Information Systems Industry-Recognized Credentials Overview

The information on this resource was developed by members of Iowa's Computer Science Advisory Committee. A joint effort between the Iowa Expanding Computing Education Pathways (ECEP) Group and the Department of Education. This document is intended to be informative about Industry-Recognized Credentials (IRC) teachers and districts may want to provide to students. Inclusion in this resource does not constitute an endorsement or recommendation of any IRC. The IRCs listed here may or may not be on the state approved IRC list.

If there is an IRC not on this list you would like more information about, contact Michelle Meier (michelle.meier@iowa.gov).

IRC Name	IRC Description	What does it prepare students for?	Expertise Level	Recommended Prior Knowledge or Skills
Adobe Certified Professional	The Adobe Certified Professional credential measures students' ability to use Adobe Creative Cloud applications to produce professional-quality visual and multimedia content. Depending on the exam selected, students demonstrate skills in graphic design, photo editing, page layout, video production, and digital publishing.	Designing and producing graphics, publications, videos, and promotional materials; applying principles of visual communication; creating content for print, web, and social media; developing a portfolio for college and career opportunities in creative fields.	Intermediate	Comfort with computers and file organization; creativity; strong attention to detail; understanding of design concepts; prior coursework in digital media, art, marketing, or communications is beneficial.
AWS - Foundational	The AWS Certified Cloud Practitioner certification provides an overview of cloud computing concepts and the services offered through Amazon Web Services. Students learn about core AWS services, security, pricing, and common business applications of cloud technology.	Understanding the purpose of cloud computing; identifying common AWS services; and building a foundation for additional coursework and certifications in cloud computing, cybersecurity, and IT.	Beginner	Basic computer skills; familiarity with networking and security concepts is helpful but not required.
Certified Entry Level Python Programmer	The PCEP™ certification is a professional credential that measures the candidate's ability to accomplish coding tasks related to the essentials of programming in the Python language. A test candidate should demonstrate sufficient knowledge of the universal concepts of computer programming, the syntax and semantics of the Python language, as well as the skills in resolving typical implementation challenges with the help of the Python Standard Library.	PCEP™ certification is an interim step to the PCAP™ certification, and the starting point to launch a career in software development, Python programming, and related technologies. Becoming PCEP™ certified helps certification holders stand out from other candidates, get a foot in the door with an employer, and land a junior-level job in the IT sector and anywhere the basic knowledge of Python is an asset.	Beginner	Basic computer skills; logical thinking and problem-solving abilities; basic algebraic reasoning.

IRC Name	IRC Description	What does it prepare students for?	Expertise Level	Recommended Prior Knowledge or Skills
Cisco Certified Network Associate (CCNA)	The CCNA certification validates knowledge and skills in networking fundamentals, network access, IP connectivity, IP services, security fundamentals, and automation and programmability. It provides students with a strong foundation in configuring, maintaining, securing, and troubleshooting computer networks.	Configuring and troubleshooting networks; understanding routers, switches, wireless networks, and IP addressing; applying network security concepts; working with network services; and developing foundational automation and programmability skills.	Advanced	Strong understanding of computer hardware and operating systems; networking fundamentals; TCP/IP and IP addressing; basic network security.
CompTIA A+	CompTIA A+ is a vendor-neutral, entry-level IT certification that validates foundational knowledge of computer hardware, operating systems, networking, mobile devices, security fundamentals, troubleshooting, and customer service. It is widely recognized across the IT industry as a benchmark credential for technical support and IT operations roles.	Providing technical support; installing, configuring, and maintaining computer systems; troubleshooting hardware and software issues; understanding operating systems and basic networking; applying cybersecurity and safety best practices; preparing for postsecondary IT programs or additional CompTIA certifications.	Beginner	Basic computer operation and file management skills; familiarity with common operating systems; basic understanding of technology use; problem-solving and communication skills; prior completion of an introductory IT or computer applications course recommended.
Fortinet Certified Fundamentals Cybersecurity	A foundational certification covering how computer networks operate, including configuration, protocols, and troubleshooting in wired and wireless environments.	Understanding TCP/IP, network architecture, and services; setting up and troubleshooting basic networks; learning connectivity, performance, and reliability concepts; building foundations for IT infrastructure roles	Beginner	Basic computer hardware and software knowledge; familiarity with internet usage; basic troubleshooting (restarting, connectivity issues); introductory exposure to IT concepts or digital systems.
Google Cloud - Foundational	The Google Cloud Digital Leader certification introduces students to the core ideas behind cloud computing and how businesses use Google Cloud services. The exam covers topics such as data, artificial intelligence, security, and digital transformation.	Explaining how cloud technology supports business operations; understanding basic uses of AI and data analytics; and preparing for more advanced study in cloud computing and information technology.	Beginner	General computer skills; familiarity with technology vocabulary; interest in cloud computing, artificial intelligence, and business technology.

