

GEOS 501: Dynamic Meteorology

Semester	Fall, 2015
Instructor	Dr. Shane D. Mayor
Lectures	Mon., Weds., and Fri. 9:00–9:50 AM in Physical Science Building (PHSC) 130
Office hours	MWF 2:30-4:00 PM (Please e-mail first! If not in office, look in PHSC 128.)
Office	PHSC 126
Mailbox	Department of Geological and Environmental Sciences office (PHSC 217)
Phone	530–898–6337
E-mail	sdmayor@csuchico.edu
Class webpage	http://phys.csuchico.edu/sdmayor/GEOS501_F15/index.html
Required Books	<i>Fundamentals of Weather and Climate</i> , Second Edition, By Robin McIlveen ©2010, Oxford University Press. ISBN-13 978-0-19-921542-3. Available from http://amzn.com/0199215421 for \$65. Note: This book was required for GEOS 321 and was used again in GEOS 400.
Recommended Books	<i>An Introduction to Dynamic Meteorology</i> , Fifth Edition By James R. Holton and Gregory J. Hakim ©2013, Academic Press. ISBN-13: 978-0123848666 Available at the bookstore or http://amzn.com/0123848660 for \$71.38 <i>Atmosphere, Ocean, and Climate Dynamics</i> , by John Marshall and R. Alan Plumb ©2008, Elsevier Academic Press. ISBN 13: 978-0-12-558691-7 Available from http://amzn.com/0125586914 for \$67.96 Atmosphere, Clouds, and Climate ©2012, by David Randall, (\$25.36 on Amazon) Climate and the Oceans ©2012, by Geoffrey K. Vallis, (\$19.75 on Amazon) Planetary Climates ©2013, by Andrew P. Ingersoll, (\$23.54 on Amazon) <i>Eloquent Science</i> , A practical guide to becoming a better writer, speaker & atmospheric scientist, by David M. Schultz, ©2009, American Meteorological Society, \$38.18 on Amazon.
Prerequisite	MATH 121; either PHYS 202B or PHYS 204C. Recommended: GEOS 400
Course Format	This is a lecture-based course without labs. It is important that you procure and read the required book(s) <i>and</i> 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 reasons. Attendance may be tracked and used as a factor in your grade.

Course Overview	<i>Dynamic Meteorology</i> is the study of atmospheric motions as solutions of the fundamental equations of hydrodynamics or other systems of equations appropriate to special situations, as in the statistical theory of turbulence. Most courses in dynamic meteorology are very mathematical—placing a heavy emphasis on equations and derivations that explain the physics of various phenomena.
Preparation	All of the students enrolled in the course this semester have completed GEOS 400 (<i>Physical Meteorology</i>). We take it for granted that students have an understanding of basic atmospheric thermodynamics, atmospheric radiation, and atmospheric structure.
Learning Objectives	<ol style="list-style-type: none"> 1. To become familiar with mathematical symbols and equations used in atmospheric dynamics. 2. To know the forces that result in observed atmospheric motions. 3. To explain some atmospheric (or oceanic) fluid dynamic phenomena. 4. Possibly: to gain experience with typesetting in L^AT_EX and giving good presentations.
Where to get L ^A T _E X	http://phys.csuchico.edu/ayars/427/LaTeX.php?section=install
Course Grade	Your course grade will be based upon a set of exams, assignments, and attendance. The instructor reserves the right to adjust the weights and final grades according to other factors due to the newness of the course.
Dropping & adding	You may drop without obtaining permission until Friday, September 4. From September 5 to September 18, you must obtain permission from the instructor to drop. After Friday, September 18, 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	<p>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.</p> <p>Please come to class on time. Walking in several minutes late is a distraction for all. We understand if it happens once or twice a semester, but chronic lateness projects lack of professionalism and will be taken into account for your course grade.</p> <p>Instructor reserves the right to modify this syllabus at any time.</p>

GEOS 501 (Dynamic Meteorology), Fall 2015, Tentative Schedule

Mon.	24	Aug.	
Weds.	26	Aug.	
Fri.	28	Aug.	
Mon.	31	Aug.	
Weds.	2	Sept.	
Fri.	4	Sept.	Last day to add or drop without special permission of instructor.
Mon.	7	Sept.	Labor Day. Campus closed.
Weds.	9	Sept.	
Fri.	11	Sept.	
Mon.	14	Sept.	
Weds.	16	Sept.	
Fri.	18	Sept.	No adding or dropping after this date without Chair's and Dean's approval.
Mon.	21	Sept.	
Weds.	23	Sept.	
Fri.	25	Sept.	
Mon.	28	Sept.	
Weds.	30	Sept.	
Fri.	2	Oct.	
Mon.	5	Oct.	
Weds.	7	Oct.	
Fri.	9	Oct.	
Mon.	12	Oct.	
Weds.	14	Oct.	
Fri.	16	Oct.	
Mon.	19	Oct.	
Weds.	21	Oct.	
Fri.	23	Oct.	
Mon.	26	Oct.	
Weds.	28	Oct.	
Fri.	30	Oct.	
Mon.	2	Nov.	
Weds.	4	Nov.	
Fri.	6	Nov.	
Mon.	9	Nov.	
Weds.	11	Nov.	Veterans Day. Campus closed.
Fri.	13	Nov.	
Mon.	16	Nov.	
Weds.	18	Nov.	
Fri.	20	Nov.	
Mon.	23	Nov.	Thanksgiving Break. No classes held.
Weds.	25	Nov.	Thanksgiving Break. No classes held.
Fri.	27	Nov.	Thanksgiving Break. No classes held.
Mon.	30	Nov.	
Weds.	2	Dec.	
Fri.	4	Dec.	
Mon.	7	Dec.	Review week
Weds.	9	Dec.	Review week
Fri.	11	Dec.	Review week
Mon.-Fri.	14 - 18	Dec.	Final Exam week