



This course supports the assessment for Climate Change. The course covers 4 competencies.

Introduction

Overview

This course explores the science of climate change. You will learn how the climate system works; what factors cause climate to change across different time scales and how those factors interact; how climate has changed in the past; how scientists use models, observations and theory to make predictions about future climate; and the possible consequences of climate change for our planet.

In this course, you will engage in a seminar with field researchers and educators. This seminar, from the world-renowned American Museum of Natural History, provides an environment for learning and engaging in scientific dialogue. *It also serves as the assessment.* In order to pass, you must achieve a grade of “Meets Requirements” in the seminar.

Note: you must complete a six-week seminar requiring about eight hours per week of your time. Sessions are limited to specific dates: review the [AMNH Calendar](#) to determine when the seminar is offered, and consult your mentor to coordinate this seminar with your schedule.

Review the [Assessment Retake Fee](#) section of the Student Handbook: if you do require a third or subsequent retake of this seminar, you will be charged the cost, \$400.00 (as of August, 2014; subject to change). Watch the following video for an introduction to this course:

Note: To download this video, right-click the following link and choose "Save as...": [download video](#).

Competencies

This course provides guidance to help you demonstrate the following 4 competencies:

- **Competency 2006.1.1: The Climate System**
The graduate evaluates climate as a system and the components of the climate system.
- **Competency 2006.1.2: Changes in the Climate System**
The graduate interprets climate system factors to evaluate drivers and forcings related to climate change.
- **Competency 2006.1.3: A Scientific Approach to Climate Change**
The graduate evaluates models, observations, past evidence, and theories to understand the changing climate.
- **Competency 2006.1.4: The Human Dimensions of Climate Change**
The graduate utilizes knowledge of risks and uncertainties in predicting consequences of climate change to educate others about the climate system.

Teaching Dispositions Statement



Please review the [Statement of Teaching Dispositions](#).

AMNH Seminar: Climate Change

Online seminars offered by the American Museum of Natural History (AMNH) use multimedia and discussions to connect teachers and future teachers from around the world to cutting-edge research, classroom resources, and each other. Participating in *Climate Change* develops your understanding of the content, models an appropriate teaching technique, and exposes you to an array of resources that can be used in your classroom. This is a required component of the course: the assessment in this course is based on successful completion of the AMNH seminar.

This six-week seminar requires about eight hours per week of your time. Review the [AMNH Calendar](#) to determine when the seminar is offered and consult your mentor to coordinate this seminar with your schedule.

Learning Resources

The learning resources listed in this section are required to complete the activities and assessment in this course. For many resources, WGU has provided automatic access through the course. However, you may need to manually enroll in or independently acquire other resources. Read the full instructions provided to ensure that you have access to all of your resources in a timely manner.

Enrolling in the Course

To enroll in this learning resource, navigate to the "Learning Resources" tab, click the "Sections" button, and then click the "Enroll Now" button for the seminar. Once your program mentor approves your enrollment, you will receive an e-mail with further access instructions. Contact your mentor if you have questions.

Note: You will receive login information by e-mail directly from AMNH at least two days before the scheduled start for the seminar. Contact your program mentor if you have not received this information on time. If you wish to work ahead, you may begin the readings linked within the course of study.

Participate in your course through the [AMNH seminar website](#). You will be assigned multiple readings, videos, discussions, and activities within the seminar. Readings within the textbook are linked here, along with a summary of the competencies you will be building each week.

Tips for Success

The keys for these seminars are attendance and participation.

1. How AMNH assessment works

You are assessed based on your participation in discussion, assignments, and the final project. Refer to the [rubric](#) for the course assignments and final project for more information about what is expected. It is important to note that your discussion assessment is based on both the content of your posts and your level of participation. (Quality is more important than quantity,



but 35 posts that expand on the discussion would be an appropriate level of participation.) Your assessment grades can be viewed in your gradebook as soon as they are posted, but it sometimes takes a week or two to get all the grades posted.

