

CTE Course Description and Standards Crosswalk

Course Information

Course Name	Advanced Placement Computer Science A
Course Number	83561/83562
Number of High School Credits	1
Sequence or CTEPS (You must first have the Sequence or CTEPS entered into the EED-CTE system.)	Support 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)	Advanced Placement Computer Science is meant to be the equivalent of a first-semester college-level course in computer science. The course uses JAVA language. Students produce software to solve business and real-world problems. The primary structures of computer science are used, with an emphasis on programming methodology, block-structured languages, data structures, business and mathematical algorithms, and computer systems. Students will be prepared to take the AP Computer Science A exam.
Instructional Topic Headings (please separate each heading by a semi-colon)	Introduction to Problem Solving and Solution Algorithms; Standard JAVA Structures and AP Classes; Modeling Business Situations; Modeling Mathematical Situations Computer Systems Security and Safety; Encourage Career and Technical Student Organization (CTSO) Involvement; Safety; Entrepreneurship; Ethics

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	
# of Postsecondary Credits	

DISTRICT NAME: Mat-Su Borough School District

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

Additional CTE Course Information

Author	
Course developed by	Revised by Todd Hopkins and Jeanette Perdue
Course adapted from	AP 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
Use, understand, and create examples of technical writing, including software documentation and systems evaluation.	CD-III	IT3,5,12	RST.9-12.1-4 RST.9-12.7-10		B2,4	A2,5	Technical Skills Technology	AP Exam
Demonstrate understanding through use of primary decision structures including boolean logic, iteration, modularization, and data storage, classes and object oriented programming.	IT-XII	IT-PRG 1-10	RST.9-12.3 RST.9-12.4		B2,4	A2,5	Technical Skills Technology	AP Exam
Demonstrate an understanding for computer hardware, software, and operating systems, and their development.	IT-IV	IT1,2,6,7,9,11,12	WHST.9-12.4		B2,4	A2,5	Technical Skills Technology	AP Exam
Research and create a paper and project on computer security and issues of safety, privacy, freedom, and governmental controls.	IT-XV IT-III	IT4,5,6,8,9,10,11,12	WHST.9-12.4 WHST.9-12.7 WHST.9-12.8		B2,4	A1,2,5,6	Technical Skills Technology Work Habits	AP Exam
Exhibit responsibilities of employment standards including exhibiting dependability and meeting organizationally defined expectations, and preparing for industry	CD-III	IT1-12	L.9-12.6		B2,3,4 C4 D6	A1,2,3,4,5,7 B1-5	Technical Skills Technology	AP Exam

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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
certifications and exams.								
Design, program, and test database structures, business applications, mathematical models, and numeric and data analysis tools.	IT-X	IT1,2,6,7,9,11,12	L.9-12.6	S-IC2	B2,4	A2,5	Technical Skills Technology	AP Exam
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		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	BM3,5,6	L.9-12.6 SL.9-12.6 SL.9-12.1.a-d		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 CD-II	BM3,5,6	L.9-12.6 SL.9-12.6 WHST.9-12.6	S-MD.6 S-IC.6	B2,3,4	A1,2,3,4,5,6,7 B1,2,3,4,5	Technical Skills Planning Technology	AKcis Portfolio
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		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	CTSO Participation Work Keys

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							Management	

Instructional Resources

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

http://www.collegeboard.com/student/testing/ap/sub_compsciab.html

LEGENDS:

<p>Occupational Skills Standards</p> <p>SCCI – (Information Technology):</p> <ul style="list-style-type: none"> C – Foundation PA – Network Systems PB – Information Support and Services <p>NBEA:</p> <ul style="list-style-type: none"> CD – Career Development Comp – Computation IT – Information Technology <p>ISTE:</p> <ul style="list-style-type: none"> 1 – Creativity and Innovation 2 – Communication and Collaboration 3 – Research and Information Fluency 4 – Critical Thinking, Problem Solving, and Decision Making 5 – Digital Citizenship 6 – Technology Operations and Concepts 	<p>Alaska Cultural</p> <ul style="list-style-type: none"> A – Community B – Personal & Academic Success C – Participate D – Learning Activities E – All Elements <p>All Aspects of Industry</p> <ul style="list-style-type: none"> 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
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