



Alaska Career and Technical Education Plan

DRAFT – 5/11/11

Delivery Models, CTE Elements, CTE Organizations

Strategy 3:

Identify and promote career and technical education delivery models that ensure that all Alaskans have the opportunity to attain the knowledge and skills needed for further training and careers.

Alaska Career and Technical Education Deliver Models Definition:

Alaska has a variety of systems set up for providing CTE to youth and adults at the K-12 and postsecondary level. Delivery models should include: students, educators/teachers, curriculum, outcomes-based assessments that include technical and employability skills attainment, and recognition.

CTE Delivery Models - CTE Elements - CTE Organizations:

Below is an initial listing of CTE delivery models, CTE elements, and CTE organizations identified as implementing a strong CTE program for youth and adults. This is a draft, if you have pertinent information to add or edit, please notify Jeff Selvey at jeff.selvey@alaska.gov.

Delivery Models

Delivery Model	Description
Academies	The academy model is a program that is usually structured as a school-within-a-school. Academies incorporate integrated academic and career technical education, business partnerships, mentoring, and internships. An academy may be a year-long or multi-year program or a shorter sequence within one school year. Alaska Construction Academies: http://www.alaskaca.org/ Through Alaska Construction Academy efforts, Alaskan students and adults will be recruited, trained and placed into jobs in the construction industry.
Career Awareness K-5	Students learn about a wide variety of jobs and careers.
Career Exploration 6-8	Students explore, research, and plan for the future.



Career Preparation 9-12	Students gain education, training, and work experience.
CTE Student Organization (CTSO)	<p>An organization for individuals enrolled in a Career and Technical Education program that promotes additional leadership activities, service learning, team building, career planning, employability skill development, and technical skill attainment as an integral part of a CTE program.</p> <p>Alaska CTOS (http://ctsoalaska.org/):</p> <ul style="list-style-type: none"> • BPA – Business Professionals of America - http://www.bpa.org/ • DECA – An Association of Marketing Students - http://www.deca.org/sbe/ • FCCLA – Family, Career, and Community Leaders of America - http://www.fcclainc.org/ • FEA – Future Educators of Alaska - http://www.futureeducators.org/ • FFA – Agricultural Education - https://www.ffa.org/Pages/default.aspx • HOSA – Health Occupations Students of America - http://www.hosa.org/ • Skills USA - http://www.skillsusa.org/ <p style="text-align: center;">❖ This is also listed under CTE Organizations.</p>
Distance Education Delivery	<p>Using distance education in either synchronous, asynchronous, or a combination of the two, to provide rigorous CTE courses to students and educators. Distance education can increase capacity and access to quality CTE curriculum, especially in rural areas with limited resources and staffing. Distance delivery tools include ELive, Blackboard, Moodle, audio-conferencing, Skype, email, blogs, wikis, using broadband or Internet connectivity.</p> <p>http://distance.uaf.edu/ - http://avteconline.org/lcms/ - http://www.matsuk12.us/1733109311551830/lib/1733109311551830/AVTEC_H_SCTE_Flyer8_11_10.pdf - http://asdn.org/ - http://www.eed.state.ak.us/EdTech/</p>
In-school CTE Programs	<p>CTE programs that are offered at a school site.</p> <p>Alaska School Districts’ CTE websites: http://www.eed.state.ak.us/tls/CTE/districtcte.html</p>
Intensives	<p>Short-term training, usually less than one semester in length, delivered at one site, with students traveling to the site or the curriculum brought to the students’ site.</p> <p>Examples:</p> <ul style="list-style-type: none"> • AGC – Construction Academies – statewide - http://www.uaa.alaska.edu/careerservices/resources/interviews.cfm • EXCEL Camp – Anchorage – Chugach School District - http://www.voyagetoexcellence.org/ • Kuspuk School District’s Dragonslayers Program - http://www.kuspuk.org



