



**Fairbanks North Star Borough School District**

# **CAREER & TECHNICAL EDUCATION CURRICULUM**



**2018 – 2019 Revision, Draft 2**

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# Acronyms

ACC	Alaska Core Competencies
AKCIS	Alaska Career Information System
ASE	Automotive Service Excellence
CTC	Community and Technical College
CTE	Career Technical Education
CTSO	Career Technical Student Organization
EETC	Equipment and Engine Training Council
FNSBSD	Fairbanks North Star Borough School District
I-CAR	Inter-Industry Conference on Auto Collision Repair
NCCER	National Center for Construction Education and Research
MLR	Maintenance and Light Repair
MSHA	Mine Safety and Health Association
OA	Office of Apprenticeship
OSHA	Occupational Safety and Health Administration
PLP	Personal Learning Plan
PLTW	Project Lead the Way
PPE	Personal Protective Equipment
SMC	Sheet Molded Compounds
STEM	Science, Technology, Engineering, and Math
TDL	Transportation, Distribution, & Logistics
TSA	Technical Skills Assessment
UAA	University of Alaska - Anchorage
UAF	University of Alaska – Fairbanks
USDOL	United States Department of Labor
WS	Writing Standards

# Explanation of Terms

## General Terms and Definitions

Career Cluster: A career cluster is a structure for organizing and delivering quality CTE programs around occupations and broad industries.

Career Pathway: A career pathway is a strand of a career cluster that centers on a common set of academic, technical, and workplace skills and knowledge. It is a sector from the broader career cluster.

CTEPS: CTEPS stands for “Career and Technical Education Program of Study” which is also called *Program of Study* or POS. It is a coherent and aligned sequence of educational elements that begins at secondary school and continues without duplication or remediation into postsecondary education/training, and that leads to an industry recognized credential or certificate, or an associate or baccalaureate degree. (*See Program of Study*)

Program of Study (POS): A program of study is designed to provide successful student transitions between secondary and postsecondary education. A program of study is a comprehensive, structured approach for delivering academic and career and technical education to prepare students for postsecondary education and career success. (*See CTEPS*)

Sequence: A sequence is a group of courses that a student may take within a cluster, usually in a progression of foundational skills to more focused and higher level skills.

## CTE Specific Terms

ASE Education Foundation: The ASE Education Foundation is a nonprofit organization that evaluates and accredits entry-level automotive technology education programs against standards developed by the automotive service industry.

Career and Technical Student Organization (CTSO): A CTSO is an organization for students enrolled in a CTE program that engages in CTE activities as an integral part of the instructional program. Alaska has six (6) recognized CTSOs: Business Professionals of America (BPA); Family, Career, and Community Leaders of America (FCCLA); Health Occupations Students of America (HOSA)- Future Health Professionals; DECA – an Association of Marketing Students; FFA – Agricultural Education; and SkillsUSA.

Concentrator: A secondary student who has earned two (2) courses in a single CTE pathway within those career clusters where 2 credit sequences are recognized by the State and its local eligible recipients, or where the student has documented proficiencies that are equivalent to this criteria.

Participant: A secondary student who has earned credit in one (1) or more approved course(s) in any career and technical education (CTE) program area.

Technical Skill Assessment (TSA): A TSA is a National, state, and/or local assessment that measures student attainment of technical skill proficiencies. Generally a TSA is produced by a recognized industry organization that determines proficiency according to industry standards. TSA's incorporate performance-based assessment items, to the greatest extent possible, where students must demonstrate the application of their knowledge and skills.

Tech Prep Agreement: A tech prep agreement is a written agreement between a secondary and a postsecondary program that allows a high school course taught by a high school teacher to qualify for postsecondary credit.

## **Curriculum Terms**

Alaska Content Standards: Content standards are broad statements, adopted by the State Board of Education and Early Development, indicating what students should know and be able to do as a result of their public school experience.

Alaska Cultural Standards: The Alaska Cultural Standards for Students were developed by the Alaska Native Knowledge Network and adopted by the State Board of Education & Early Development in 1998. Cultural Standards are meant to enrich the Content Standards and provide guidelines for nurturing and building in students the rich and varied cultural traditions that continue to be practiced in communities throughout Alaska. The standards are broad statements of what students should know and be able to do as a result of their experience in a school that is aware of and sensitive to the surrounding physical and cultural environment.