Your final project is due the week after the seminar ends. If you follow the weekly milestones for the project, it should be a rewarding exercise that will be useful in your teaching practice. Your final assessment is e-mailed to you as a PDF approximately two weeks after its submission due date. That is where you will find the instructors' notes on your final project. Your scores will be submitted directly by AMNH to WGU. If you need your score posted more quickly, once you receive your final score from AMNH you may forward the final assessment report to scores@wgu.edu along with the [Score Report Cover Sheet](#).

2. Get into the seminar early and often

AMNH online seminars are *not* self-paced, but are asynchronous by week—this is different from the WGU structure to which you are accustomed. There are no required log-in times, but *each week has assignments and/or discussions in which you are required to participate*. The seminars are not overwhelming if you don't fall behind. It's important to pace yourself through the weeks (especially if you are taking more than one course at a time). For example, a good weekly schedule would be:

- o *Monday and Tuesday*—Read assigned essays and selections from the text.
- o *Wednesday*—Post a response to your readings in the weekly discussion thread, and read over what others have written, making comments as you see fit.
- o *Thursday*—Start working on your assignment for the week, if there is one. Be sure to follow the instructions and [rubric](#), to which your goal is to meet or exceed expectations.
- o *Friday-Sunday*—Go back to the discussion, read follow-up posts, and continue conversations that have developed over the week. Make sure you pay particular attention to questions the instructional team has posted to your comments. You will need to respond to these questions whether or not another student has already done so. Also, finish up your assignment. It is due at 10 AM ET Monday following the week it is assigned, so it is recommended that you submit Sunday evening.

Therefore, it is good to visit your AMNH seminar and participate at least twice each week. It is not necessary to respond to every thread, but you should keep up with the flow of discussion and meet the requirements of the seminar.

If you have to miss some time, you can always read ahead in the seminar. If you let your instructor know, they can help you come up with a schedule to keep you on top of the material.

3. Participate in the icebreaker

The first week has an “icebreaker” discussion thread that asks you to *introduce yourself to your classmates*. Please participate in this thread as early as possible—it lets the instructors know your background so they can tailor the experience to you. Reading through this discussion lets you know who else will be in your seminar and helps to familiarize you with the seminar's



discussion format.

4. **E-mail your instructors and/or mentors any time with questions and concerns**

The instructional team for AMNH seminars is aware that people are coming to the seminar with varying levels of science content knowledge and classroom experience. *They are very willing to give you a guiding hand if you feel out of your depth on a particular topic, or if you are confused by an assignment.* Your WGU mentor has a good grasp of how the seminars work, and can give you advice on how best to tie your seminar into developing the competency required by WGU.

Your AMNH instructor will contact your WGU mentor with a progress report if you are struggling. Your WGU mentor can explore ways to fit this seminar into your life. WGU mentors can help—but they cannot help if they do not know there is a problem.

5. **Great learning happens in the discussion forums**

The readings, videos, and interactives used in AMNH seminars are content-rich, but a good deal of learning happens in the discussion forums. This is where you actually have a chance to interact with a PhD scientist who is active in the field, and where you can learn what your classmates think about that week's topic. It's a handy place to pick up extra links that will help you with the material, and to work out problems you may be having with the material. Discussion forums are essential, so don't brush them off! Another important thing to note is that the discussions are 40% of your grade – so participation is essential to pass!

6. **Be Prepared for the Final Project**

The final project for this course is a lesson plan that you will create, incorporating the information that you learned throughout the course into the lesson plan. It is essential that you feel comfortable creating lesson plans prior to enrolling in this course. If you are unsure how to create a lesson plan, you may want to discuss with your program mentor enrolling in a course that covers lesson plan preparation prior to enrolling in this AMNH seminar.

IMPORTANT NOTE: AMNH will submit your assignments and final project to TurnItIn (TII) to verify originality. After completing this course, you may decide to reuse parts of your AMNH assignments in other WGU courses. Because these materials will have been previously submitted to TII, they will be flagged in subsequent TII originality reports as copied content. To make it easier for WGU staff to verify the originality of your work in future TII reports and to avoid authenticity concerns, you **must** include your full name, **as it appears in your WGU account**, within all of your AMNH assignments **as well as any future WGU submissions that include your AMNH work**. The upper left corner of your project and assignments or the line directly under the title would be good places to put your full WGU name so it will be easy for WGU staff to find.

