

CTE Course Description and Standards Crosswalk

Course Information

Course Name	Introduction to Computer Science
Course Number	83400
Number of High School Credits	.5
Sequence or CTEPS (You must first have the Sequence or CTEPS entered into the EED-CTE system.)	Network Technician,
Date of district Course Revision	February 2014

Career & Technical Student Organization (CTSO)

CTSO embedded in this sequence	BPA
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Occupational Standards

Source of Occupational Standards	National Business Educators Association (NBEA)
Names/Numbers of Occupational Standards	Career Development (CD), Information Technology (IT), Entrepreneurship (EN)

Registration Information

Course Description (brief paragraph – as shown in your student handbook or course list)	Introduction to Computer Science is a one-semester course which concentrates on using the computer as a problem-solving tool. This course uses the languages BASIC, Visual BASIC, HTML, JAVA, and looks at the basic structures of computer science in each language. Students design and produce software to solve business and real-world problems. Special attention is given to structure, data integrity and analysis, and logical problem solving skills. This course is a prerequisite for Advanced Placement Computer Science.
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Instructional Topic Headings (please separate each heading by a semi-colon)	Introduction to Problem Solving and Solution Algorithms; Introduction to the Standard Components of Programming Languages and Decision Structures; Use of the BASIC and Visual BASIC Programming Languages; Introduction to the HTML Text Language; Introduction to the JAVA Programming Language; Computer Systems Safety and Security; Modeling Business and Mathematical Situations; Database and Data Analysis Algorithms; Information Processing; Encourage Career and Technical Student Organization (CTSO) Involvement; Safety; Entrepreneurship; Ethics
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Summative Assessments and Standards

Technical Skills Assessment (TSA)	No
Course addresses:	
New Alaska ELA and Math Standards	Yes
Alaska Cultural Standards	Yes
All Aspects of Industry (AAI)	Yes
Core Technical Standards	Yes
Employability Standards	Yes

Employability Standards

Source of Employability Standards	State of Alaska
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Tech Prep

Current Tech Prep Articulation Agreement? (Y/N)	No
Date of Current Agreement	
Postsecondary Institution Name	
Postsecondary Course Name	
Postsecondary Course Number	

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of Postsecondary Credits

Source/Organization /Agency	Acronym	Website or Location of Information	Section, Chapters, etc. referenced in Performance Standards	Date of Edition or Version
National Business Education Association	NBEA	www.nbea.org	Career Development, Computation, and Information Technology,	2013

Additional CTE Course Information

Author	
Course developed by	Revised by Todd Hopkins and Jeanette Perdue
Course adapted from	Intro to Computer Science
Date of previous course revision	May 2008
Course Delivery Model	
Is the course brokered through another institution or agency? (Y/N)	No

Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standard	Common Technical Core Standards	New Alaska ENG/LA Standards	New Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Demonstrate knowledge of the basic components of computer science including decision structures, iteration, and modularization, in the BASIC, Visual BASIC, and JAVA, programming languages. Understand principles of logic and decision structures.	IT.VII	IT2,6,11,12	RST.9-12.4 WHST.9-12.4 L.9-12.6	S-MD.6&7 S-IC.6	B2,4	A2,5	Technical Skills Technology	BPA Workplace Skills Assessments (WPSA)— Visual Basic Programming, Java Programming, Information Technology Concepts
Demonstrate understanding for computer hardware, software, and operating systems, and their development	IT-IV	IT2,6,11,12	L.9-12.3 L.9-12.6	S-IC.6	B2,4	A2,5	Technical Skills Technology	BPA Workplace Skills Assessments (WPSA)— Visual Basic Programming,

