Algorithmic Robotics
COMP/ELEC/MECH 450 or COMP/ELEC/MECH 550

Handout #4: Resources Related to Programming

COMP/ELEC/MECH 450 and COMP/ELEC/MECH 550 attract students from different disciplines. Please bear in mind that the project requires intermediate to advanced knowledge of C++. Students with a background in C or Java typically catch up with the level of C++ they need for after some self study.

For students who are not at the intermediate or advanced level with C++, it is recommended that they begin a self-study at the beginning of the semester. Below are some resources.

- Here is a comparison between C++ and Java that you might find useful: http://en.wikipedia.org/wiki/Comparison_of_Java_and_C%2B%2B
- There are many cheat sheets to show you how to go form Java to C and C++ (e.g., http://www.cprogramming.com/java/c-and-c++-for-java-programmers.html
- Books on C++ for Java programmers (many such books are available one recommendation is the book C++ for Java Programmers" by Mark Allen Weiss.
- General C++ Resources
  - http://www.cplusplus.com/
  - http://www.cplusplus.com/doc/tutorial/
  - http://ompl.kavrakilab.org/boost.html
- Virtual vs Pure Virtual & Abstract Base Class: http://www.cplusplus.com/doc/tutorial/polymorphism/
- static_cast vs dynamic_cast: http://www.cplusplus.com/doc/tutorial/typecasting/
- public, protected, and private: http://www.cplusplus.com/doc/tutorial/classes/