

# *Advanced* Computing Techniques in Meteorology

ATMS 373.001  
SUMMER 2017

Computer skills are often a pivotal factor in hiring decisions in the public and private sectors, as well as in the success or failure of graduate students in the atmospheric sciences. This course covers some advanced computing skills that are especially relevant to work in the field of meteorology. In the next few months, you will become familiar with several programming techniques and software packages that will help to transform you into an efficient researcher and a profitable employee.

## PROFESSOR

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Dr. Christopher Godfrey

Office: Robinson Hall, room 231

Phone: 828-232-5160

E-mail: cgodfrey at unca dot edu

Office hours: None scheduled (it *is* summer). E-mail is the most efficient way to reach me. If my office door is open, please drop in.

## CLASS INFORMATION

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Meeting times: None.

Location: Online.

Required text: None.

Prerequisites: ATMS 103 or 113; CSCI 181 or ATMS 230

Website: <http://www.atms.unca.edu/cgodfrey/courses/advcomp/>

## GETTING QUESTIONS ANSWERED

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Since this is a Web-based course, there is no official class meeting time, but I will be in my office occasionally this summer to assist you. If at any time you have a question and my office door is open, you are more than welcome to visit. Otherwise, e-mail is by far the best way to reach me and I check it often. You may also schedule an appointment with me. You will run into programming problems and need to ask questions, so please don't hesitate to ask.

## COURSE TOPICS

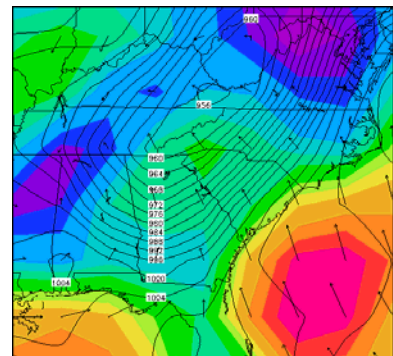
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Topics include an assortment of tools used for meteorological applications. You can expect to learn GrADS, basic HTML, and CGI scripting and create postscript and raster graphics, all with the help of the Python programming language, use LaTeX for document preparation, use Google maps to display meteorological data on your Web page, and manipulate data using a variety of options.

## COURSE FORMAT AND EVALUATION

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There are no lectures, quizzes, or tests. There are only tasks and a final project. You will submit these assignments for assessment by sharing them with me via a password-protected directory on your Web site. The requirements for an A include the satisfactory completion of the final project and 7 tasks. Satisfactorily completing 6 tasks with no final project will earn you a B and the satisfactory completion of 4 tasks with no final project will earn you a C. To earn any of these grades, you must build a Web site with a password-protected directory. Completing fewer than four assignments during the course of the semester will result in either an F or an incomplete. The deadline for requesting an incomplete grade is Monday, 31 July 2017. You may collaborate on the assigned tasks so that you may learn and copy from others and extend their work, but please acknowledge the work of others. For example, "This course originated from Dr. Brian Fiedler at the University of Oklahoma and has been modified for use at UNC Asheville with his permission."



## **RECOMMENDED TIMELINE**

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Since this class does not meet in a traditional classroom setting and there are no intermediate deadlines, completing the course requires a great deal of diligence and self-discipline. Please allow yourself plenty of time to complete each tutorial. Do not attempt to finish all of the tutorials in the last few days of the summer semester. I have witnessed such noble attempts and they have all fallen short. You may wish to follow the recommended schedule below, but you can certainly begin and complete projects as you please. Note that this schedule starts one month after commencement, but you may begin your work as soon as you finish your spring semester final exams. In fact, I strongly encourage you do so.

<b><u>Date</u></b>	<b><u>Action</u></b>
June 6, 2017	Summer classes officially begin
June 8, 2017	Complete task 1: Password-protected Web page
June 14, 2017	Complete task 2
June 21, 2017	Complete task 3
June 28, 2017	Complete task 4
July 5, 2017	Complete task 5
July 12, 2017	Complete task 6
July 19, 2017	Complete task 7
July 20, 2017	Begin final project
July 31, 2017	Deadline to request an incomplete
August 3, 2017	All course materials due by 5:00 p.m.

## **FINAL PROJECT**

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Satisfactory completion of seven tasks and a final project will earn an A in this course. Please do not traumatize yourself with anxiety about the final project. You may find that it flows naturally as a creative extension of one of your assigned tasks. Please allow me to approve your plan for the final project before proceeding.