	<ul style="list-style-type: none"> • NACTEC – Nome – Bering Strait School District and Nome Public Schools - http://nacteonline.org/ • UA – Summer intensive summer camps • There are more examples throughout the state
Link secondary education to the real world	<ul style="list-style-type: none"> • Alaska Work Based Learning - http://www.eed.state.ak.us/tls/cte/docs/wbl/chaptersall.pdf • Classroom speakers • Community Service - http://www.commerce.state.ak.us/serve/home.htm • Externships - http://labor.alaska.gov/awib/cte_network.htm • Internships • Job shadowing - http://www.voyagetoexcellence.org/job_shadow_contacts.html - https://www.bannerhealth.com/Careers/Locations/Alaska/Job+Shadow+Internships.htm • Mentoring programs - http://www.alaskabird.org/?page_id=2786 • Mock Interviews - http://www.uaa.alaska.edu/careerservices/resources/interviews.cfm • School-to- Registered Apprenticeship - http://earnandlearnak.org/
Multiple Pathway- ConnectEd	<p>Multi-year high school programs that prepare students for both college and career. Pathways are organized around broad industry sectors (e.g., biomedical & health science, engineering, or digital media), integrate college-prep academics with career-technical coursework using a project-based approach, and include a work-based learning component that brings additional relevance and connection to the pathway learning experience.</p> <ul style="list-style-type: none"> • Presently not in Alaska, there is discussion of implementing in Alaska
Registered Apprenticeship	<p>Registered Apprenticeship is a highly flexible training and workforce development model that combines on-the-job learning, related technical instruction and a paid work experience. Today most job seekers need some post secondary education or training to earn a livable wage in Alaska, while employers need a skilled workforce. Through registered apprenticeship employees are awarded recognized credentials and university credits for completing a program, while employers enjoy a skilled local and loyal workforce. With over 950 apprenticeable occupations from Geographical Information System (GIS) and Process Technician to Chef/Head Cook to Construction Crafts (Electrician – Pipefitter – Operating Engineer) Alaska’s Registered Apprenticeship - http://www.jobs.state.ak.us/apprentice/index.html</p>
School-to-Registered	<p>School-to-Registered Apprenticeship (STA) is an apprenticeship program that allows high school students to begin earning and learning in their chosen career</p>



Apprenticeship	<p>pathway while still enrolled in high school. STA connects high school students through a school’s Career and Technical Education (CTE) program to an employer/sponsor. High school student must complete all graduation requirements and take recognized CTE classes to participate. - http://earnandlearnak.org/</p>
TIE (Teacher Industry Externships)	<p>Educators participate in a business-related externship, usually during the summer for approximately two to four weeks.</p> <ul style="list-style-type: none"> • APICC (Alaska Process Industry Careers Consortium) and ADOLWD (Alaska Department of Labor and Workforce Development) - http://www.apicc.org/servlet/content/teacher_industry_externships.html

CTE Elements

21st Century Skills Framework	<p>Approaches to learning for life in our times, using methods that build 21st century knowledge, understanding and skills, powered by the appropriate use of learning technologies, and focused on preparing every child for success in learning, work, family and community life</p> <p>21st Century Skills Framework website: http://p21.org/</p>
Alaska Career Ready	<p>Alaska Career Ready is a program based on ACT’s WorkKeys system, which focuses on the foundational skills (applied academic skills such as using math, reading, and interpreting graphics) that are necessary for success in virtually all jobs and careers. This system consists of four parts: job skill analysis, or “job profiling”, to determine the foundational skills and levels required for a particular job; assessments to determine an individual’s current level of these foundational skills; skill-building software to improve an individual’s skills if necessary; and certification to document an individual’s attainment of these workplace skills. In Alaska, the Departments of Education and Early Development and of Labor Workforce Development and working as a team in implementing this program to youth and adults.</p> <p>Alaska Career Ready website: http://www.careerready.alaska.gov/</p>
Alaska Tech Prep	<p>Seamless articulation between secondary and postsecondary for students to attain CTE credit at both levels (secondary and postsecondary). Alaska high school students take a course that has been judged by a postsecondary institution as equivalent to a specific postsecondary course, and that is taught by school district staff. If the student meets the established criteria (e.g., grades, assessments, etc.), he or she receives high school credit and has the option to receive postsecondary credit at a greatly-reduced tuition fee (usually \$25 per credit). These classes are generally part of a CTE program of study.</p> <p>Alaska Tech Prep’s website: http://www.alaska.edu/techprep/</p>
Articulation (2+2)	<p>Articulation is the linking of high school courses to community college courses, allowing you to take articulated high school classes at your high school and possibly</p>