Alaska Employability Standards: Alaska's Employability standards are to be used in conjunction with Alaska's academic content and performance standards to ensure Alaska's student have the skills and knowledge necessary to be good citizens, effective parents, productive workers, and most of all, life-long learners. Alaska's students are expected to learn how to learn and apply their skills and knowledge in a variety of settings to create a satisfying and productive life. These standards are designed to promote successful student transition from school to work.

Alaska Performance Standards / Grade Level Expectations (PSGLE's): Performance standards and GLE's are measureable statements of learning expectations, adopted by the State Board of Education and Early Development, indicating what students should know and be able to do as a result of their public school experience. Alaska has adopted Performance Standards in reading, writing, mathematics, and science.

All Aspects of Industry: All Aspects of Industry essentially provides a set of standards for all CTE courses. All Aspects of Industry defines nine aspects common to any business or enterprise: planning; management; finance; technical and production skills; principles of technology; labor issues; community issues; health, safety and environment; personal work habits.

Occupational Skills Standards: Occupational skills standards are developed by various industry, professional and educational associations. These standards describe the performance expectations for a worker in a specific occupational area. In Alaska, the list of organizations

with appropriate standards is pre-determined based on EED/CTE staff designations of Occupational Standards appropriate for each cluster & pathway.

Personal Learning Plan: A personal learning plan is developed by students – typically in collaboration with teachers, counselors, and parents – as a way to help them achieve short- and long-term goals, most commonly at the middle and high school levels. Students can chart a personal educational program that will allow them to achieve their educational and aspirational goals, while also fulfilling school requirements such as particular credit or course requirements for graduation. A personal learning plan also documents major learning accomplishments or milestones.

Student Performance Standards: Student performance standards are statements of the essential skills, knowledge, and tasks that FNSBSD students are expected to master in the course. These are developed at the district level.

# Transportation, Distribution, & Logistics Overview

The Transportation, Distribution & Logistics (TDL) cluster includes planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water. It also includes related professional and technical support services, such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.

The Fairbanks North Star Borough School District TDL courses may be sequenced into a variety of Programs of Study including, but not limited to:

- Automotive Technology
- Collision Repair
- Diesel Operations and Technology

Each school will develop Programs of Study based on availability of courses. Programs of Study are suggestions to help guide the development of individual Personal Learning Plans (PLP). Students may choose courses from multiple clusters as they design a PLP.

Many courses within this cluster are articulated for credit through a Tech Prep agreement with the University of Alaska – Anchorage and the University of Alaska - Fairbanks/Community and Technical College. This agreement allows students to earn postsecondary credit while taking a course from an approved high school instructor.

TDL Overview					
Grade 9	Grade 10	Grade 11	Grade 12	Grade 13	Grade 14
Introductory Courses	Concentrator Courses		Capstone Courses	Post-Secondary	
<ul style="list-style-type: none"> <li>• <i>Small Engines 1A/1B</i></li> <li>• <i>Introduction to Collision Repair</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Small Engines 2A/2B</i></li> <li>• <i>Structural Analysis &amp; Damage Repair 1A/1B</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Basic Automotive Technology 1A/1B</i></li> <li>• <i>Non-Structural Analysis &amp; Damage Repair 1A/1B</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Advanced Automotive Technology</i> (1 year block; 2 periods per semester)</li> <li>• <i>Painting &amp; Refinishing 1A/1B</i> and <i>Plastics &amp; Adhesives 1A/1B</i> (double block: Painting 1A/Plastics 1A first semester and Painting 1B/Plastics 1B second semester)</li> <li>• <i>Diesel Operations &amp; Technology 1A/1B</i></li> <li>• <i>Independent Research</i></li> </ul>	<ul style="list-style-type: none"> <li>• UAA</li> <li>• UAF/CTC</li> </ul>	
Various certifications are available through the pathway. Check specific course objectives.					



