



## Request for Graduate Course Change - Page 2

College: COLA

Department/Division: Geography

Alpha Designator/Number: GEO 525

Provide complete information regarding the course change for each topic listed below.

Change in CATALOG TITLE:  YES  NO

From 



 (limited to 30 characters and spaces)

To

If Yes, Rationale

Change in COURSE ALPHA DESIGNATOR:

From: 



 To 



 YES  NO

If Yes, Rationale

Change in COURSE NUMBER:  YES  NO

From: 



 To:

If Yes, Rationale

Change in COURSE GRADING

From  Grade To  Credit/No Credit

Rationale

Change in CATALOG DESCRIPTION:  YES  NO IF YES, fill in below:

From

To

If Yes Rationale

## Request for Graduate Course Change - Page 3

Change in COURSE CREDIT HOURS:  YES  NO If YES, fill in below:

NOTE: If credit hours increase/decrease, please provide documentation that specifies the adjusted work requirements.

From 3

To 4

The course is introducing a lab component consisting of 1 credit hour. This is consistent with the earth/natural science curriculum as courses typically have a lecture/lab format. (see work adjustments in course content)

Change in COURSE CONTENT:  YES  NO

From

The current lecture classroom format consists of a midterm, final, weekly assignments, and a final project.

Topics include: Controls on the Climate System; Energy, Matter, and Momentum Exchanges Near the Surface; Global Hydrologic Cycle and Surface Water Balance; Climatic Classification; Extratropical Northern Hemisphere; Tropical and Southern Hemisphere Climates; Climatic Change and Variability; Anthropogenic Climatic Changes; Applied Climatology, Climate Impacts, and Climatic Data

To

The proposed changes will add a laboratory component to the lecture classroom format. In addition to the midterm, final, weekly assignments, and final project, weekly laboratory assignments will be added. The above topics will still be covered.

The lab manual intended for use will be "Investigations Manual for Climate Studies" by the American Meteorological Society. Topics covered in the lab include the following: Climate Variability and Change; Solar Energy and Earth's Climate System; Water, Heat, and Heat Transfer; Global Water Cycle; Coastal Upwelling and Coastal Climates; Snow and Ice Climate Feedback; Global Atmospheric Circulation; Wave Cyclones and Storm Tracks; Climate Mitigation and Adaptation Strategies; Climate Classification; Climate Forecasting.

Students in the 500 level course will be expected to answer more advanced questions in the labs compared to the undergraduate 400 level course.

Rationale

The course is introducing a lab component consisting of 1 credit hour. This is consistent with the earth/natural science curriculum as courses typically have a lecture/lab format.

## Request for Graduate Course Change-Page 4

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College: COLA \_\_\_\_\_

Department: Geography \_\_\_\_\_

Course Number/Title GEO 525/Climatology \_\_\_\_\_

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1. **REQUIRED COURSE:** If this course is required by another department(s), identify it/them by name and attach the written notification you sent to them announcing to them the proposed change and any response received. Enter NOT APPLICABLE if not applicable.

NOT APPLICABLE

2. **COURSE DELETION:** List any courses that will be deleted because of this change. A *Course Deletion* form is also required. Enter NOT APPLICABLE if not applicable.

NOT APPLICABLE

3. **ADDITIONAL RESOURCE REQUIREMENTS:** If your department requires additional faculty, equipment, or specialized materials as a result of this change, attach an estimate of the time and cost etc. required to secure these items. (NOTE: approval of this form does not imply approval for additional resources. Enter NOT APPLICABLE if not applicable.

NOT APPLICABLE

## Request for Graduate Course Change - Page 5

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Please insert in the text box below your course change summary information for the Graduate Council agenda. Please enter the information exactly in this way (including headings) based on the appropriate change:

COURSE DESCRIPTION CHANGE

Department:  
Course Number and Title:  
Rationale:  
Course Description (old)  
Course Description: (new)  
Catalog Description:

COURSE NUMBER CHANGE

Department:  
Current Course Number/Title:  
New Course Number:  
Rationale:  
Catalog Description:  
Credit hours:

COURSE TITLE CHANGE

Department:  
Current Course Number/Title:  
New Course Title:  
Rationale:  
Catalog Description:

\*\*\*\*\*Different type of course change than listed above\*\*\*\*\*

Course Credit Hour Change

Department: Geography

Course Title: GEO 525: Climatology

Rationale: The course is introducing a lab component consisting of 1 credit hour. This is consistent with the earth/natural science curriculum as courses typically have a lecture/lab format.