Pacing

Follow the schedule and expectations presented in [your seminar](#). Engage and participate actively in the conversations and activities within [the seminar](#). You may work ahead, but you must adhere to the due dates established by the American Museum of Natural History and the



instructors. Begin work on your Final Project early in the course, and continue working throughout so that you can finish it within six weeks.

The following schedule includes the weekly topics and required readings from *Climate Change: The Science of Global Warming and Our Energy Future*. Assignments and additional materials are linked directly from within the course.

Week 1: How Does Climate Work?

- pages 1–6 of [chapter 1 \(“Climate in Context”\)](#)
- pages 18–19 and 24–27 of [chapter 2 \(“The Character of the Atmosphere”\)](#)
- pages 49–54 of [chapter 3 \(“The World Ocean”\)](#)
- pages 75–80 of [chapter 5 \(“A Scientific Framework for Thinking About Climate Change”\)](#)

Week 2: What Causes Climate to Change?

- pages 80–93 of [chapter 5 \(“A Scientific Framework for Thinking About Climate Change”\)](#)

Week 3: How Does the Climate System Respond to Input?

- pages 93–96 of [chapter 5 \(“A Scientific Framework for Thinking About Climate Change”\)](#)

Week 4: How Do We Bring Together Modeling, Theory, and Observation to Understand Cause and Effect?

- pages 171–178 of [chapter 9 \(“Climate Models and the Future”\)](#)

Week 5: What Can We Learn From the Past?

- pages 99–129 of [chapter 6 \(“Learning From Climates Past”\)](#)

Week 6: What are the Potential Consequences, Risks, and uncertainties of Climate Change?

- pages 131–149 of [chapter 7 \(“A Century of Warming and Some Consequences”\)](#)
- pages 151–159 of [chapter 8 \(“More Consequences: The Sensitive Arctic and Sea-Level Rise”\)](#)

Checklist

AMNH has provided a checklist for you to follow for a quick outline of all the course materials. This checklist does not replace the course materials, but does provide you a document to check off items as you complete them. You are expected to use the course readings and videos



to aid in your discussion participation and completing your assignments and final project.

- ["Weekly Checklist"](#)

Textbooks

Ebook Central E-Books

The following textbook is available to you as an e-text from the WGU Library. The following table of contents includes links directly to the chapters you will be reading.

- [Mathez, E. A. \(2009\). *Climate change: The science of global warming and our energy future* \(1st ed.\). New York, NY: Columbia University Press. ISBN: 0231146426.](#)

1. [Climate in Context](#)
2. [The Character of the Atmosphere](#)
3. [The World Ocean](#)
4. [The Carbon Cycle and How It Influences Climate](#)
5. [A Scientific Framework for Thinking About Climate Change](#)
6. [Learning From Climates Past](#)
7. [A Century of Warming and Some Consequences](#)
8. [More Consequences: The Sensitive Arctic and Sea-Level Rise](#)
9. [Climate Models and the Future](#)
10. [Energy and the Future](#)

EBL e-books can be downloaded to your computer or mobile device. Follow the [instructions](#) to download your e-books for offline access.

Note: This e-text is available to you through the WGU Library, but you may purchase a hard copy at your own expense through a retailer of your choice. If you choose to do so, please use the ISBN listed to ensure that you receive the correct edition.

Recommended Resource:

The following text is recommended, but not required. You may purchase it from your choice of retailers.

- Schmidt, G., Wolfe, J., & Sachs, J. D. (2009). *Climate Change: Picturing the Science* (1st ed.). New York, NY: W. W. Norton & Co. ISBN 0393331253



Accessibility Policy

Western Governors University recognizes and fulfills its obligations under the Americans with Disabilities Act of 1990 (ADA), the Rehabilitation Act of 1973 and similar state laws. Western Governors University is committed to provide reasonable accommodation(s) to qualified disabled learners in University programs and activities as is required by applicable law(s). The Office of Student Accessibility Services serves as the principal point of contact for students seeking accommodations and can be contacted at ADASupport@wgu.edu.

Course Feedback

WGU values your input! Please submit any feedback you have using the following form:

[Course Feedback](#)