### Introduction to Programming: FORTRAN Short Course

Scheduling: Tuesdays 3:00-5:00p in ATS 101  
Instructor: Kate Thayer-Calder  
ATS 404  
katetc@atmos.colostate.edu  
Office Hours every Wed and Thurs 2:00-3:30p  
Class Website: [http://www.atmos.colostate.edu/gradprog/programming/](http://www.atmos.colostate.edu/gradprog/programming/)

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<th>Date</th>
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| 17 - Feb | • Another Intro to Computer Science  
          • How a Computer Actually Works  
          • Developing a Plan and a Program  
          • Creating and Compiling a Fortran Program  
          • Print is your friend  
          • Variables, Types, Arrays, Arithmetic Functions, Order of Operations |
| 24 - Feb | • More on Arrays  
          • Logical Operators  
          • Conditional Statements  
          • Looping options  
          • Subroutines and Functions  
          • Intro to Recursion |
| 3 - Mar  | • Makefiles & Modules  
          • Strings, strings, strings  
          • Reading/Writing Formatted and Unformatted Data  
          • Pointers  
          • Higher dimensional arrays  
          • User Defined Data Types |
| 10 - Mar | • Modules and organizing big programs  
          • Reading/writing scientific data  
          • Debugging, Debugging, Debugging  
          • Class requested topics |
FORTRAN Resources

Some good books:
• **Programmer’s Guide to Fortran 90** by Brainerd, Goldbert and Adams
• **Fortran 90/95 for Scientists and Engineers** by Stephen J Chapman
• **Introduction to Programming with Fortran** by Ian Chivers and Jane Sleightholme

Some good websites:
• Randall’s Rabbits Fortran Class  [http://kiwi.atmos.colostate.edu/fortran/](http://kiwi.atmos.colostate.edu/fortran/)
• Fortran 90 3 Day Course [http://www.liv.ac.uk/HPC/F90CourseIntro3DayHomePage.html](http://www.liv.ac.uk/HPC/F90CourseIntro3DayHomePage.html)