ATMOSPHERIC SCIENCES 3000-Professional Development in the Atmospheric Sciences  
Fall 2011. 1.5 Semester Units. First Half of Semester  
1110 MLIB. MW 1:25-2:45 PM.

Instructor: Professor John Horel. INSCC 483. Office (801) 581-7091. Cell (801) 870-9450. john.horel@utah.edu. Office hours: by appointment
Teaching Assistant: Chris Ander. INSCC 480. Chris.ander@utah.edu. Office hours: by appointment

Class website: http://www.chpc.utah.edu/~u0035056/3000/
Facebook: Join the group ATMOS 3000 UU Fall 2011 as that is how I will make announcements
MATLAB: Downloading and installing the student version of MATLAB is an option, but all assignments can be completed using classroom workstations.

Course Description:
This course provides an introduction to the atmospheric sciences profession and related environmental fields. Career opportunities in government, industry, and education are discussed by professionals employed in areas such as weather forecasting, broadcasting, air quality, fire weather, hydrology, and snow safety. The course also introduces critical concepts and skills related to observing and forecasting the atmosphere that are applied in many of the upper-division courses. MATLAB for scientific computing is introduced. In addition to an introduction to department facilities, fundamental aspects of academic success are discussed: reading and studying, written and oral communication skills, preparing and taking exams, time management, academic and professional ethics, and gaining experience through involvement in student internships, student employment, and field projects.

At the end of the course, you will be able to:
• Discuss career paths of interest to you in the atmospheric sciences and related fields
• Access and interpret current weather conditions and forecasts from Internet sources
• Perform basic scientific calculations relevant to the atmospheric sciences using MATLAB
• State the basic characteristics of academic success involving critical thinking, problem solving, reasoning, analytical, and communication skills that will provide you with the necessary versatility for long-term success as science professionals
• Develop an academic plan including a tentative class schedule for your academic career

Course Format: Teaching and Learning Methods
• You will complete reading assignments and on-line COMET modules weekly
• Internet discovery and MATLAB assignments will be completed weekly. Important: work is expected to be completed between class periods, not during class.
• In-class seminars may be held 1:30-2:00 PM Wednesday. Alternatively, we will be visiting several off-campus facilities during the semester that will require transportation. We will carpool as needed leaving as early as 1:00 PM and typically returning by 3:00 PM. If you have conflicts with classes or work immediately following the tour, let me know in advance. If you cannot attend the tour, then you will need to complete a makeup assignment.
• Students are also strongly encouraged to attend weather discussions, which are held in 718 WBB on Tuesdays and Thursdays from 1-1:30 PM. Unless you have a class conflict, you are expected to attend at least one weather discussion during the semester.

Class Policies and Grading
Grades will be determined from class attendance and in-class assignments and tours (30%), assignments (50%), and development of academic plan (20%). Plagiarizing, copying, or otherwise
misrepresenting one's work will not be tolerated and will be dealt with as harshly as permitted under University Policy. Do not break the scientific code of honor. Final grades are based on the following scale:
> 90 % guarantees an A or A-;
> 80 % guarantees a B+, B, or B-;
> 70 % guarantees a C+, C, or C-;
> 60 % guarantees a D+, D, or D-;
< 60% may result in an E
Cutoff points for the specific grades are identified to define reasonable distribution of grades.

**Course Outline**

- **Week 1.** Aug 22 Introduction to the profession & the department. Aug 24. Observing weather
  o COMET module: Basic Weather processes: [http://www.meted.ucar.edu/fire/s290/unit4/](http://www.meted.ucar.edu/fire/s290/unit4/)
- **Week 2.** Aug. 29. Weather forecasting. Aug 31. NWS Forecast Office tour
  o COMET module: Stability: [http://www.meted.ucar.edu/fire/s290/unit6/](http://www.meted.ucar.edu/fire/s290/unit6/)
- **Week 3.** Sep 7. Developing computer programming skills. MATLAB basics
  o COMET module: Hurricanes: [http://www.meted.ucar.edu/hurricane/chp/](http://www.meted.ucar.edu/hurricane/chp/)
- **Week 4.** Sep 12. Climate Variations. Sep 14. KUTV station tour
- **Week 5.** Sep 19. Using Matlab to solve problems. Sept. 21. Starting your academic plan
  o COMET module: weather and the built environment: [http://www.meted.ucar.edu/broadcastmet/wxbuiltenv/](http://www.meted.ucar.edu/broadcastmet/wxbuiltenv/)
- **Week 6.** Sep 27. Building programming skills with Matlab. Sept. 29. UDOT Traffic Operations Center tour
  o COMET module: weather and health. [http://www.meted.ucar.edu/broadcastmet/wxrx/](http://www.meted.ucar.edu/broadcastmet/wxrx/)

**ADA Accomodations**

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations.

**Additional Information Regarding Faculty and Student Responsibilities.**

All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. Students have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee.

The syllabus is not a binding legal contract. It may be modified by the instructor when the student is given reasonable notice of the modification.