

Course name	GEOS 619: Boundary Layer Meteorology
Semester	Spring, 2018
Instructor	Dr. Shane D. Mayor
Lectures	Mon. & Weds., 2:00 – 3:15 PM. Location: A. J. Hamilton 112
Office hours	Mon. & Weds. 3:30 - 5:00 PM or by appointment. (Please e-mail to let me know you are coming. If not in office, check PHSC 128 or 217.)
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Class webpage	http://physics.csuchico.edu/~sdmayor/teaching/GEOS619/_S18/index.html
Required Book	<i>Fundamentals of Boundary-Layer Meteorology</i> , 1st edition, (©2018, Springer) by Xuhui Lee.
Recommended Book	<i>Introduction to Boundary Layer Meteorology</i> , (©1988, Kluwer Academic Publishers) by Roland B. Stull
Other Books	<i>Atmospheric Boundary Layer Flows</i> , (©1994, Oxford University Press) by J. C. Kaimal and J. J. Finnigan <i>Atmospheric Boundary Layer</i> , (©2015, Cambridge University Press) by J. Vila-Guerau de Arellano et al. <i>Footprints in Micrometeorology and Ecology</i> , (©2014, Springer) by M. Y. Leclerc and T. Foken <i>Eddy Covariance</i> , (©2012, Springer) edited by M. Aubinet, T. Vesala, and D. Papale <i>Micrometeorology</i> , 2nd edition, ©2017, Springer T. Foken.
Course Subject	Boundary layer meteorology is considered by many to be one of the most challenging subdisciplines within atmospheric science. The atmospheric boundary layer is the lowest region of the Earth's atmosphere that is in constant contact with the surface of the Earth and responds quickly to thermal and roughness forcing from the surface through turbulence. It is almost never stationary or homogeneous, although we commonly make those assumptions in order to make any progress. Turbulence is the main physical process by which heat, momentum, and trace gases are transported vertically through the boundary layer and hence statistical descriptions are the norm. Therefore, this course will focus on small scale meteorology (micrometeorology), turbulence, and the behavior of the atmosphere near the surface.

- Course Format I will lecture as much as possible, but it is unlikely that I will be able to produce 32 shiny-new, profoundly-interesting, 75-minute lectures this semester. There may be times where I ask the students for relief and require them to lead (and learn!) by teaching. There may be times when we abandon the classroom all together and work on projects in the lab or the field. Students must constantly think about what they don't know or understand and formulate questions and methodologies to learn.
- Having said that, I would like to begin the course, and keep it as traditional as possible for as long as is bearable. Therefore, it is important that you procure and read the required book and come to class. It is highly advisable to take notes in class. Please inform the instructor by e-mail in advance if you cannot come to a class due to illness or for other serious reasons.
- Course Level This is a graduate level course that has not previously been taught. As such, it is likely that the student's experience will be different from that of the typical undergraduate course or a course that has been rehearsed many times by the professor. Here, we blaze a new trail together and students take a larger role in their own education.
- Course Grade Your course grade will be upon attendance and a to-be-determined set of homeworks, quizzes, exams, and assignments. The assignments may include a project, term paper, and oral presentation.
- Dropping & Adding You may drop (or add) without obtaining permission until Friday, February 2. From February 3 to February 16, you must obtain permission from the instructor to drop. After Friday, February 16, you will need a serious and compelling reason to drop and your request must be approved by the Department Chair and the College Dean.
- Classroom etiquette **Please do not eat in lecture.** The noises and smells may be a distraction for your peers. Plan your day so that you have adequate nourishment before class.
- Please come to class on time.** Walking in several minutes late is a distraction for everyone. We understand if it happens rarely due to extraordinary circumstances, but chronic lateness projects lack of maturity and respect and may be taken into account for your course grade.
- Please silence mobile phones** and avoid texting during lectures.
- Please do not chat with your neighbor during lecture.** It is very distracting for others in the course who are trying to listen to the instructor.
- Use of phones is strictly prohibited during quizzes and exams.**

- Plagiarism [Plagiarism](#) is a serious violation of academic integrity and when detected will result in a failing grade for the course and an incident report submitted to the Office of Student Judicial Affairs. For more information on plagiarism, please see the university's [Academic Integrity webpage](#). If you still have a question about what plagiarism is and how to avoid it, please contact the instructor by e-mail or visit during office hours.
- Disabilities If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with the instructor as soon as possible, or see me during office hours. Please also contact the [Accessibility Resource Center \(ARC\)](#) as they are the designated department responsible for approving and coordinating reasonable accommodations and services for students with disabilities. ARC will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you further assistance with requesting and arranging accommodations.
- Attendance Attendance is a very important part of this course. An attendance roster will be circulated on most days when there is not a quiz or exam. Students must sign the attendance roster for credit. Attendance will be a part of your final course grade.
- Changes Students are responsible for coming to class to learn about any changes in the schedule and course content. The instructor reserves the right to modify this syllabus at any time. Course content, schedule, and grading policy may be changed during the semester. The schedule on the following page is *tentative*. The exact dates for exams and course material covered are subject to change.

Spring 2018 GEOS 170 meeting dates, significant events, and *tentative* schedule.

Mon.	22	Jan.	Review syllabus and begin.
Weds.	24	Jan.	
Mon.	29	Jan.	
Weds.	31	Jan.	
Fri.	2	Feb.	Last day to add or drop without permission from the instructor.
Mon.	5	Feb.	
Weds.	7	Feb.	
Mon.	12	Feb.	
Weds.	14	Feb.	
Fri.	16	Feb.	No adding or dropping after this date without Chair's and Dean's approval.
Mon.	19	Feb.	
Weds.	21	Feb.	
Mon.	26	Feb.	
Weds.	28	Feb..	
Mon.	5	Mar.	
Weds.	7	Mar.	
Mon.	12	Mar.	
Weds.	14	Mar.	
Mon.	19	Mar.	Spring break. No classes.
Weds.	21	Mar.	Spring break. No classes.
Mon.	26	Mar.	
Weds.	28	Mar.	
Mon.	2	Apr.	
Weds.	4	Apr.	
Mon.	9	Apr.	
Weds.	11	Apr.	
Mon.	16	Apr.	
Weds.	18	Apr.	
Mon.	23	Apr.	
Weds.	25	Apr.	
Mon.	30	Apr.	
Weds.	2	May	
Mon.	7	May	
Weds.	9	May	
Mon.-Fri.	14 - 18	May	Final Exam week. Final exam date and time TBD.