## ASE Education Foundation Program – Small Gasoline Engines Overview

Grade 9	Grade 10	Grade 11	Grade 12	Grade 13	Grade 14
Introductory Courses	Concentrator Courses		Capstone Courses	Post-Secondary	
<ul style="list-style-type: none"> <li>• <i>Small Engines 1A/1B</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Small Engines 2A/2B</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Basic Automotive Technology 1A/1B</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Advanced Automotive Technology (1 year block; 2 periods per semester)</i></li> </ul>	<ul style="list-style-type: none"> <li>• UAA</li> <li>• UAF/CTC</li> </ul>	
Various certifications are available through the pathway. Check specific course objectives.					

## Collision Repair Overview

Grade 9	Grade 10	Grade 11	Grade 12	Grade 13	Grade 14
Introductory Courses	Concentrator Courses		Capstone Courses	Post-Secondary	
<ul style="list-style-type: none"> <li>• <i>Introduction to Collision Repair</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Structural Analysis &amp; Damage Repair 1A/1B</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Non-Structural Analysis &amp; Damage Repair 1A/1B</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Painting &amp; Refinishing 1A/1B and Plastics &amp; Adhesives 1A/1B (double block: Painting 1A/Plastics 1A first semester and Painting 1B/Plastics 1B second semester)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Internship</li> </ul>	
Various certifications are available through the pathway. Check specific course objectives.					

## Diesel Operations and Technology Overview

Grade 9	Grade 10	Grade 11	Grade 12	Grade 13	Grade 14
Introductory Courses	Concentrator Courses		Capstone Courses	Post-Secondary	
<ul style="list-style-type: none"> <li>• <i>Small Engines 1A/1B</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Small Engines 2A/2B</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Basic Automotive Technology 1A/1B</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Diesel Operations &amp; Technology 1A/1B</i></li> </ul>	<ul style="list-style-type: none"> <li>• UAA</li> <li>• UAF/CTC</li> </ul>	
Various certifications are available through the pathway. Check specific course objectives.					

Certification Options			
Course	Certification	Issuing Organization	Course or Exam Restrictions
<ul style="list-style-type: none"> <li>• <i>Advanced Automotive Technology</i></li> </ul>	Student ASE	Automotive Service Excellence (ASE)*	None
<ul style="list-style-type: none"> <li>• <i>Diesel Operations &amp; Technology 1A/1B</i></li> </ul>	Compact Diesel Certification	Equipment & Engine Training Council (EETC)*	Requires \$39 fee from student
<ul style="list-style-type: none"> <li>• <i>Small Engines 2B</i></li> </ul>	Two Stroke Gasoline Engines	Equipment & Engine Training Council (EETC)*	Requires \$39 fee from student
<ul style="list-style-type: none"> <li>• <i>Small Engines 2B</i></li> </ul>	Four Stroke Gasoline Engines	Equipment & Engine Training Council (EETC)*	No restrictions Free
<ul style="list-style-type: none"> <li>• <i>Structural Analysis &amp; Damage Repair 1A/1B</i></li> <li>• <i>Non-Structural Analysis &amp; Damage Repair 1A/1B</i></li> <li>• <i>Plastics &amp; Adhesives 1A/1B</i></li> <li>• <i>Painting &amp; Refinishing 1A/1B</i></li> </ul>	Any of the 150 online certifications at <a href="https://www.i-car.com/home/educational-programs/course-catalog/full-course-catalog">https://www.i-car.com/home/educational-programs/course-catalog/full-course-catalog</a>	Inter-Industry Conference on Auto Collision Repair (I-Car)*	Online classes with certification cost between \$40-\$60.
*Denotes exams offered by the FNSBSD during or at the end of the course.			

# Career & Technical Education

Transportation,  
Distribution, & Logistics:

## **Automotive Courses**

# Advanced Automotive Technology

Course Information	
<b>Course Name</b>	<b>Advanced Automotive Technology</b>
<b>Course Number</b>	CTEE100
<b>Grade(s)</b>	11-12
<b>Length</b>	Two semesters (two-period block per semester)
<b>Credit</b>	1.0 credit each semester; 2.0 credits total
<b>Prerequisites</b>	<i>Basic Automotive 1A/1B</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution, & Logistics; Small Engine; Basic Automotive; Advanced Automotive
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. Automotive Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>2. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org/">https://www.aseeducationfoundation.org/</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Education Foundation – Maintenance and Light Repair</li> <li>2. 2018 ASE MLR Task List</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Advanced Automotive Technology</i> is an advanced course designed for the student that is serious about pursuing a career in the automotive field. The content is rigorous and covers the higher-level task allocations set forth by ASE Education Foundation, and adheres to the Maintenance and Light Repair (MLR) program standards. Upon successful completion of this course, the student will have entry-level technician skills that may allow them to find employment in the automotive trade or continue their education at the post-secondary level.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Engine Repair, Automatic Transmission and Transaxle, Manual Drive Train and Axles, Suspension and Steering Systems, Brakes, Electrical and Electronic Systems, Heating and Air Conditioning, Engine Performance, Shop and Personal Safety, Tools and Equipment, Preparing Vehicle for Service
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	ASE Student Certificate
<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes

