ATM 346 Advanced Atmospheric Dynamics

This course provides a fundamental foundation of atmospheric dynamics for undergraduates in the ATM major. Our goal is to examine the fundamental dynamical constructs required to examine the behavior of the mid-latitude atmosphere. It assumes knowledge of multi-variable calculus, vector analysis, differential equations, and classical physics, although brief reviews will be given in the class. The learning objective of this class is to (i) learn the concepts of mid-latitude atmospheric motions, (ii) learn how to apply numerical methods, (iii) understand the circulation and vorticity, quasi-geostrophic theory, large-scale waves and circulations.

Learning Objectives:
- Learn the concepts of mid-latitude atmospheric motions
- Apply numerical methods
- Explain circulation and vorticity, quasi-geostrophic theory, large-scale waves, baroclinic instability and energetics

Instructor: Hyemi Kim, #119 Endeavour Hall, hyemi.kim@stonybrook.edu

Class Hours: TBA

Office Hours: TBA

Required Text: Mid-Latitude Atmospheric Dynamics, a First Course (Jonathan Martin)
(other useful references) An Introduction to Dynamic Meteorology (James R. Holton)

Grading: First exam 10%, Second 20%, Third 20%, Comprehensive Final 25%, Homework 15%, Participation 10% (After 1 absence: 2% course grade deduction for each day absent without a reasonable excuse)

Exams: TBA

Blackboard site: The class schedule, homework assignments and other important information can be found on Blackboard (http://blackboard.stonybrook.edu).

Class Protocol: Cell Phone and electronic device have to be turned off during classes. No digital recording of the classes is allowed without permission of instructor.

Academic Integrity
Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instance of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/uaa/academicjudiciary/ Critical Incident Management
Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.

Americans with Disabilities Act
If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services at (631) 632-6748 or http://studentaffairs.stonybrook.edu/dss/. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website: http://www.sunysb.edu/ehs/fire/disabilities.shtml