Welcome To CMPU 250 —
Modeling, Simulation and Analysis
Vassar College, Spring '18

Course: CS 250 — Modeling, Simulation and Analysis
Lecture: T / R 1:30–2:45PM, meetings in SP 105.
Website URL: *http://www.cs.vassar.edu/~cs250*

Course Description (revised)

An introduction to computational modeling and simulation, motivated by applications to natural, mathematical, and social sciences. Topics may include: dynamical system simulation; finite difference equations; numerical error in simulation; numerical methods for integration; stochastic models; Monte Carlo simulation; elementary statistics; cellular automata; and agent-based simulation. Students complete projects in multiple application domains to develop interdisciplinary breadth; to understand theory, models, and methods underlying computational science; and to explore interdisciplinary applications of computational modeling.

Prerequisites: CMPU 102, MATH 126 and MATH 127. CMPU 241 and /or MATH 221 recommended but not required.

Your Professor: Eric Aaron
Website: *http://www.cs.vassar.edu/~eaaron*
Office: SP 305
Office Hours: T / R 4:30–5:30PM (but may change)
Phone/Voicemail: (845) 437-7293
E-mail: *eaaron@cs.vassar.edu*
NB: The above email address is the best way to contact me.

Course textbook

- *Introduction to Computational Science* by Angela B. Shiflet and George W. Shiflet.

Grading: Your grades for the course will be computed based on

- Problem Sets and Projects (2–4 expected): 50–75%
- Final Project / Assignment: 20–35% (There will not be a Final Exam for the course.)
- Class participation, labs, other small assignments, etc.: 5–15%

The above percentages may be changed if administrative concerns demand it.

Lectures, Labs, and Classroom Accountability

All students are responsible for **ALL** information given in class, whether or not it is presented in any other form (handout, course website, textbook, etc.). Thus, although lecture attendance is not mandatory, it is strongly encouraged, and it is essential that students who miss lecture consult classmates and find out about any information—academic, administrative, or other—that they missed. There may be severe, unintended consequences for students who do not keep up with all information from class. It is your responsibility to see that this does not happen to you. The easiest way to ensure it: Attend every lecture. (If low lecture attendance becomes a problem, your professor reserves the right to make lecture attendance mandatory for the remainder of the course.)

There will be occasional "lab" meetings in class to work together with Matlab on course concepts. Attendance at labs is especially strongly advised and may be made mandatory.

As a courtesy to your classmates and your instructors, the use of computers, tablets, mobile phones, wearables, or other electronic devices during class meetings is discouraged. If for any reason it is important that you use such a device during class, please talk with me about how we can best accommodate you.

Homework Policies

Electronically submitted assignments such as programs are typically due by the end (11:59 PM) of the specified due date. Assignments turned in on paper (writeups, code documentation, responses to papers, etc.) may instead be due by the beginning of class (e.g., 1:30 PM) on the specified due date and should be turned in directly to me; such assignments received after the beginning of class may be considered late (in particular, assignments left in my office after I leave it for class, whenever that might be, will be considered late).

It is important for your progress that each project and homework assignment be completed on time. The policy on lateness for problem sets is: if an assignment is handed in 1-2 days late, a penalty of 10%; 3-4 days late, a penalty of 20%; 5-10 days late, 40% penalty; after 10 days, an automatic grade of 0 is given. The policy on lateness for projects is: if an assignment is handed in 1-2 days late, a penalty of 10%; 3-4 days late, a penalty of 15%; 5-10 days late, 25% penalty; after 10 days, an automatic grade of 0 is given. The policy on lateness for small assignments (graded on a ✓+ / ✓ / ✓− / 0 scale) is: if an assignment is handed in 1-4 days late, a penalty of one "level" down; 5-10 days late, 2 levels down; after 10 days, an automatic grade of 0 is given. (Your professor reserves the right to make small changes to the details of this policy for administrative reasons. If there is to be a change to this policy, ample notice will be given.)

As with all policies, homework policies are intended to be fair to everyone involved in the course. They will be enforced fairly. Please feel free to ask me any questions about specific cases that may emerge over the semester.

Statement regarding Accessibility and Educational Opportunity

Academic accommodations are available for students registered with the Office for Accessibility and Educational Opportunity (AEO). Students in need of disability (ADA/504) accommodations should schedule an appointment with me early in the semester to discuss any accommodations for this course that have been approved by the Office for Accessibility and Educational Opportunity, as indicated in your AEO accommodation letter.

Policy on Collaboration and Academic Integrity

You may discuss ideas to collaborate with your classmates on the homework assignments, but your coding work must be entirely your own: you must write and submit your own code, and you may not share or copy code, solutions, or files. **In particular, you may not look at a screen to see the code of a classmate.**

In general, copying written solutions (code, pseudocode, etc.) from any source (a classmate, a published text, an online source, etc.) is disallowed unless explicitly authorized. In many cases, you **may** use code from sources explicitly provided on the course website, as long as you acknowledge the source. You may not, however, use code from other sources, including online sources, unless explicitly authorized; note that using code or other material from sources (other than those explicitly given as course resources) as "inspiration" and submitting highly derivative solutions is viewed as copying. (Please read *Going to the Source: A Guide to Academic Integrity and Attribution at Vassar College*, available from Vassar's Dean of the College website.)

On some assignments, collaboration will be restricted. Please feel free to ask me questions about collaboration on each assignment as it is assigned! On exercises where collaboration is permitted, you may discuss ideas and approaches to solving problems on a **general** level with your classmates (as well as your professor, of course!). You **may not**, however, discuss specifics with your classmates. As part of this, in cases of collaboration, if you know the answer and a classmate does not, telling them the answer is a violation of class policy; if a classmate needs further assistance, they should see your professor. Furthermore, on each submitted assignment, you should always cite and acknowledge sources from which you receive assistance, including your textbook or your classmates.

In general, the highest level of academic integrity is expected of every student in this class. If there are any questions about collaboration or related policies, please come talk with me!