

Florida Department of Education Programs and Courses related to Coding, Computer Science, and Computer Programming

The Division of Career and Adult Education maintains several career and technical education (CTE) programs with a sequence of associated courses. These programs contain embedded content standards related to coding, computer science, and computer programming. The majority of CTE programs prepare students for Information Technology (IT) entry level, technical, and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integration services. The IT programs are organized in specific pathways that focus skill and knowledge acquisition in the following pathways:

- 1) Network Systems - These CTE programs prepare students for careers that involve network analysis, planning and implementation, including design, installation, maintenance and management of network systems.
- 2) Information Support & Services- These CTE programs prepare students for careers that involve IT deployment, including implementing computer systems and software, providing technical assistance and managing information systems.
- 3) Web & Digital Communications- These CTE programs prepare students for careers that involve creating, designing and producing interactive multimedia products and services, including development of digitally-generated or computer-enhanced media used in business, training, entertainment, communications and marketing.
- 4) Programming & Software Development- These CTE programs prepare students for careers that involve the design development implementation and maintenance of computer systems and software, requiring knowledge of computer operating systems, programming languages and software development.

Middle School only

The following table shows career education courses that are only available to middle school students and contain computer science skills and competencies. For 2012-13, there were 10,656 courses enrollments in nine middle school only courses from these programs. In 2013-14, there were 18,053 course enrollments.

Table 1: Middle School Courses with Computer Science Skills and Competencies, 2013-14

Course Number	Course Title	1314 Enrollment
8200211	Computer Applications in Business 3	7,030
8200212	Computer Applications in Business 4	2,918
9009110	Information & Communications Technology (ICT) Essentials 1	1,122
9009350	Exploring Information Technology Careers	634
9009120	Information & Communications Technology (ICT) Essentials 2	385
9009130	Information & Communications Technology (ICT) Essentials 3	4,567
9009500	Fundamentals of Web and Software Development	910
9009400	Fundamentals of Networking and Information Support	487
Total Course Enrollments		18,053

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High School Program and Courses

The following table shows the main programs that contain computer science and computer programming skills and competencies.

Table 2: Career and Technical Education Programs with Computer Science Skills and Competencies, 2012-13 and 2013-14

Program Number	Program Title	2012-13		2013-14	
		Number of Districts with Enrollment Reported	Total Enrollment	Number of Districts with Enrollment Reported	Total Enrollment
9400300	Pathways to Engineering	29	9,690	31	10,693
9001100	Web Development	25	8,839	37	10,011
8212400	Multimedia Design Technology	21	9,555	18	7,058
8815100	Finance	27	6,114	25	6,356
8207400	New Media Technology	30	6,635	28	5,475
8207340	PC Support Services	21	3,673	21	3,824
8206500	Business Computer Programming	18	2,906	15	3,651
8208100	Game/Simulation/Animation Visual Design	18	2,901	16	2,842
8208000	Network Support Services	21	2,511	19	2,363
8600080	Aerospace Technologies	16	2,140	19	2,291
8207440	Network Systems Administration	10	1,823	10	2,043
8200300	Electronic Business Enterprise	12	1,043	10	1,683
8208300	Game/Simulation/Animation Programming	12	1,205	17	1,515
9003400	Applied Information Technology	8	765	10	1,437
9007300	Database Application Development & Programming	2	461	3	1,242
9007200	Java Development & Programming	2	242	9	1,195
9001300	Applied Cybersecurity	4	86	10	1,132
9410100	Applied Robotics	6	524	12	1,091
8208200	Game/Simulation/Animation Audio/Video Effects	9	996	11	899
9001200	Computer Systems & Information Technology (CSIT)	9	361	14	723
9200100	Automation and Production Technology	7	186	8	336
8754000	Machining	3	157	2	172
9007400	.NET Application Development & Programming	2	19	6	165
9007500	Web Application Development & Programming	1	21	3	85
8206400	Database and Programming Essentials	5	386	4	61
8208400	Game/Simulation/Animation Advanced Applications	2	18	3	52
TOTAL			63,257		68,395

¹ May include duplication if a student was enrolled in the same program in more than one district, or was enrolled in the same program at two different schools in the same district.