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Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standard	Common Technical Core Standards	New Alaska ENG/LA Standards	New Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
								Java Programming, Information Technology Concepts
Research and create a project on computer security and issues of safety, privacy, freedom, and governmental controls.	IT-III IT-VX	IT4,8,10	RST.9-12.3	S-MD.6 S-MD.7	B2,4	A1,2,5	Technical Skills Technology Community	BPA Workplace Skills Assessments (WPSA)— Visual Basic Programming, Java Programming, Information Technology Concepts
Create and produce software for business situations including data processing and analysis, mathematical models and numeric analysis, educational and tutorial uses, and entertainment and gaming.	IT-XII	IT2,6,11,12	SL.9-12.1.a-d L.9-12.3.a	S-MD.6 S-MD.7 ACED.4	B2,4	A2,5	Technical Skills Technology	BPA Workplace Skills Assessments (WPSA)— Visual Basic Programming, Java Programming, Information Technology Concepts
Exhibit responsibilities of employment standards including exhibiting dependability and meeting organizationally defined expectations.	CD-III	IT1,3,4,5,6,7,8,9,11,12	L.9-12.6	S-IC.6 S-CP.5	B2,4	A1,2,5,7	Technical Skills Technology Work Habits	BPA Workplace Skills Assessments (WPSA)— Visual Basic Programming,

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								Java Programming, Information Technology Concepts
Understand, use, and create examples of technical writing, regarding software documentation and systems evaluation.	IT-XI	IT2,6,11,12	L.9-12.1.a,b L.9-12.2.a-c L.9-12.3.a,b	S-IC.6	B2,4	A2,5	Technical Skills Technology	BPA Workplace Skills Assessments (WPSA)— Visual Basic Programming, Java Programming, Information Technology Concepts
Follow professional ethics including software licensing, copyright and intellectual property laws.	IT-I,II	BM2,5,6 IT 4	WHST.9-12.8 L.9-12.6	S-MD.6 S-MD.7	B2,3,4	A1,2,5,7	Technical Skills Technology Work Habits	Statement of Authenticity
Recognize entrepreneurship opportunities and the role of employer vs. employee.	IT-XVII EN-I CD-V	BM3,5,6	L.9-12.6 SL.9-12.6	S-MD.6 S-IC.6	B2,4	A2,5	Technical Skills Labor	BPA-Small Business Management Team Work Keys
Encourage CTSO involvement.	IT-XVII EN-I CD-IV CD-V	BM3,5,6	L.9-12.6 SL.9-12.6 SL.9-12.1.a-d	S-IC.6 S-CP.5	B2,3,4 C4 D6 E7,8	A2,5	Technical Skills Technology Planning Labor Work Habits	BPA Competitions
Research career opportunities in the Business/IT career area.	IT-XVII EN-I	BM3,5,6	L.9-12.6 SL.9-12.6	S-MD.6 S-IC.6	B2,3,4	A1,2,3,4,5,6,7	Technical Skills	AKcis Portfolio

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	CD-II		WHST.9-12.6			B1,2,3,4,5	Planning Technology	
Demonstrate safe use of tools and equipment, cyber safety and ergonomic safety in the workplace.	IT-I	BM5,6 IT4	L.9-12.6 WHST.9-12.8	S-ID.9 S-IC.1, .3, .5, .6 S-MD.6 & .7	B2,4	A1,6	Technical Skills Health/Safety	AK EED Safety Manual Business & Information Systems
Practice and promote ethics and ethical behavior in the workplace	IT-I	BM2,5,6 IT4	WHST.9-12.8	S-MD.6 S-IC.6	B2,3,4	A,1,2,5	Technical Skills Work Habits Management	CTSO Participation Work Keys

Instructional Resources

List the major instructional resources used for this course: (websites, textbooks, essential equipment, reference materials, supplies)

All Aspects of Industry

- P - Planning
- M - Management
- F - Finance
- TP - Technical and Production
- PT - Principles of Technology
- L - Labor Issues
- C - Community Issues
- HSE - Health, Safety, and Environment
- PWH - Personal Work Habits

Recommended Text:

<http://www.bpa.org/>