<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	Yes
<b>Date of Current Agreement</b>	2019
<b>Postsecondary Institution Name</b>	University of Alaska – Anchorage or Fairbanks
<b>Postsecondary Course Name</b>	Introduction to Automotive Technology, Basic Electrical Systems, Engine Theory & Diagnosis
<b>Postsecondary Course Number</b>	ADT 102, ADT A121, ADT A122
<b>Number of Postsecondary Credits</b>	9 credits (upon completion of course sequence)
<b>Author</b>	
<b>Course Developed By</b>	J. Million & K. Shaw (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	ASE Education Foundation - Maintenance and Light Repair Program Standards
<b>Date of Previous Course Revision</b>	May 7, 2013
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessments
Students will understand how specific careers addressed in this course fit within all aspects of the automotive industry.	Safety & Pollution <a href="http://www.SP2.org">www.SP2.org</a>	TD.5, 6	SL.11-12.4		B2-4	A7	Management; Labor	Class Assignments
Students will work safely when performing automotive repairs.	ASE Education Foundation Academic Skills <a href="https://www.aseeducationfoundation.org/">https://www.aseeducationfoundation.org/</a> , English, Science & Mathematics	TD.3, 8	R.IK.11-12.10		D5	A6	Work Habits; Health/Safety	Classroom Assignments, Performance, SkillsUSA <a href="https://www.skillsusa.org/">https://www.skillsusa.org/</a>
Students will identify parts and functions as well as diagnose and perform repairs in the following areas: cooling systems, lubrication systems, wheels and tires, ignition and fuel systems, electrical systems, emission controls and drive train system.	ASE Student Certification <a href="http://www.ase.org">www.ase.org</a>	TD-MTN.1-2; TD.3	R.IK.11-12.10			A2	Tech/Prod; Technology	Classroom Assignments, Performance, SkillsUSA <a href="https://www.skillsusa.org/">https://www.skillsusa.org/</a>
Students will use technical reference materials related to the automotive field.	ASE Student Certification <a href="http://www.ase.org">www.ase.org</a>		RT.1-3			A2; B5	Tech/Prod; Technology	Classroom Assignments, Performance, SkillsUSA <a href="https://www.skillsusa.org/">https://www.skillsusa.org/</a>
Students will earn recognized safety requirement certificates generic to the automotive industry (I-CAR).	ASE Education Foundation Academic Skills <a href="https://www.aseeducationfoundation.org/">https://www.aseeducationfoundation.org/</a> , English, Science & Mathematics	TD-MTN.1-2; TD.3	R.IK.11-12.10			B4	Tech/Prod; Technology	SkillsUSA Technical Standards <a href="http://www.skillsusa.org">www.skillsusa.org</a>

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessments
Students will earn an ASE student certificate upon completion of the course.	ASE Student Certification <a href="http://www.ase.org">www.ase.org</a>	TD-MTN.1-2; TD.3	R.IK.11-12.10			B4	Tech/Prod; Technology	ASE Education Foundation Academic Skills <a href="https://www.aseeducationfoundation.org/">https://www.aseeducationfoundation.org/</a> , English, Science & Mathematics
Students will perform the task list identified in the current 2012 ASE Education Foundation - Maintenance and Light Repair program. (193 performance tasks)	National Skills Standards Board <a href="http://nssb.org">http://nssb.org</a>	TD-MTN.1-2; TD.3	R.IK.11-12.10			B4	Tech/Prod; Technology	Classroom Assignments, Performance
Students will follow procedures to appropriately and safely dispose of automotive waste materials.	ASE Education Foundation Academic Skills <a href="https://www.aseeducationfoundation.org/">https://www.aseeducationfoundation.org/</a> , English, Science & Mathematics	TD-HSE.1	R.IK.11-12.10		E2	A6	Work Habits; Health/Safety	Performance

