Welcome To CMPU 395 —
Intelligent Robotics (Advanced Special Topics)
Vassar College, Fall ’17

Course: CS 395 — Intelligent Robotics (Advanced Special Topics)
Lecture: W / F 10:30–11:45AM, meetings in SP 105.
Website URL: http://www.cs.vassar.edu/~eaaron/cs395

Course Description
An introduction to the study of intelligent robotic systems, covering design paradigms, high-level algorithms, and practical implementation details. Topics covered may include: search; path planning; graph-based analyses of mobile robots; reactive navigation; action selection; perception; finite state machine behavior models; and reactive, deliberative, and hybrid control architectures.

Prerequisites: CMPU 241.

Your Professor: Eric Aaron
Website: http://www.cs.vassar.edu/~eaaron
Office: SP 305
Office Hours: M 2:00–3:00 PM / Th 2:00–3:00 PM, and by email appointment (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.

Recommended textbooks (There is no required textbook for this course)

• Artificial Intelligence: A Modern Approach by Stuart Russell and Peter Norvig
• Introduction to Algorithms by Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein
• Programming Robots with ROS by Morgan Quigley, Brian Gerkey, and William D. Smart
• A Gentle Introduction to ROS by Jason O’Kane
• Introduction to AI Robotics by Robin Murphy
• Principles of Robot Motion by Howie Choset et al.
• Probabilistic Robotics by Sebastian Thrun, Wolfram Burgard, and Dieter Fox.

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

• Homework Assignments (3–5 expected): 55–75%
• Final Project / Assignment: 20–35% (There will not be a Final Exam for the course.)
• Class participation, other small assignments, etc.: 5–10%

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 of class to work together on robotics software. 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 lectures is discouraged. If for any reason it is important that you use such a device during lecture, please talk to 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 (code documentation, responses to papers, printouts of code, etc.) may instead be due by the beginning of class (e.g., 10:30am for lectures) 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 in the course that each assignment be completed on time. Unless otherwise specified, the policy on lateness is: if an assignment is handed in 1–2 days late (i.e., 1–2 calendar days—up to 48 hours 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. (If documentation is essential for a programming assignment and submitted late, even though the code is submitted on time, the entire assignment may be considered late.) 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. It is also possible that there will be assignments for which a different lateness policy may apply; if those occur, the lateness policy for those assignments will be clearly noted on the assignment.

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

Your CS395 homework will include both programming exercises and non-programming exercises. On homework exercises where collaboration is permitted, you are encouraged to discuss ideas and approaches to solving problems on a general level with your classmates (as well as your professor or CS395 student course assistant, 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 or a student course assistant (if applicable).

In particular, you should never share or copy code, solutions, or files unless explicitly allowed by your professor to do so. In particular, you may not look at a screen to see the code of a classmate. 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.

In general, receiving and copying solutions (code, pseudocode, proofs, algorithms, etc.) from any source (a classmate, a friend, a published text, an online source, etc.) is disallowed 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.) Furthermore, on each submitted assignment, you should always cite and acknowledge sources from which you receive assistance, including your textbook or your classmates.

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!