Course Description: A study of elements of weather and climate, methods of climatic classification, and distribution and characteristics of world climatic regions.

Credit Hours (old): 3

Credit Hours (new): 4



**Geography 425/525:  
Climatology**

Course Title/Number CRN	<b>Climatology / GEO 425/525</b> <b>Section 201</b> 3443/3452
Semester/Year	Xxxxx/yyyy
Days/Time	MW 2:00 – 3:45
Location	202 Harris Hall
Prerequisites	GEO 101 or 230 or permission
Instructor	Dr. Kevin Law
Office	Harris Hall 211
Phone	304-696-2503
E-Mail	law14@marshall.edu
Office/Hours	Monday Wednesday Friday: 9:00 am – 10:00 am Monday Wednesday: 11:15 am – 12:00 pm; 1:15 pm – 2:00 pm or by appointment
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to <a href="http://www.marshall.edu/academic-affairs/">http://www.marshall.edu/academic-affairs/</a> and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to <a href="http://www.marshall.edu/academic-affairs/forms-policies/">http://www.marshall.edu/academic-affairs/forms-policies/</a>  Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

**Course Description: From Catalog:**

A study of elements of weather and climate, methods of climatic classification, and distribution and characteristics of world climate regions. (PR: GEO 101 or GEO 230 or permission)
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## Student Learning Outcomes:

The table below shows the following student learning outcome relationships and how each will be practiced and assessed in the course.

<b>Course Student Learning Outcomes</b>	<b>How students will practice each outcome in this Course</b>	<b>How student achievement of each outcome will be assessed in this Course</b>
Students will demonstrate reasoning of key climatological concepts	Class discussion and exercise examples	Lab Exercises, Assignments and examinations
Students will be able to analyze climate maps, and interpret various forms of climatological data.	Class discussion and exercise examples	Lab Exercises, Assignments and examinations
Students will be able to represent and convey understanding of a climate map	Class Discussion and exercise examples	Lab Exercises, Assignments and examinations
Multiple exercises will be performed where students will be able to calculate different climatological variables (e.g. temperature, precipitation) and see if their answers are rational.	Class Project, exercises and Class Discussion	Lab Exercises, Class project, assignments and examinations

## Required Texts, Additional Reading, and Other Materials

### Textbook

Rohli, Robert, and Vega, Anthony, 2015: *Climatology 3<sup>rd</sup> ed.*, Jones and Bartlett, ISBN 978-1-284-02877-5



# Course Requirements / Due Dates

## Course Schedule

The following is a general schedule and is subject to change at the discretion of the instructor.

<b>January</b>	
12	Course Introduction
14	Chapter 1 Introduction to Climatology
<b>19</b>	<b>MLK Day – No Class</b>
21	Chapter 2 Atmospheric Structure and Composition
26	Chapter 3 Controls on the Climate System
28	Lab 1
<b>February</b>	
2	Chapter 4: Atmospheric Interactions with the Other “Spheres”
4	Lab 2
9	Chapter 5 Energy, Matter, and Momentum Exchanges Near the Surface
11	Lab 3
16	Chapter 6 Global Hydrologic Cycle and Surface Water Balance
18	Lab 4
23	Chapter 7 General Circulation and Secondary Circulations
25	Lab 5
<b>March</b>	
2	Chapter 8 Climatic Classification
4	Lab 6
9	Chapter 9 Extratropical Northern Hemisphere
<b>11</b>	<b>Midterm</b>
<b>16-20</b>	<b>Spring Break – No Class</b>
23	Lab 7
25	Climates Chapter 10 Tropical and Southern Hemisphere Climates
30	Lab 8
<b>April</b>	
1	Chapter 11 Climatic Change and Variability
6	Lab 9
8	Chapter 12 Anthropogenic Climatic Changes
13	Lab 10
15	Chapter 14 Applied Climatology, Climate Impacts, and Climatic Data
<b>20-22</b>	<b>CONFERENCE – NO CLASS</b>
27	Lab 11
29	Chapter 15 Future of Climatology
<b>May</b>	
<b>4</b>	<b>Final Exam (12:45 pm – 2:45 pm)</b>