	earn advanced placement and/or college credit for those courses. Alaska Tech Prep website: http://www.alaska.edu/techprep/
Career Clusters	<p>Career Clusters are groupings of occupations/career specialties used as an organizing tool for curriculum design and instruction. Occupations/career specialties are grouped into the Career Clusters based on the fact that they require a set of common knowledge and skills for career success. The Knowledge and Skills represented by Career Clusters prepare learners for a full range of occupations/career specialties, focusing on the holistic, polished blend of technical, academic and employability knowledge and skills. This approach enhances the more traditional approach to career and technical education in which instruction may focus on one or two occupations and emphasize only specific occupational skills. Career Clusters are grouping of occupation and industries. There are 16 career clusters recognized nationally. In Alaska, University of Alaska Statewide has identified 14 career clusters.</p> <p>State Career Clusters' website: http://careerclusters.org/ UA Workforce Development's website: http://www.alaska.edu/research/wp/</p>
Concurrent Credit	High school students taking a college course that is used to earn college credit only. When a student successfully completes a concurrent credit course, the university records college credit on an official college transcript. This credit will be counted toward graduation if the course(s) taken is(are) a requirement of the degree program the student seeks.
Collaborative Teaching Model	<p>The collaborative teaching model is used in many CTE programs that are taught by teachers who are not highly qualified in the academic content area (math, science, etc.), but are certified in CTE. It involves the ongoing, active, and substantive participation of teaching professionals, working in proximity and representing different educational content areas, directed toward the creation and delivery of integrated, aligned instruction. The collaborative teaching of CTE courses is based on criteria that are consistent and demonstrable:</p> <ul style="list-style-type: none"> • Involvement of at least one highly qualified teacher of the core academic subject and at least one certified CTE teacher in developing curriculum and implementation. • Specifying the assessment or assessments to be used to measure student proficiency. • Scheduled meetings throughout the school year of all teachers involved in collaborative teaching to discuss student progress. • Completion of professional development activities involving both core academic subject and CTE subject areas. • Completion of an annual review by collaborating teachers of student achievements and the development of suggestions for continuous



	<p>improvement.</p> <ul style="list-style-type: none"> • A recommended part of the collaborative teaching process includes the completion of a year plan (scope and sequence) for instructional delivery involving both the core academic teacher(s) and the CTE teacher(s). ❖ FY11 – Math-in-CTE Pilot [EED-CTE, UAA, and NRCCTE (National Research Center for Career and Technical Education)] http://www.eed.state.ak.us/tls/CTE/mathincte.html
Dual Credit	<p>High school students taking a college course that earns both high school and college credit at the same time. Dual enrollment programs are collaborative efforts between high schools and colleges/universities in which high school students (usually juniors and seniors) are permitted to enroll in college courses– the courses may be CTE or non-CTE courses. These programs provide students with a challenging academic experience and the opportunity to earn college credit prior to high school graduation. Dual enrollment students take actual college courses with a college syllabus rather than a college-level course intended to be taken by high school students.</p>
Employer - Industry Advisory Board (EAB)	<p>An EAB is comprised of employers who represent a variety of industry sectors. EAB's meet approximately two times per year to discuss employment trends. Members are frequently asked to assist with special events, such the Annual Job Fair, or serve as guest speakers for student groups.</p>
Industry Sector	<p>Groupings of interrelated occupations and broad industries.</p>
Program of Study	<p>A coordinated sequence of courses, both academic and CTE, that include both secondary and postsecondary components and lead to a specific outcome where the learner is qualified to enter a career pathway. http://www.careerclusters.org/resources/web/pos.cfm</p>