IRC Name	IRC Description	What does it prepare students for?	Expertise Level	Recommended Prior Knowledge or Skills
IT Specialist - AI	An entry-level certification introducing students to how AI systems are designed, built, and used to solve real-world problems, including data handling and machine learning basics. Focuses on foundational exposure rather than deep programming.	Understanding the AI lifecycle (problem definition → data → model → deployment); working with data, algorithms, and basic machine learning models; making informed decisions about ethical and responsible AI use; building computational thinking and problem-solving skills.	Beginner	Basic digital literacy (file management, web use, productivity tools); algebra-level math (variables, simple functions); introductory computational thinking; basic understanding of computers and networks; ability to analyze problems and interpret data.
IT Specialist - Cybersecurity	An entry-level certification focused on protecting systems, networks, and data through understanding security principles, threats, and defensive practices.	Understanding cyber threats, attacks, and vulnerabilities; applying basic security controls and safe computing practices; learning the security mindset (risk, defense, incident awareness); exposure to network and system security concepts.	Beginner	Basic computer and operating system skills (files, users, settings); introductory networking concepts (internet, IP, devices); general IT literacy and troubleshooting mindset; awareness of online safety and digital citizenship.
IT Specialist - Networking	A foundational certification covering how computer networks operate, including configuration, protocols, and troubleshooting in wired and wireless environments.	Understanding TCP/IP, network architecture, and services; setting up and troubleshooting basic networks; learning connectivity, performance, and reliability concepts; building foundations for IT infrastructure roles.	Beginner	Basic computer hardware and software knowledge; familiarity with internet usage; basic troubleshooting (restarting, connectivity issues); introductory exposure to IT concepts or digital systems.
Java SE 8 Programmer	The Java SE 8 Programmer credential validates foundational to intermediate proficiency in the Java programming language. Students demonstrate knowledge of object-oriented programming principles, Java syntax, control structures, data types, classes, and methods, and the ability to develop, test, and debug basic Java applications used in industry-standard software environments.	Developing and maintaining basic software applications; applying object-oriented programming concepts; using logical and algorithmic problem-solving techniques; transitioning into postsecondary computer science or software development programs; preparing for advanced programming coursework or certifications.	Advanced	Computer skills; introductory programming concepts; logical thinking and problem-solving abilities; basic algebraic reasoning; prior completion of an introductory computer science or programming course recommended.

IRC Name	IRC Description	What does it prepare students for?	Expertise Level	Recommended Prior Knowledge or Skills
Site Development Associate (CIW)	The CIW Site Development Associate certification validates foundational web development skills using HTML5 and CSS. Students develop web pages, work with images, hyperlinks, tables, forms, video and audio, apply basic design principles, and learn introductory website development practices.	Creating and maintaining websites; writing HTML and CSS; incorporating multimedia and forms; applying basic web design principles; understanding SEO; and connecting website development to organizational and business needs.	Beginner	Basic computer and file-management skills; familiarity with internet use; basic digital literacy; interest in web design or programming.
Unity Certification	The Unity Certification validates foundational to intermediate skills using the Unity interactive development platform. Students demonstrate competency in C# scripting, interactive application development, digital asset integration, and 2D and 3D environment creation. Unity is widely used across game development, simulations, and emerging technologies.	Developing interactive games and applications; applying object-oriented programming concepts; working with 2D and 3D digital environments; understanding user interaction and visual design; transitioning into postsecondary programs or advanced training in game design, computer science, or digital media.	Beginner	Basic computer and file management skills; logical thinking and problem-solving abilities; introductory programming concepts recommended (especially for Programmer track); basic digital media knowledge helpful for Artist track; prior completion of an introductory computer science or digital media course recommended.

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