# Grading Policy

## Evaluation

- **Exams:** There will be 2 exams. The exams will consist of short answer questions. For the students taking the 525 course, I will add a few extra questions. The final will NOT be comprehensive. Exams will be based on lecture and the readings from the text. *Make-up exams are given only with valid reasons in writing. These include medical and family emergencies, official university activities with documentation and my permission in advance, or other causes officially excused by university authorities.*
- **Lab Exercises:** The lab manual intended for use will be "Investigations Manual for Climate Studies" by the American Meteorological Society. For students taking the 525 course, extra questions will be added.

Topics covered in the lab include the following:

- Lab 1: Climate Variability and Change
  - Lab 2: Solar Energy and Earth's Climate System
  - Lab 3: Water, Heat, and Heat Transfer
  - Lab 4: Global Water Cycle
  - Lab 5: Coastal Upwelling and Coastal Climates
  - Lab 6: Snow and Ice Climate Feedback
  - Lab 7: Global Atmospheric Circulation
  - Lab 8: Wave Cyclones and Storm Tracks
  - Lab 9: Climate Mitigation and Adaptation Strategies
  - Lab 10: Climate Classification
  - Lab 11: Climate Forecasting
- **Assignments:** Assignments will be given throughout the semester. You will be given one week to complete each assignment and late assignments will NOT be accepted other than for reasons stated above. There will be 7 assignments given over the course of the semester.
  - **Project:** You will collect precipitation data from a central database and compute average annual/seasonal precipitation from various years. I will provide you a list of stations (each student will be different) and tell you where you can access the precipitation data. The data can be tabulated and calculated using an Excel spreadsheet. I will provide a template on how to do this project later in the semester.  
This project will be due on \_\_\_\_\_.
  - **Attendance/Participation:** Attendance will be at random during lecture and consist of **5%** of your total grade.

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- **Notes:** I will post an outline of class notes on Blackboard. There will also be no extra credit assignments in this class.

## Grading

Your grade will consist of six components.

Midterm	20%	Wednesday, March 11
Lab Exercises	20%	
Assignments	20%	
Project	15%	Wednesday, April 29
Attendance/Participation	5%	Weekly
Final	20%	Monday, May 4 12:45 pm – 2:45 pm

## GRADE SCALE

A	≥ 90%
B	80% - < 90%
C	70% - <80%
D	60% - <70%
F	< 60%

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### Contacting Me

I am available for help during office hours or by appointment. So if you are having problems please ask.

Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact the Office of Disabled Student Services at 304-696-2271 in room 117 Prichard Hall to coordinate reasonable accommodations for students with documented disabilities.

### Academic Misconduct

Academic misconduct in any form is in violation of Marshall University and will not be tolerated. This includes, but is not limited to: copying or sharing answers on tests or assignments, plagiarism, and having someone else do your academic work. Depending on the act, a student could receive an F grade on the test/assignment, F grade for the course, and could be suspended or expelled from the University.

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## Course Objective and Description

This course is designed to stimulate discussion and debate about climate and its potential impacts on the Earth. The course will cover the basics of climatology and the atmosphere. The basic climatological processes will be discussed including the controls of climate and exchange of energy near the surface. Different climates around the world will be studied in addition to the change of climates through time both through natural and anthropogenic means. Lastly, the course will look at climatological models and potential impacts of climate on human beings.

## Professor Bio

I joined the Marshall University Department of Geography in 2006. My interests include meteorology, climatology, and physical geography. I specialize in tropical

meteorology including hurricane intensification prediction and currently serve as the West Virginia State Climatologist. If you are interested in weather and other meteorological phenomena feel free to contact me. Teaching responsibilities include:

- Physical Geography
  - Introduction to Meteorology
  - Climatology
  - Severe Storms and Local Hazards
  - Weather Analysis
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