<p>SCANS</p>	<p>In 2000 the Secretaries Commission on Achieving Necessary Skills (SCANS 2000 http://wdr.doleta.gov/SCANS/) identified skills essential to the workforce by the Department of Labor. These Career Preparation Standards identify the Career Technical Assessment Portfolio Project (C-TAP), including critical thinking, career development, and communication skills in addition to technical skills. It was developed as a comprehensive guide for content area for both stand alone and integrated curricula. Its goal is to reinforce foundations skills: Reading, writing, communication, mathematics, and science. To this end SCANS established five competencies with a three part foundation.</p> <table border="1" data-bbox="423 808 1450 1722"> <thead> <tr> <th data-bbox="423 808 1052 856">Five Competencies</th> <th data-bbox="1058 808 1450 856">Three Part Foundation</th> </tr> </thead> <tbody> <tr> <td data-bbox="423 856 1052 1722"> <ol style="list-style-type: none"> 1. Resources: Identifies, organizes, plans, and allocates resources (i.e. time, money, materials and facilities, or human resources.) 2. Interpersonal: Working with others (i.e. contributes to group effort, assist others, demonstrates leadership, problem solving, diversity) 3. Information: Acquires and uses information. Organizes, maintain, interprets, and communicates information. 4. Systems: Understands systems (social, organizational, and technological), monitors and corrects performance for improvement. 5. Technology: Works with a variety of technologies. Chooses appropriate procedures and tools, including computers, for the appropriate task. Problem solving using various technologies. </td> <td data-bbox="1058 856 1450 1722"> <ol style="list-style-type: none"> 6. Basic Skills: Reads Writes, performs arithmetic and mathematical operations, and listens (interprets) and organizes ideas and communicates orally. 7. Thinking Skills: Thinks creatively, knows how to learn, and reason. 8. Personal Qualities: Displays responsibility, self-esteem, self-management, and integrity and honesty, </td> </tr> </tbody> </table>	Five Competencies	Three Part Foundation	<ol style="list-style-type: none"> 1. Resources: Identifies, organizes, plans, and allocates resources (i.e. time, money, materials and facilities, or human resources.) 2. Interpersonal: Working with others (i.e. contributes to group effort, assist others, demonstrates leadership, problem solving, diversity) 3. Information: Acquires and uses information. Organizes, maintain, interprets, and communicates information. 4. Systems: Understands systems (social, organizational, and technological), monitors and corrects performance for improvement. 5. Technology: Works with a variety of technologies. Chooses appropriate procedures and tools, including computers, for the appropriate task. Problem solving using various technologies. 	<ol style="list-style-type: none"> 6. Basic Skills: Reads Writes, performs arithmetic and mathematical operations, and listens (interprets) and organizes ideas and communicates orally. 7. Thinking Skills: Thinks creatively, knows how to learn, and reason. 8. Personal Qualities: Displays responsibility, self-esteem, self-management, and integrity and honesty,
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<p>YES – Youth Employability Skills</p>	<p>Alaskan-developed system to teach and evaluate non-academic or technical skills (e.g., personal skills or soft skills) that have been determined to be necessary to succeed in the work environment. APICC YES website: http://www.apicc.org/servlet/content/YES.html</p>				



Work-based Learning	Work Based Learning (WBL) refers to learning that results from work experience that is planned to contribute to the intellectual and career development of students. The work experience is supplemented with instruction and activities that apply, reinforce, refine, or extend the learning that occurs during work, so that students develop attitudes, knowledge, skills, and habits that might not develop from work experience alone. Work Based Learning is an excellent way to link CTE coursework and classroom learning with actual work site training. It gives students the opportunity to gain academic, occupational, and employability skills in a structured learning experience that reinforces and advances standards that are taught in the CTE classroom. http://www.eed.state.ak.us/tls/CTE/
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CTE Organizations

Association of Career and Technical Education	A national education association dedicated to the advancement of education that prepares youth and adults for careers. http://www.acteonline.org/
Alaska Association of Career and Technical Education	The professional organization for Alaskan career and technical education (CTE) teachers and anyone interested in promoting and strengthening CTE programs in our state. http://actealaska.org/
Career and Technical Student Organizations (CTSOs)	<p>An organization for individuals enrolled in a Career and Technical Education program that promotes additional leadership activities, service learning, team building, career planning, employability skill development, and technical skill attainment as an integral part of a CTE program.</p> <p>Alaska CTSOs (http://ctsoalaska.org/):</p> <ul style="list-style-type: none"> • BPA – Business Professionals of America - http://www.bpa.org/ • DECA – An Association of Marketing Students - http://www.deca.org/sbe/ • FCCLA – Family, Career, and Community Leaders of America - http://www.fcclainc.org/ • FEA – Future Educators of Alaska - http://www.futureeducators.org/ • FFA – Agricultural Education - https://www.ffa.org/Pages/default.aspx • HOSA – Health Occupations Students of America - http://www.hosa.org/ • Skills USA - http://www.skillsusa.org/ <p style="text-align: center;">❖ This is also listed under CTE delivery models.</p>