

SALEM STATE UNIVERSITY
Geography Department
GPH 100P – 09 (Hybrid)
Weather and Climate
Fall 2014

Instructor: Dr. Marcos Luna
Office: Meier Hall, Room 326F
Email: mluna@salemstate.edu
Phone: (978) 542-6487
Class Time: Tuesdays 10:50 – 12:05pm
Class Room: Meier Hall, Room 344
Office Hours: Tues. thru Fri. 3 – 5pm, or By Appointment
Website: Canvas (<http://www.salemstate.edu/elearning/>)

Course Description:

This course analyzes the elements and controls of weather on the earth's surface including the extent and composition of the atmosphere, atmospheric heating and cooling, pressure and winds, moisture and precipitation. An introduction to weather forecasting techniques and a descriptive analysis of world climate regions. Introduction to maps and basic topics in physical geography. Three lecture hours and one two-hour laboratory per week. Satisfies laboratory science sequence requirement with GLS100. Required of B.S. Geological Sciences, Earth Science Concentration. Not open to students who have received credit for GGR100P, GGR101P, or GPH101P.

Course Goals:

- Develop weather and climate science literacy
- Understand the elements and controls of weather and climate
- Become familiar with weather descriptions and forecasting techniques
- Understand how weather phenomena affect our daily lives
- Understand the impact that people have on the atmosphere and the serious environmental challenges related to the atmosphere
- Stimulate interest in further understanding of the atmosphere, weather and climate

Learning Objectives:

- Understand atmospheric heating and cooling
- Understand the composition of the atmosphere
- Understand atmospheric pressure and winds
- Understand moisture and precipitation
- Name and describe weather and climatic phenomena
- Understand the basic science of climate change
- Utilize tables, graphs, maps and other quantitative figures to describe or interpret atmospheric phenomena

Required Materials:

- Frederick K. Lutgens and Edward J. Tarbuck. 2013. *The Atmosphere: An Introduction to Meteorology*. 12th edition. Pearson: Boston. (hardcopy or digital version)

Course Policies:

- Students are responsible for studying all material found in the posted readings, multimedia and lectures.
- All quizzes and assignments are due before the assigned due dates. Late assignments will not be accepted unless discussed with the professor at least 48 hours BEFORE the due date OR with a documented emergency.
- Students who have questions about readings, lectures, or assignments are strongly encouraged to use the appropriate class discussion forums, or to communicate with the instructor directly, whether by phone, email, or in-person during office hours.
- All students agree to abide by the course Honor Code: “My answers to homework, quizzes and exams will be my own work (except for assignments that explicitly permit collaboration). I will not make solutions to homework, quizzes or exams available to anyone else. This includes both solutions written by me, as well as any official solutions provided by the course staff. I will not engage in any other activities that will dishonestly improve my results or dishonestly improve/hurt the results of others.”
- Salem State University is committed to providing equal access to the educational experience for all students in compliance with Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act and to providing all academic accommodations, aids, and adjustments. Any student who has a documented disability requiring an accommodation, aid or adjustment should communicate with the instructor immediately. Students who have not done so should provide documentation to and schedule an appointment with the Office for Students with Disabilities and obtain appropriate services.
- **The instructor reserves the right to change the course content and syllabus at any time during the semester.**

- **Grading**

Reading Quizzes and Surveys	20%
W&C Profile Assignments*	20%
Final Quizzes	40%
Final Project [†]	20%
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Total:	100%

NOTE: In the event of a university declared critical emergency, Salem State University reserves the right to alter this course plan. Students should refer to <http://www.salemstate.edu/> for further information and updates. The course attendance policy stays in effect until there is a university declared critical emergency.

In the event of an emergency, please refer to the alternative educational plans for this course located in Canvas. Students should review the plans and gather all required materials before an emergency is declared.

* Some lab applications or assignments will require peer reviews as well.

[†] This project will require peer reviews after submission.

Some detail about the assignments:

Please see the detailed reading and assignment schedule below for due dates. If you have questions about any assignment or your grades, please send me an email or come see me.

Reading Quizzes and Surveys

Each week there will be a reading quiz based on the week's reading, videocast, or other delivered content. Unless indicated otherwise, you may take the reading quiz as many times as you like before the due date.

Periodic surveys in the course serve to gather information or feedback. You will receive credit for taking these surveys.

W&C Profile Assignments

In order to help you develop your final project, you will do research on elements of your weather and climate profile for a city or place throughout the semester. These assignments will complement the material covered in that respective week's reading and lecture. These profile assignments will ultimately be assembled and synthesized into your final project.

