

# Industry Credentials, Concentration Sequences, and Career Clusters

## Programming, Advanced (6641)

### Industry Credentials:

*These apply only to 36-week courses.*

- Advanced Placement (AP) Computer Science Principles Examination
- App Development with Swift Level 1 Examination
- Certified Associate in Python Programming (PCAP) Examination
- Certified Entry-Level Python Programmer (PCEP) Examination
- Certified Internet Web (CIW) Advanced HTML 5 and CSS 3 Specialist Examination
- Certified Internet Web (CIW) Data Analyst Examination
- Certified Internet Web (CIW) Database Design Specialist Examination
- Certified Internet Web (CIW) E-Commerce Services Specialist Examination
- Certified Internet Web (CIW) Internet Business Associate Examination
- Certified Internet Web (CIW) JavaScript Specialist Examination
- Certified Internet Web (CIW) Network Technology Associate Examination
- Certified Internet Web (CIW) Site Development Associate Examination
- Certified Internet Web (CIW) Social Media Strategist Examination
- Certified Internet Web (CIW) User Interface Designer Examination
- Certified Internet Web (CIW) Web Design Specialist Examination
- Certified Internet Web (CIW) Web Security Specialist Examination
- Cloud Essentials Certification Examination
- College and Work Readiness Assessment (CWRA+)
- Computer Programming Assessment
- IC3 Digital Literacy Certification Examination
- Microsoft Technology Associate (MTA) Examinations
- National Career Readiness Certificate Assessment
- Unity Certified User Examination
- Workplace Readiness Skills for the Commonwealth Examination

### Concentration Sequences:

*A combination of this course and those below, equivalent to two 36-week courses, is a **concentration sequence**. A **program completer** is a student who has met the requirements for a CTE concentration sequence and all other requirements for high school graduation or an approved alternative education program. Students wishing to complete a specialization may take additional courses based on their career pathways.*

- AP Computer Science A (3185/36 weeks)
- AP Computer Science Principles (10160/36 weeks)
- Computer Information Systems (6612/36 weeks)
- Computer Information Systems (6614/18 weeks)
- Computer Information Systems, Advanced (6613/36 weeks)
- Computer Information Systems, Advanced (6615/18 weeks)
- Computer Network Software Operations (6650/36 weeks)
- Computer Network Software Operations, Advanced (6651/36 weeks)
- Cybersecurity Software Operations (6304/36 weeks)
- Database Design and Management (Oracle) (6660/36 weeks)
- Design, Multimedia, and Web Technologies (6630/36 weeks)
- Design, Multimedia, and Web Technologies (6632/18 weeks)
- Design, Multimedia, and Web Technologies, Advanced (6631/36 weeks)
- Design, Multimedia, and Web Technologies, Advanced (6633/18 weeks)
- Digital Applications (6611/36 weeks)
- Digital Applications (6617/18 weeks)
- Information Technology Fundamentals (6670/36 weeks)
- International Baccalaureate Computer Science (10159/36 weeks)
- International Baccalaureate Information Technology in a Global Society (IB6613/36 weeks)
- Java Programming (Oracle) (6661/36 weeks)
- Modeling and Simulation Technology (8460/36 weeks)
- Office Administration (6621/36 weeks)
- Office Administration (6622/18 weeks)
- Programming (6640/36 weeks)

### **Career Clusters, Career Pathways, and Occupations:**

- Arts, Audio/Video Technology and Communications
  - Telecommunications
    - Computer Programmer
    - Network Systems and Data Communication Analyst
- Information Technology
  - Network Systems
  - Computer Security Specialist
  - Computer Software Engineer
  - Database Analyst
  - Network Architect
  - Systems Analyst
  - Programming and Software Development
    - Applications Integrator
    - Computer Software Engineer
    - Game Designer, Programmer
    - Multimedia Artist, Animator

- Network Systems and Data Communication Analyst
  - Programmer
  - Project Manager
  - Software Applications Engineer
  - Software Test Engineer
  - Systems Analyst
  - Web Developer
- Web and Digital Communications
  - Applications Integrator
  - Graphic Designer
  - Multimedia Artist, Animator
  - Project Manager
  - Systems Analyst
- Science, Technology, Engineering and Mathematics
  - Engineering and Technology
    - Computer Hardware Engineer
    - Computer Programmer
    - Computer Software Engineer
    - Mechanical Engineering Technician
    - Network and Computer Systems Administrator
    - Network Systems and Data Communication Analyst
    - Systems Analyst
    - Technical Writer
    - Telecommunications Specialist
  - Science and Mathematics
    - Bioinformatics Technician
    - Secondary School Teacher
    - Technical Writer