

## **ATSC 5880: Aircraft Instrumentation and Atmospheric Measurements**

*Syllabus Addendum – March 30, 2020*

The following is an addendum to ATSC5880 syllabus for Spring Semester, 2020, due to COVID-19 and subsequent restrictions for classes at Univ. of Wyoming. All classes are to be delivered online beginning March 30. This addendum is valid for the 8 remaining class periods for the latter half of the Spring Semester.

### Class Structure

Classes will be delivered “live” via zoom. Class lecture periods remain the same, Mon and Wed, 900 AM to 1015 AM. Students are expected to attend the lecture sessions by logging in to the zoom link and be ready by the start of class time. Students should consider whether to use computer audio or phone audio. Using phone audio may alleviate some frustration cause by slow or delayed connections during the lectures.

Students who are not able to sign in for a lecture are encouraged, but NOT required, to send a short email to the instructor prior to the lecture period. *Missed ‘live’ lectures will not affect final grades.*

All lectures will be recorded and uploaded to the course website following the class period. Students are required to view all lectures. If a live lecture is missed, the student must download the recorded lecture and watch as soon a reasonably possible following the missed class.

### Office Hours, discussion with instructor

There will be no regular office hours for the remainder of the semester. Students may reach the instructor via email. During the week, all emails will be responded to no later than within the working day that the original was sent, or the following working day if the email was sent outside of working hours. Generally, students may expect email responses within one to two hours.

For discussions that require more depth than is practical through email, phone or separate zoom meetings can be arranged.

### Mid-Semester Project/Homework

No Changes in due date for the mid-semester project, **due Friday, April 3 at 3 PM**. Students should email their completed project/homework to the instructor prior to the due date/time.

### Final-Semester Project

The requirements for the final semester project have been modified as follows:

- Students will work individually, the project will focus on a single instrument, measurement technique, or special consideration of using airborne measurements.
- All students must select their specific topic and get approval from the instructor by 5 PM on April 15.
- Student presentations will occur during the last 4 class periods (April 27, April 29, May 4, May 6).
- Presentations should be 20 minutes long and should consist of slides that can be easily presented through screen sharing. Slides can include typed and/or handwritten notes, scanned drawings and figures from papers, etc. The objective of the presentation should be to describe to (teach) the audience how an instrument (or measurement technique) works, its shortcomings, known errors, specific challenges, etc.
- If a student is unable to present a “live” presentation during his/her allotted slot. The presentation should be recorded (this can be accomplished within powerpoint, for example) and the presentation will be uploaded to the class website for all to download and view.

### Critique of Semester Projects

All students will be required to critique all presentations! I will provide a critique form asking specific questions. Completed forms will be emailed to the instructor no later than **5 PM on May 12**. Completed critique forms will NOT be shared with the students.

### Late Semester Quiz

During the week of April 20, a quiz will be provided. The questions will be general in nature such as “Describe in two or three sentences how a XXX technique works” or “Describe in a few sentences the difference between the XX and YY technique for measuring aerosol.” The purpose of the quiz is to help students remain engaged with the ZOOM lectures and all of the material for the quiz will be taken directly from the lectures. Students will have 48 hours from the time the quiz is available to complete and return to the instructor.

### **Final Grading:**

Class Participation – First half of the Semester.....	5%
Mid-Semester Project/Homework .....	35%
Late Semester Quiz .....	10%
Final Semester Project .....	40%
Critique of Semester Projects .....	10%

COURSE TOPICS THROUGH REMAINDER OF SEMESTER (subject to change)

- 3/30: review syllabus addendum & course expectations, TOPIC: techniques for measuring particle characteristics—mass, absorption, scattering (bulk and individual), Chemical characteristics (bulk and individual), imaging (individual)
- 4/1: individual cloud particles: single particle scattering of cloud particles
- 4/6: individual cloud and precipitation particles: imaging
- 4/8: individual cloud and precipitation particles: imaging (cont.)
- 4/13: Measuring aerosols – specific techniques; aerosol inlet considerations
- 4/15: Measuring aerosols (cont.)
- 4/20: Remote Sensing from Aircraft
- 4/22: Remote Sensing (cont.)