Final Quizzes

Most weeks will conclude with a graded quiz that assesses your understanding of the delivered content AND the skills you practice for that module or week. These quizzes may require more time to work through. You may take these quizzes up to three (3) times and keep the highest score before the due date.

Final Project

For the final project in this class you will create a weather and climate profile of a city or location. The purpose of this project is to provide you with an opportunity to independently apply weather and climate concepts in a different setting, to practice finding and interpreting meteorological information, and to organize and communicate that information to a broader audience. This product will be shared with the class, and each person will peer review the work of at least two to three classmates. More detailed instructions will be provided at a later date.

Peer Review

For some assignments, you will be required to peer review the work of your classmates after making your own submission. After uploading your own submission for a given assignment, you will be assigned to peer review the work of your classmates. You will be provided with a clear rubric that enables you to assess and comment on your classmates' work. **You will only receive credit for your own assignment after you have completed the assigned peer reviews by the given due date.**

Week	Date	Readings	Assignments
1	Tue. 9/9		
Introduction to the Atmosphere			
2	Mon. 9/15	Read Ch1 "Introduction to the Atmosphere"	Due by noon: Ch1 Reading Quiz
	Tue. 9/16	Class Meets	
Elements of Weather and Climate			
3	Sun. 9/21		Due by midnight: Ch1 Final Quiz Due by midnight: W&C Profile location description
	Mon. 9/22	Read Ch2 "Heating Earth's Surface and Atmosphere:"	Due by noon: Ch2 Reading Quiz
	Tue. 9/23	Class Meets	
4	Sun. 9/28		Due by midnight: Ch2 Final Quiz Due by midnight: W&C Profile seasonal sunlight description
	Mon. 9/29	Read Ch3 "Temperature"	Due by noon: Ch3 Reading Quiz
	Tue. 9/30	Class Meets	
5	Sun. 10/5		Due by midnight: Ch3 Final Quiz Due by midnight: W&C Profile on temperature and cooling/heating degree days
	Mon. 10/6	Read Ch4 "Moisture and Atmospheric Stability"	Due by noon: Ch4 Reading Quiz
	Tue. 10/7	Class Meets	
6	Sun. 10/12		Due by midnight: Ch4 Final Quiz Due by midnight: W&C Profile of humidity
	Mon. 10/13	Read Ch5 "Forms of Condensation and Precipitation"	Due by noon: Ch5 Reading Quiz
	Tue. 10/14	Class Meets	
7	Sun. 10/19		Due by midnight: Ch5 Final Quiz Due by midnight: W&C Profile on cloudiness and precipitation

Week	Date	Readings	Assignments
	Mon. 10/20	Read Ch6 "Air Pressure and Winds"	Due by noon: Ch6 Reading Quiz
	Tue. 10/21	Class Meets	
Weather			
8	Sun. 10/26		Due by midnight: Ch6 Final Quiz
	Mon. 10/27	Read Ch7 "Circulation of the Atmosphere"	Due by noon: Ch7 Reading Quiz
	Tue. 10/28	Class Meets	
9	Sun. 11/2		Due by midnight: Ch7 Final Quiz Due by midnight: W&C Profile on wind
	Mon. 11/3	Read Ch8 "Air Masses" AND Ch9 "Midlatitude Cyclones"	Due by noon: Ch8 & Ch9 Reading Quiz
	Tue. 11/4	Class Meets	
Extreme Weather			
10	Sun. 11/9		Due by midnight: Ch8 & Ch9 Final Quiz
	Mon. 11/10	Read Ch10 "Thunderstorms and Tornadoes"	Due by noon: Ch10 Reading Quiz
	Tue. 11/11	Class Meets	
11	Sun. 11/16		Due by midnight: Ch10 Final Quiz
	Mon. 11/17	Read Ch11 "Hurricanes"	Due by noon: Ch11 Reading Quiz
	Tue. 11/18	Class Meets	
Climate Change			
12	Sun. 11/23		Due by midnight: Ch11 Final Quiz Due by midnight: W&C Profile on extreme weather
	Mon. 11/24	Read Ch14 "The Changing Climate"	Due by noon: Ch14 Reading Quiz
	Tue. 11/25	Class Meets	
13	Sun. 11/30		Due by midnight: Ch14 Final Quiz
	Mon. 12/1	Read Climate ARTICLE TBA	
	Tue. 12/2	Class Meets	

Week	Date	Readings	Assignments
14	Mon. 12/8		W&C Profile Due by Midnight
	Tue. 12/9	Class Meets LAST DAY OF CLASS	W&C Profile Peer Review Due