### Syllabus for ATMS 261 – Computer Applications in Meteorology – Spring 2009

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Project*</th>
</tr>
</thead>
<tbody>
<tr>
<td>F 16 Jan</td>
<td>Intro/ MS Word &amp; PowerPoint</td>
<td>Group Project #1</td>
</tr>
<tr>
<td>F 23 Jan</td>
<td>MS FrontPage</td>
<td>Group Project #2</td>
</tr>
<tr>
<td>F 30 Jan</td>
<td>MS Movie Maker</td>
<td>Group Project #3</td>
</tr>
<tr>
<td>F 6 Feb</td>
<td>Moving data</td>
<td>Group Project #4</td>
</tr>
<tr>
<td>F 13 Feb</td>
<td>Excel</td>
<td>Group Project #5</td>
</tr>
<tr>
<td>F 20 Feb</td>
<td>Minitab/Matlab</td>
<td>Group Project #6</td>
</tr>
<tr>
<td>F 27 Feb</td>
<td>GIS</td>
<td>Group Project #7</td>
</tr>
<tr>
<td>F 6 Mar</td>
<td>DOS command window</td>
<td>Group Project #8</td>
</tr>
<tr>
<td>F 20 Mar</td>
<td>Linux command window</td>
<td>Group Project #9 @ RBH238</td>
</tr>
<tr>
<td>F 27 Mar</td>
<td>Online weather data resources</td>
<td>Group Project #10 @ RBH141</td>
</tr>
<tr>
<td>F 3 Apr</td>
<td>GARP</td>
<td>Group Project #11 @ RBH238</td>
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<tr>
<td>F 10 Apr</td>
<td>VIS5D</td>
<td>Group Project #12 @ RBH238</td>
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<tr>
<td>F 17 Apr</td>
<td>Moving data</td>
<td>Group Project #13 @ RBH238</td>
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<tr>
<td>F 24 Apr</td>
<td>FORTRAN</td>
<td>Group Project #14 @ RBH238</td>
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<tr>
<td>F 1 May</td>
<td>Python</td>
<td>Group Project #15 @ RBH238</td>
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*assignment completed before class ends on this date

### Description

A course designed to equip the student with tools for effective communication, and data analysis and manipulation with a focus on applications in the atmospheric sciences. These tools will be introduced for computers having Windows XP and Linux operating systems.
Outline

Introduction
Applications within the Windows XP Operating System
  Office Tools
    MS Word
  Communication Tools
  Visualization
    Powerpoint
    FrontPage (Web)
    Others
Data Manipulation Tools
  moving data (push/pull)
    Online weather data resources
    FTP
    telnet
    ssh/kerberos
  crunching data (making calculations)
    Excel
    Minitab
    Matlab
    IDL
  displaying data
    GIS
The DOS command window
Remote Logins
Applications within the Linux Operating System
  The Linux command window
  Office Tools
  Communication Tools
  Visualization
    GARP/GEMPAK
    McIDAS
    NCAR-Graphics
    VIS5D
Data Manipulation Tools
  moving data (push/pull)
    FTP
    telnet
    ssh/kerberos
    LDM
  crunching data (making calculations)
    FORTRAN
    Python
**Grading**

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects</td>
<td>40%</td>
</tr>
<tr>
<td>Attendance</td>
<td>50%</td>
</tr>
<tr>
<td>Presentation</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

- $92\% < \text{total score} \leq 100\%$ \quad \text{A}
- $90\% < \text{total score} \leq 92\%$ \quad \text{A-}
- $88\% < \text{total score} \leq 90\%$ \quad \text{B+}
- $82\% < \text{total score} \leq 88\%$ \quad \text{B}
- $80\% < \text{total score} \leq 82\%$ \quad \text{B-}
- $78\% < \text{total score} \leq 80\%$ \quad \text{C+}
- $72\% < \text{total score} \leq 78\%$ \quad \text{C}
- $70\% < \text{total score} \leq 72\%$ \quad \text{C-}
- $68\% < \text{total score} \leq 70\%$ \quad \text{D+}
- $60\% < \text{total score} \leq 68\%$ \quad \text{D}
- $\text{total score} \leq 60\%$ \quad \text{F}

**Projects**

Projects will be assigned during each class and are intended to aid in improving your understanding of the course material contained in the lectures. Due to the limited number of computers in the RBH141 lab, projects will be worked on in groups that are assigned by the instructor. Each individual within the group will receive an identical grade.

**Exams**

None

**Final Exam**

None

**Presentation**

Each student will be part of a two-person team that will be responsible for leading the class through a project designed to improve familiarity with a computer application listed as part of the course outline. Presentations and projects given during the semester will introduce new material and need to be approved by the instructor. Presentations and projects given during the final exam period will review course material. The presentation should be no longer than 15 minutes and the corresponding project should be capable of being completed before the end of the class period. As part of each presentation team, each team member will be responsible for making a contribution to the 15 minute presentation as well as designing the corresponding project. Written team member evaluations and presentation files are required to be handed in to the instructor as part of the presentation by noon on the Wednesday before the topic is to be introduced in class.
Assignment/Quiz/Exam Policy
Assignments are to be handed in before the end of class on the date they are due. Assignments handed in after the start of lecture are considered late until 4:30 pm on the date they are due and will be have an automatic 10% deduction from their final score. Assignments handed in after 4:30 pm on the date they are due will receive no credit. Accommodations can be made under special conditions.

Instructor
Doug Miller
232-5158
http://facstaff.unca.edu/dmiller
dmiller@unca.edu

Textbook
None required

References
Given as necessary

Disabilities
Contact Prof. Miller early in the course if you have a disability that requires special accommodation.

Academic Integrity
Cheating or plagiarism results in a failed assignment, quiz, or exam on the first infraction. A second infraction results in course failure and a report to the UNCA administration. See http://www.unca.edu/catalog/academicregs.html under “Student Responsibilities” for a refresher on the UNCA policy.