Course Prerequisites: MET3503 Weather and Forecasting or GEO3250 Climatology

Course Goals
Atmospheric teleconnections are recurring and persistent, large-scale patterns of pressure and circulation anomalies. They can oscillate over periods of several weeks to decades and can influence temperature, rainfall, storm tracks, and jet stream location/intensity over vast areas. Often, they are responsible for abnormal weather occurring at the same time but in different locations across the globe. Our goal is to examine teleconnections in northern and southern hemispheres to learn how each pattern was discovered, how the index that characterizes the phase of each teleconnection is calculated, where the centers of action occur, and the types of weather associated with the different phases. This course will increase your understanding of global weather patterns.

No Required Textbook: Weekly readings will be posted to Canvas.

Tools: You may wish to bring a flash drive to save your work; you will have access to the M drive at home through UF Apps. We will be working via virtual machines in the lab.

Grades and Grading Scale
Weekly Topics Quizzes: 50% (5% each, drop 1 lowest score) In-class presentation 20% (10% for presentation and discussion board commenting on research article, 10% for data analysis exercise) Final Project: 15% Peer Evaluation of Final Project 5% Canvas discussion postings/in-class discussions 10%

A: 92.5 % +   A-: 89.5 - 92.4 %   B+: 86.5 - 89.4%   B: 82.5 - 86.4%   B-: 79.5 – 82.4%
C+: 76.5 - 79.4%   C: 72.5 - 76.4%   C- : 69.5 – 72.4%   D+: 66.5 - 69.4%   D: 62.5 - 66.4%
D- : 59.5 – 62.4%   E: < 59.5%

It is your responsibility to know your current grade. Grades will be posted to Canvas. Information pertaining to UF grading policies can be found here: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Lectures, Readings, and Class Discussions
After reviewing basic atmospheric circulation and associated data, we will spend one week on each teleconnection. In Tuesday’s class, I will give an overview presentation of the important details you should know about each teleconnection and we will discuss readings that I have posted to Canvas. During the second period, students will present a journal article. During Thursday’s class, students will lead a data analysis exercise, and submit to me quiz questions based on the material they have presented. Students will meet with me prior to their presentation to discuss the material they have collected, ideas for the in-class activity, and ask questions so that their presentation runs smoothly. Readings must be uploaded to Canvas one week before the class in which they are presented. You should expect to spend time out of class on preparation for you week’s lesson. An outline of the questions the group will ask and points each student will emphasize during the presentation must be uploaded prior to the start of class on the day of the presentation. You will participate both in class and online through Canvas discussion boards each week.
Quizzes
Weekly topics quizzes will be available on Canvas following the discussion of each teleconnection. Quizzes will draw several questions from a pool in randomized order and can only be taken once. Questions will include information from lectures by Matyas, article presentations by Matyas and students, and what we learned during the in-class activity. Quiz availability and due dates will be posted on Canvas. Once quizzes close, they will not be re-opened. Ten quizzes will factor into your grade. It is NOT permissible to take the quiz along with other students or to work together to answer quiz questions.

Final Project
Undergraduate students will select a teleconnection for which they did not prepare materials previously. You will prepare a data analysis exercise complete with questions and answers that demonstrates conditions experienced during the different phases of the teleconnection. You may choose one of the patterns we covered in class, or a new pattern that we did not cover. You are to work on your own for this project and will present it to the class. More details will follow part way into the semester.

Academic Honesty
UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (http://www.dso.ufl.edu/scrr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. You must turn in your own work. All suspected cases of honor code violations will be reported to the Dean of Students Office and actions such as receiving a zero for the assignment, lowering of the course grade by one letter, and/or other penalties will be assigned.

Canvas
This syllabus, announcements, copies of handouts, grades, and other course information will be posted on Canvas. Access this page at http://lss.at.ufl.edu If you miss a class, it is your responsibility to learn the material covered during your absence. Come see me if you have questions. You are advised to check Canvas frequently to verify that week’s activities and any announcements about upcoming quizzes, projects, etc. I may also post announcements to Canvas, and many of your assignments will be submitted through this website.

Disability Statement
Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester. Please provide this documentation to me as soon as possible and a minimum of 1 week before a quiz or exam.

Attendance and Proper Conduct
Although attendance will not be regularly taken, your performance in this course will suffer if you do not attend class. We will be utilizing the computers in TUR 3006 – please keep all foods and beverages away from areas where computers are being used. Save data frequently – you will lose your virtual session after a period of inactivity. Remember to turn off cell phones, and please refrain from casual conversation once class begins. You are only to use the computers for class-related activities during class time. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx.
Online Course Evaluations
Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results.

Lecture Topics
Week 1: Review of basic atmospheric circulation and teleconnections overview
Week 2: Statistical techniques and NCEP reanalysis data
Week 3: El Nino Southern Oscillation
Week 4: El Nino Southern Oscillation
Week 5: Pacific Decadal Oscillation
Week 6: Pacific/North American
Week 7: North Atlantic Oscillation
Week 8: Final Project Outlines due, in-class discussions
Week 9: Arctic Oscillation/Northern Annular Mode
Week 10: Atlantic Multidecadal Oscillation
Week 11: Madden-Julian Oscillation
Week 12: Indian Ocean Dipole/ Indian Ocean Subtropical Dipole (or Subtropical Indian Ocean Dipole)
Week 13: Southern Annular Mode/ Antarctic Oscillation
Week 14: No class
Week 15: Final project presentations and evaluations

Important Dates
Quiz availability dates will be visible on Canvas
October 13 – Final project outlines due on Canvas
October 15 – Meet with instructor during class (5 minutes max) to go over final project outline
November 24 – No Class Instructor at conference
November 26 – No Class Thanksgiving
December 1, 3, 8 – Student in-class presentations of final projects
December 8 – Last day of class (no final exam)

Important Web Pages
http://www.cpc.ncep.noaa.gov/data/teledoc/telecontents.shtml
ftp://ftp.cpc.ncep.noaa.gov/wd52dg/data/indices/tele_oldindex_nh
http://www.jisao.washington.edu/aao/
http://weather.gov/
http://www.wmo.int/pages/index_en.html
http://scholar.google.com/
http://apps.webofknowledge.com