

ATMO 305 – Meteorological Instrumentation and Observations

Semester: Spring 2022
Class time: MW, 11:30 – 12:20, F, 10:30 – 13:20
Location: HIG 310
Instructor: Prof. Giuseppe Torri
Email: gtorri@hawaii.edu
Office hours: By appointment

Course Description

Observations represent one of the main building blocks of science. The possibility to test hypotheses and therefore contribute to scientific progress rests on our ability to make quantitative observations. This class aims at introducing students to meteorological observations and to the history, operation, and use of the instruments used to make them. Particular emphasis will be put on the practical aspects of observations, and which challenges one might find when observing the atmosphere. This course is a required class for students majoring in Atmospheric Sciences at the University of Hawai‘i at Mānoa. It is the only Writing Intensive (WI) course in the Atmospheric Sciences department, and as such, it has a focus on learning through laboratory reports, data analysis, and scientific writing.

Student Learning Objectives

Upon completion of the course, the student should be able to:

1. Describe the main methods used when making meteorological observations.
2. Design an experiment to test a particular hypothesis.
3. Display scientific data in a clear and appropriate way.
4. Write accurate yet concise reports describing the experiment conducted.
5. Present experimental results in written and oral form.

Grading

The final grade will be determined by a combination of weekly assignments, in-class exams, and participation in class:

Written Lab Assignments	50%
Research Paper and Oral Presentation	20%
Exams	20%
Participation in class	10%
	<hr/>
	100%

This class is Writing Intensive (see <https://manoa.hawaii.edu/gened/faculty/focus/>), a designation characterized by 5 hallmarks:

1. The class uses writing to promote the learning of course materials.
2. The class provides interaction between the instructor and students while students do assigned writing.
3. Written assignments contribute significantly to each student's course grade.
4. The class requires students to do a substantial amount of writing—a minimum of 4,000 words, or about 16 pages.
5. To allow for meaningful professor-student interaction on each student's writing, the class is restricted to 20 students.

The writing component of this course will include written lab assignments (approx. 10 reports, minimum 3 pages each), a mid-term and a final exam (2/3 pages each), and a written final research paper (between 5 and 10 pages). Any assignment should be typed and submitted, preferably electronically, by the deadline that will be indicated by the instructor without exception. If the assignments will be submitted late, the instructor will subtract 10 points from the total grade for any day of delay. Writing assignments will be graded for the quality of the technical writing (content and clarity). Students who do not complete all writing assignments will get a D- or an F and will not earn W Focus credit.

Main Reference Texts

Meteorological Measurement Systems, by Fred V. Brock and Scott J. Richardson, Oxford University Press, 2001. (Available online through UH library system)

Instructor's Handbook on Meteorological Instrumentation, by Fred V. Brock (Editor) and Carol E. Nicholaidas (Assistant Editor), NCAR/TN-237+IA, 1984.

Federal Meteorological Handbook No. 1 (FMH-1), by OFCM, 1995.

Disability Access

If you have a disability or related access need, I will make every effort to assist and support you. For confidential services students are encouraged to contact the Office for Students with Disabilities (known as "KOKUA") located on the ground floor (Room 013) of the Queen Lili'uokalani Center for Student Services: www.hawaii.edu/kokua KOKUA Program • 2600 Campus Road • 808-956-7511 • kokua@hawaii.edu

Title IX Statement:

The University of Hawai'i is committed to providing a learning, working and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking. If you or someone you know is experiencing any of these, the University has staff and resources on your campus to

support and assist you. Staff can also direct you to resources that are in the community. Here are some of your options:

As members of the University faculty, your instructors are required to immediately report any incident of potential sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and your instructors cannot guarantee confidentiality, you will still have options about how your case will be handled. Our goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need.

If you wish to remain ANONYMOUS, speak with someone CONFIDENTIALLY, or would like to receive information and support in a CONFIDENTIAL setting, use the **confidential resources available here**:

<http://www.manoa.hawaii.edu/titleix/resources.html#confidential>

If you wish to directly REPORT an incident of sex discrimination or gender-based violence including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence or stalking as well as receive information and support, contact: Dee Uwono Title IX Coordinator (808) 956-2299, t9uhm@hawaii.edu.