to use the holiday weekend to complete these assignments.

### **Lectures:**

Lectures will be presented online as PowerPoint presentations converted into a format that can be watched and listened to on YouTube ©. A link to each lecture will be provided. Like a traditional course, you will be expected to take notes while listening to the lecture. A benefit to a recorded lecture is that you can re-listen to any topic anytime. Any questions you may have during the lecture should also be written down immediately in your notebook. Sometimes, those questions answer themselves further in the lecture. What isn't answered should be e-mailed to me. Missing lectures can severely impact your ability to learn the course material, leading to a poor grade. Exam questions almost always come directly from lectures, so be sure to discipline yourself to listen and take notes. Then, study the concepts learned in the lecture for the upcoming exam. Notes do not need to be submitted. Please keep those for reviewing purposes.

### **Module Activities (50 points each, 500 total points, 50% of your grade):**

There will be eleven module activities this term. Module activities are individual summative assessments completed after reading the associated chapter within the textbook, listening to the lecture, and watching the documentary (if any) for the assigned module that week. Module Activities are not timed, are open book and open notes, and are due on the date/time stated within the instructions of each assignment. The module activities can be both problem-solving and/or review questions based on the lecture, reading, and/or films watched. You will turn in these activities online on Canvas. Emailed assignments are not accepted for any reason. Each activity will have submission instructions.

Module Activities are designed to see how well you comprehend the more in-depth concepts taught in the lecture, assigned reading, and documentaries. Module Activities are the most important indicator of competency in this course since the eleven module activities together go more in-depth into your understanding of detailed concepts than either the midterm project or final exam will be able to do. This is why these assignments together are heavily weighted towards your final grade at 50%, while the midterm project and final exam are only worth 10% each.

If you have a situation where you cannot submit an activity by its due date, I will accept most activities late without penalty, but only for a specified period (see activity instructions for details). Once that period (the grace period) has passed, I cannot extend the assignment further due to grades and answers being released to students. However, I will also drop the lowest activity score from your final grade to aid in illness or other prolonged issues. Please be aware that if you miss more than this amount, you may become too far behind to effectively pass the course. In this case, you should withdraw from the course before the withdrawal deadline.

### **Discussions (75 points each, 300 points total, 30% of your grade):**

There will be five discussion assignments this term, and each Discussion assignment will be two weeks in length. This two-week period is provided to give you extra flexibility in completing this assignment that a weekly discussion assignment cannot give. Assuming your individual post meets the criteria for the discussion, posting once during this two-week period will earn you 65/75 points. Posting twice during this two-week period will earn you a full 75/75 points.

### ***The criteria your individual posts need to meet to receive credit:***

- Since this is an Earth Science-focused course, all your posts need to focus on the science of the Earth/Atmosphere/Ocean itself, **not the life on it**. For example, discussing how a polar bear is affected by climate change is off-topic. Discussing how the Earth/Atmosphere/Ocean itself is affected by climate change is on-topic.

- Every **individual** post you create for credit needs at least 100 words (preferably more). This is the absolute minimum. Anything less than 100 words will not count for credit because it will not be long enough to have covered your topic effectively to earn points.
- Your post will require a citation(s) if you used an outside resource for the information in your post. However, the post itself needs to always be in your own words. I need to grade your words and how you specifically engage your peers, not someone else's words.
- Your posts aren't all on the last day the discussion period is open. If, for some reason, that happens, you will still get partial credit, but your score will only be 55/75 points. This is not punitive, but instead due to all of your posts not being available long enough during the two-week discussion period for the potential of full engagement by your peers (remember you are being graded on how well you are engaging with your peers).

***A few more important hints and tips:***

- Try to complete your participation in the first week of the two-week period. That way, if an unexpected issue/emergency happens in the second week, your participation will have already been completed.
- Since you are being graded on engaging your peers, sending a post to me directly via email or other means does not engage your peers, so you cannot receive a grade that way. Similarly, once a discussion has closed, you can no longer post for credit in that discussion because your peers will have moved on to the next discussion (i.e., no engagement).
- You are responsible for protecting your work. Writing your discussion post on a different document (Word, Google Docs, etc.) and then copying and pasting it into Canvas is important as then your work will then be safe if the Internet or Canvas has issues posting.
- You are responsible for verifying that your post was posted on the discussion board and in the correct place BEFORE leaving Canvas.

***New discussion topics:***

This is a peer-led discussion. For the first few days the discussion is open, you may start a new topic for the class as one or more of your posts for the two-week period. You are not required to start a topic (unless no one else has started one). However, this is typically a popular option for students for a few reasons:

- You can create and save the new topic on your computer well ahead of the time period that the discussion is open. Many students like to work ahead, and this is the way to do that for this assignment. You would just need to come in as early as possible on the first day the discussion is open and quickly add your post to get credit for your work. However, be sure to post as early as possible. Once 10-15 new topics are started, or once we are one week into the two week discussion period (whichever comes first), this option will close until the next discussion assignment opens.
- If there is an Earth Science topic that will not be covered in the course, but you are interested in that topic, you can start the discussion on that topic to make it a part of the course. This gives you the agency to direct the conversation!

Be sure to use the criteria listed above to create your new topic. New topics started that do not meet that criteria will need to be deleted. If that happens, I will email you to let you know so you can replace the deleted post with a new one, which will prevent your grade from being negatively affected.

