**CMPSCI 119**  
**Fall 2015**  
**Introduction to Programming with Python**  

**Professor William T. Verts**

**Class:**  
Lectures: Monday, Wednesday, Friday 1:25PM–2:15PM, Hasbrouck 134. I will miss Friday, December 4 due to an all-day faculty retreat; a TA will hold a quiz or other in-class exercise.  
 Labs: Tuesday, Thursday, 1:10PM–2:15PM, DuBois 1685 side room (first-come, first-served).

**Office Hours and Email:**  
LGRC A357, Monday/Wednesday/Friday 2:30-3:30, and by appointment at our mutual convenience.  
verts@cs.umass.edu Personal, for asking questions.  
literacy@cs.umass.edu For submitting on-line materials.  
Put CMPSCI 119 in the subject line.  
I read all email daily, but do not expect a speedy reply. I might not reply at all if the question is something I can address in class. Do NOT email attachments to me; they will be deleted. Do not call me at home.  

**TA:**  
The TAs will operate the lab sessions, hold office hours in LGRC A345, perform the grading, and be available to assist in all aspects of this course. Hours to be arranged. TA office is shared by all TAs and graders for all my courses.

**Books:**  

**OPTIONAL:** *Introduction to Computing and Programming in Python – A Multimedia Approach*, 4TH Edition  

**Web:**  
http://people.cs.umass.edu/~verts (then follow the link to the 119 page), or:  
http://people.cs.umass.edu/~verts/cmpsci119/cmpsci119.html  
http://people.cs.umass.edu/~verts/cmpsci119/quizzes/quizzes.html

**Twitter and other Social Media:**  
Please do not “friend” me on Facebook, Linked-In, or other social networks. I reserve Facebook for relatives, hiking buddies, and friends from high-school. I do not often post messages on Twitter.

**Course Scoring**  
(percentages may change according to number and type of assignment):  
Midterm 1 15% (open book, Tuesday, October 13, in-class)  
Midterm 2 15% (open book, Wednesday, November 4, in-class)  
Final Exam 20% (open book, Friday, December 18, 1:00-3:00, Hasbrouck 134)  
Homework 10% (formally assigned homework, in-class exercises and quizzes, on-line exercises, etc.)  
Projects: 40% (singly, but there may be small group projects)

**Letter grades will be assigned according to final computed course score:**  
A ≥ 90%, A- ≥ 88%, B+ ≥ 86%, B ≥ 80%, B- ≥ 78%, C+ ≥ 76%, C ≥ 64%, C- ≥ 62%, D+ ≥ 60%, D ≥ 50%, F < 50%. Missing any exam incurs an automatic F for the course. Fractional final course scores are rounded to the nearest integer. For example, 87.49999 rounds down to 87 (B+), while 87.50000 rounds up to 88 (A-).

**Computer:**  
You may use either a Windows PC or an Apple Macintosh. The programming environment we use is JES 5.0 (Jython Environment for Students), located at https://github.com/gatech-csl/jes/releases for free download. There are versions that run on both PCs and Macs. In addition, “standard” versions of Python may be downloaded from http://www.python.org/, and Mac users have Python already installed, accessible from the Terminal application. From time-to-time I will demonstrate software that runs only on a Windows PC; Mac users may wish to install Parallels and Windows 7, or Crossover Mac, in order to run these programs.
Notes:

1. **DO YOUR OWN WORK, INCLUDING HOMEWORK AND LAB WORK.** You may **discuss** homework and lab assignments with other students, but you **may not share files or disks.** Upon discovery of duplication, I will contact you for a conference, as required in the guidelines set out by the University of Massachusetts Academic Honesty Policy, and we will resolve the issue according to those guidelines. See the document at: [http://www.umass.edu/dean_students/codeofconduct/acadhonesty/](http://www.umass.edu/dean_students/codeofconduct/acadhonesty/)

2. Do **not** ask for extra work after the end of the semester to boost an undesirable grade. I never grant such requests.

3. Please contact me directly if you have any concerns about the running of the course, the TAs, grading, etc.

**Day-By-Day Schedule (Very Tentative):**

<table>
<thead>
<tr>
<th>Monday</th>
<th>Wednesday</th>
<th>Friday</th>
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<tbody>
<tr>
<td>1</td>
<td><strong>September 7</strong> – Labor Day Holiday</td>
<td><strong>September 9</strong> – First Lecture – Intro to course. What is programming all about?</td>
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<tr>
<td>2</td>
<td><strong>September 14</strong> – Easy programs, def &amp; return statements. Simple I/O statements.</td>
<td><strong>September 16</strong> – Python if statements. The pass statement.</td>
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<td>3</td>
<td><strong>September 21</strong> – Lists, tuples, and strings, more on functions. JES I/O functions.</td>
<td><strong>September 23</strong> – while loops with lists and ranges, for loops with ranges.</td>
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<td>5</td>
<td><strong>October 5</strong> – Image processing on one pixel at a time.</td>
<td><strong>October 7</strong> – Random numbers. Sierpinski Gasket.</td>
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<td>7</td>
<td><strong>October 19</strong> – Passing functions as parameters in Python.</td>
<td><strong>October 21</strong> – 3x3 filters (blur, edge detect, etc.).</td>
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<td>9</td>
<td><strong>November 2</strong> – Special Topics, Review for midterm.</td>
<td><strong>November 4</strong> – MIDTERM #2</td>
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<td>10</td>
<td><strong>November 9</strong> – Introduction to 3D orthographic projections. Linear blending in 2D and 3D. 3D lines.</td>
<td><strong>November 11</strong> – Veterans Day Holiday</td>
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<tr>
<td>11</td>
<td><strong>November 16</strong> – 3D Lines and Polygons, image scaling</td>
<td><strong>November 18</strong> – Polygon fill, 4D lines.</td>
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<td>12</td>
<td><strong>November 23</strong> – More on Sounds. Intro to the Sunrise project.</td>
<td><strong>November 25</strong> – Special Topics</td>
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<td>13</td>
<td><strong>November 30</strong> – Reading and Writing text files redux: Emitting HTML &amp; SVG from Python.</td>
<td><strong>December 2</strong> – More HTML and Python from UNIX.</td>
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<td>14</td>
<td><strong>December 7</strong> – Catch-up Day. Showing student Sunrise projects.</td>
<td><strong>December 9</strong> – Last Day of Class, Review for Final Exam.</td>
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