# In-Demand Skills

## Skills Recommended for Computer Information Systems Students

### Artificial Intelligence (AI)

Students should seek out and develop computational thinking and data-centric concepts skills outside the classroom to supplement their C++/Java curriculum, such as working on data structures, writing programs that manipulate real-world datasets, explore understanding of how algorithms scale, practice simple scripting for automation, and getting some exposure to concepts like model inputs, outputs, and evaluation.

### Hard Core Programing Skills with Good Analytics

Hard-core programming refers to deep, systems-level, architecture-aware work that professional engineers do when they're building or optimizing real software systems. It involves designing large codebases, reasoning about performance at scale, understanding memory behavior, working with concurrency, debugging complex interactions between components, and writing code that has to run reliably under real-world constraints. Students should familiarize themselves with more languages than just C++ and Java, like Python.

### Program Managers' Skills

A two-year CS program can give students a strong foundation they can use to start exploring PM skills on their own. There's information on how to learn to break down requirements, estimate tasks, track progress, deliver on deadlines, use visual task-tracking systems such as Kanban boards, Scrum-style task boards, or other card-based workflow tools, and collaborate through version control.

### Anything DATA CENTER Related

Intro programming courses that feed into data-center careers might find ways to integrate more systems-oriented concepts alongside C++ coursework, such as command-line interaction, basic scripting for automation, understanding IP addressing and subnets, using version control, and writing small automation tools in a high-level language. There is information that can help how servers are organized in large-scale environments to guide students towards connecting their C++/Java problem-solving skills to the infrastructure they may eventually support in Data Center professional technical jobs.

### Research Opportunities

https://www.kbcc.cuny.edu/crsp/index.html

The CUNY Research Scholars Program is a year-long program where students work with faculty mentors on hands-on research projects across multiple semesters. Participants build skills through workshops, complete significant research hours, and develop projects in fields like STEM, social sciences, and business. By the end, students present their work while gaining academic experience and course credit.