Source: 2012-13 Survey 5 enrollment data reported as of October 11, 2013 and 2013-14 Survey 5 enrollment data reported as of October 10, 2014.

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At the course level, the districts have significant enrollment in foundational information technology courses, primarily “Introduction to Information Technology” and “Computer for Colleges and Careers.” Many of these courses are part of more than one career and technical education programs. The following table shows a selection of enrollments in 48 courses for those with computer science and programming competencies:

Table 3: Select Career and Technical Education Courses with Computer Science Skills and Competencies, 2013-14

Course Number	Course Title	1314 Enrollment
8207310	Introduction to Information Technology	62,550
8209020	Computing for College and Careers	29,690
9001110	Foundations of Web Design	7,598
8208110	Game & Simulation Foundations	3,479
8207110	Web Design 1	2,636
8600520	Principles of Engineering	2,324
8200330	Applied Computer Business Skills I	2,177
9001120	User Interface Design	1,777
8600580	Aerospace Technologies	1,480
8208120	Game & Simulation Design	1,305
9410110	Foundations of Robotics	898
9007210	Foundations of Programming	885
8600530	Digital Electronics	879
8600560	Computer Integrated Manufacturing	777
8206010	Business Computer Programming 1	658
9001130	Web Scripting Fundamentals	397
9001320	Computer & Network Security Fundamentals	328
9003410	Computer Fundamentals	261
9007220	Procedural Programming	253
8208130	Game & Simulation 2D Graphic Development	239
8208330	Game & Simulation Programming	226
9005130	Digital Media Delivery Systems	184
8208140	Game & Simulation 3D Graphic Animation	172
9410120	Robotic Design Essentials	164
9007230	Object-Oriented Programming Fundamentals	136
8206020	Business Computer Programming 2	130
9003450	Programming Essentials	124
9001330	Cybersecurity Essentials	120
8208340	Multi-User Game & Simulation Programming	90
9001140	Media Integration Essentials	59
8208400	Game, Simulation, & Animation Advanced Applications	52
8206030	Business Computer Programming 3	47
9001250	CSIT Cyber Security Essentials	28
8208230	Game & Simulation Audio/Sound Effects	28
9001150	E-commerce & Marketing Essentials	23
9001260	CSIT Cyber Security - Physical	22
9001310	Introduction to Technology Fundamentals	22
9200140	Automation and Production Technology 4	19
8206430	Specialized Database Programming	16
8208240	Game & Simulation Video/Special Effects	15
9001160	Interactivity Essentials	10
9007510	Web Programming	9
8206440	Specialized Database Applications	8
9001340	Operational Cybersecurity	5
8206040	Business Computer Programming 4	3
9007530	PHP Programming	2
9007240	Java Programming Essentials	1
9007520	JavaScript Programming	1
Total Course Enrollments		122,307

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Industry Certification Activity

The following table shows the industry certifications that are linked to programs identified in Table 2. Some certifications include foundational skills like the Microsoft Office suite.

Table 4: Computer Science and Technology Skills Industry Certification Activity, 2013-14