***Discussion Schedule:***

Discussion 1: Monday, January 8th - Saturday, January 20th\*  
 Discussion 2: Monday, January 22nd - Saturday, February 3rd\*  
 Discussion 3: Monday, February 5th - Saturday, February 17th\*  
 Discussion 4: Monday, February 19th - Saturday, March 2nd\*  
 Discussion 5: Monday, March 4th - Saturday, March 16th\*

\*The discussion will also be open on the Sunday that falls at the end of each two-week period, but participating on the last day the discussion is open (as mentioned above) will earn you only partial credit on this assignment. This is not punitive, but instead due to your post not being available long enough during the two-week discussion period for the potential of full engagement by your peers (remember, you are being graded on how well you are engaging your peers). Be sure to participate earlier in the two-week period using the criteria in the instructions on Canvas to potentially receive full credit each week

**Midterm Project - Decoding the Weather Machine (100 points and 10% of your grade)**

For this project, you will watch the first hour of the film "Decoding the Weather Machine" and answer the associated questions. This will give you a good overview of climate change and what meteorologists, geologists, and climate scientists are uncovering on this critical topic. Since this film is produced for the general public, no background in climate change is needed to complete this assignment. It will be due on **Sunday, February 11, 2024, at 11:59 pm**, but you can complete the project at any time before its due date (recommended).

**Final Exam (100 points and 10% of your grade):**

There will be one online (timed) cumulative final exam that will have 50 multiple-choice questions worth 2 points each. **The final exam will be administered online on Monday, March 25, 2024, starting at 8 am.** There will also be a grace period for this exam to be used only for emergencies which will firmly end at 5 pm on Thursday, March 28, 2024. You can take this 70-minute exam anytime on Monday, March 25, 2024, after 8 am, but you may only take the exam one time. Be sure to take the exam as early as possible in the exam period so a last-minute emergency is not in the way of these valuable points. **Make-up exams are not offered for any reason, including emergencies.**

You may use notes while you take the exam, but because the exam is timed once you start it, you should master the subjects you are being tested on before attempting the exam so that you can finish in plenty of time. I highly recommend having only a small index card worth of notes nearby. Spending time going through the Internet, the textbook, or any other source for answers while taking the exam does not indicate comprehension of the subject, so this online exam must be timed to prevent heavy reliance on such sources. Much like a classroom exam, once you submit your answers, the answers will not be available immediately. Once the exam period ends, scores will be released within 48 hours unless otherwise noted.

**Important note on final grades and extra credit:**

- Grades are non-negotiable. No exceptions.
- Extra credit is never assigned in this course. No exceptions.
- Incompletes are never assigned in this course. No exceptions.
- Assignments will not be "re-opened" once a grace period has passed for any reason. No exceptions.
- Requests to raise a letter grade are never considered for any reason. No exceptions.

**Accessibility Accommodations:**

Students with disabilities who need reasonable accommodations are encouraged to contact the instructor and/or DSS. Disability Support Services (DSS) will facilitate the reasonable accommodations process. DSS is located in SCS 41 and can be reached by telephone (Voice 408-864-8753/TTY 408-864-8748).

**Policy on Academic Dishonesty:**

There is a presumption and expectation that all work submitted is above board and honest. If cheating or plagiarism is discovered on any assignment in this course, a student will receive a "zero" at minimum when grades are released or retroactively if discovered after grades are released. The college will also be notified for further action. For more information on academic dishonesty, please see the college catalog.

**Important note about travel:**

It is assumed that you are completing this course at home in the U.S. and have excellent Internet access for the entire term. If you need to travel, whether inside or outside the U.S., it will be your responsibility to ensure you have access to the course and all its assignments. All assignments, including exams, cannot be extended for you because you choose or need to travel for any extended period during the term, even if that reason is out of your control. It's important to note that many countries outside of the U.S. block the use of YouTube and the ability to watch U.S. documentaries. If you plan on traveling to a country with these limitations, dropping this course and taking it during a term you will not be traveling is best. Also, please note that all dates and times given in this course are in Pacific Time unless otherwise noted.

**Important note on attendance:**

If you have yet to log into the course on Canvas within 48 hours of the start of instruction, I reserve the right to drop you from the course. I also reserve the right to drop any student who has yet to log into the course website and/or complete any assignments by the end of the first week. However, it is always the student's responsibility to drop a course they are no longer attending. **The drop deadline for Winter 2024 is Sunday, January 21, 2024, and the last day to drop with a "W" on your record is Friday, March 1, 2024.**

**Statement on Sexual Violence**

De Anza College is committed to maintaining a safe and caring college environment. The college has established policies and procedures regarding sexual misconduct, harassment, and assault. A college website has also been developed which provides you with important information about sexual misconduct and sexual assault:

<https://www.deanza.edu/titleix/index.html>

**Student Learning Outcome(s):**

- Analyze and explain the objective techniques used by synoptic meteorologists and climatologists to forecast our planet's weather and to predict future changes in our planet's climate.
- Assess and critique the impact of meteorology and climatology as sciences on local, national and international economic, environmental, ethical and political issues including climate change.

**Office Hours:**

W 02:00 PM 04:00 PM Canvas,Email

TH 02:00 PM 04:00 PM Canvas,Email