Cert ID	Industry Certification Name	2013-14		
		No. Taken	No. Passed	Pass Rate
Foundational Technology Skills				
MICRO069	Microsoft Office Specialist (MOS) Bundle Certification (3 of 6)	14,082	12,240	86.9%
MICRO017	Microsoft Office Specialist Master	224	214	95.5%
Computer Science and Other Technology Skills				
ADOBE012	Adobe Certified Associate (ACA) - Photoshop	23,652	17,953	75.9%
ADOBE010	Adobe Certified Associate (ACA) - Dreamweaver	13,336	10,883	81.6%
PROSO016	Certified Internet Web (CIW) Internet Business Associate	4,996	3,460	69.3%
ADOBE018	Adobe Certified Associate (ACA) - Premiere Pro	3,992	3,202	80.2%
ADOBE011	Adobe Certified Associate (ACA) - Flash	3,501	2,874	82.1%
ADESK011	Autodesk Certified User - Autodesk Inventor	2,057	1,795	87.3%
ADESK002	Autodesk Certified User - AutoCAD	1,806	1,510	83.6%
INTUT001	Quickbooks Certified User	1,252	915	73.1%
MICRO076	Microsoft Technology Associate (MTA) - Windows OS Fundamentals	868	582	67.1%
ADOBE007	Adobe Certified Expert (Premiere Pro)	554	484	87.4%
PROSO020	Certified Internet Web (CIW) Site Development Associate	597	482	80.7%
CNCI002	Mastercam Associate Certification - Mill Design and Toolpaths	392	320	81.6%
MICRO078	Microsoft Technology Associate (MTA) - Networking Fundamentals	419	251	59.9%
MICRO077	Microsoft Technology Associate (MTA) - Security Fundamentals	174	143	82.2%
MSSCN001	MSSC Certified Production Technician (CPT)	138	128	92.8%
ADOBE005	Adobe Certified Expert (Photoshop)	136	125	91.9%
FLENG001	Engineering Core certification	123	123	100.0%
CNCI001	Mastercam Certified Programmer Mill Level 1 (CPgM1)	115	106	92.2%
COMPT001	CompTIA A+	162	97	59.9%
PROSO018	Certified Internet Web (CIW) Network Technology Associate	91	89	97.8%
ADESK021	Autodesk Certified Professional - AutoCAD	63	53	84.1%
MICRO074	Microsoft Technology Associate (MTA) - Software Development Fundamentals	90	52	57.8%
PROSO003	Certified Internet Web (CIW) E-Commerce Specialist	31	31	100.0%
COMPT006	CompTIA Network+	32	27	84.4%
FEDAA013	FAA Ground School	39	26	66.7%
FEDAA011	FAA Private Pilot	20	19	95.0%
MICRO075	Microsoft Technology Associate (MTA) - Windows Server Admin Fundamentals	18	17	94.4%
CISCO003	Cisco Certified Entry Network Technician (CCENT)	17	13	76.5%
MICRO072	Microsoft Technology Associate (MTA) - Web Development Fundamentals	16	12	75.0%
PROSO021	Certified Internet Web (CIW) Web Design Professional	12	12	100.0%
HPCPY001	HP (Hewlett-Packard) Applied Technical Associate (HP-ATA) - Connected Devices	23	10	43.5%
MICRO071	Microsoft Technology Associate (MTA) - Windows Development Fundamentals	26	10	38.5%
ADESK024	Autodesk Certified Professional - Inventor	14	9	64.3%
PROSO022	Certified Internet Web (CIW) Web Design Specialist	9	6	66.7%
COMPT008	CompTIA Security+	13	6	46.2%
APPLE011	Apple Certified Pro (ACP) - Motion	8	6	75.0%
PROSO017	Certified Internet Web (CIW) JavaScript Specialist	7	3	42.9%
APPLE010	Apple Certified Pro (ACP) - Logic Pro	5	2	40.0%
COMPT009	CompTIA Server+	2	2	100.0%
MICRO073	Microsoft Technology Associate (MTA) - .Net Fundamentals	4	2	50.0%
PROSO023	Certified Internet Web (CIW) Web Development Professional	1	1	100.0%
CISCO004	Cisco Certified Network Associate (CCNA)	1	1	100.0%
ADOBE013	Adobe Certified Expert (Acrobat)	1	1	100.0%
MICRO081	Microsoft Technology Associate (MTA) - Mobile Development Fundamentals	1	1	100.0%
ADOBE002	Adobe Certified Expert (After Effects)	14	0	0.0%
TOTAL		58,828	45,844	77.9%