## Instructional Resources

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

<b>Websites:</b>	ASE Education Foundation Website: <a href="http://www.ASEeducationfoundation.org">www.ASEeducationfoundation.org</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	See Appendix
<b>Reference Materials:</b>	ASE Education Foundation Program Standards
<b>Supplies:</b>	See Appendix

# Basic Automotive Technology 1A

Course Information	
<b>Course Name</b>	<b>Basic Automotive Technology 1A</b>
<b>Course Number</b>	CTEE101
<b>Grade(s)</b>	11-12
<b>Length</b>	One semester
<b>Credit</b>	0.5
<b>Prerequisites</b>	<i>Small Engines 2A/2B</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Small Engine, Basic Automotive, Advanced Automotive
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	1. Automotive Service Excellence (ASE) ( <a href="http://www.ase.com">www.ase.com</a> ) 2. ASE Education Foundation ( <a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a> )
<b>Names/Numbers of Occupational Standards</b>	ASE Education Foundation – Maintenance & Light Repair
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Basic Automotive Technology 1A</i> is an introduction to light vehicle transportation. During the course, basic fundamentals about automotive systems and repair are covered for entry into the advanced automotive course. In addition, alternative fuels, labor rates, technical service bulletins, NHSTA recalls, and career information are covered. This course concentrates on tasks covered in the ASE Education Foundation - Maintenance and Light Repair (MLR) Program.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Engine Repair, Automatic Transmission and Transaxle, Manual Drive Train and Axles, Suspension and Steering Systems, Brakes, Electrical and Electronic Systems, Heating and Air Conditioning, Engine Performance, Shop and Personal Safety, Tools and Equipment, Preparing Vehicle for Service
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	ASE Student Certificate
<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes



<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
<b>Author</b>	
<b>Course Developed By</b>	J. Million & K. Shaw (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	ASE Education Foundation
<b>Date of Previous Course Revision</b>	May 7, 2013
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will understand how specific careers addressed in this course fit within all aspects of the automotive industry.	Safety & Pollution <a href="http://www.sp2.org">www.sp2.org</a>	TD.5-6	WT.7-9			B2-3	B2-4	Management; Labor  ASE Student Certification <a href="http://www.ase.org">www.ase.org</a> , SkillsUSA <a href="https://www.skillsusa.org/">https://www.skillsusa.org/</a>
Students demonstrate understanding of personal and shop safety.	ASE Certification <a href="http://www.ase.org">www.ase.org</a>	TD.3, 8	SL.11-12.4			D6	A6	Work Habits; Health/Safety  SkillsUSA <a href="https://www.skillsusa.org">https://www.skillsusa.org</a> , Performance
Students will demonstrate use and care of tools and equipment.	ASE Certification <a href="http://www.ase.org">www.ase.org</a>	TD.3, 8	SL.11-12.4				A6	Work Habits; Health/Safety  SkillsUSA <a href="https://www.skillsusa.org">https://www.skillsusa.org</a> , Performance
Students will earn recognized safety requirement certificates generic to the automotive industry. (I-CAR)	ASE Education Foundation Academic Skills <a href="https://www.aseeducationfoundation.org/">https://www.aseeducationfoundation.org/</a> , English, Science & Mathematics	TD-MTN.1-2; TD.3	R.IK.11-12.10				B4	Tech/Prod; Technology  SkillsUSA Technical Standards <a href="http://www.skillsusa.org">www.skillsusa.org</a>
Students will earn ASE student certificate at course completion.	ASE Student Certification <a href="http://www.ase.org">www.ase.org</a>	TD-MTN.1-2; TD.3	R.IK.11-12.10				B4	Tech/Prod; Technology  ASE Certification <a href="http://www.ase.org">www.ase.org</a> , Skills, English, Science & Mathematics
Students will perform the task list identified in the current 2012 ASE Education Foundation - Maintenance & Light Repair program. (193 performance tasks)	National Skills Standards Board <a href="http://nssb.org">http://nssb.org</a>	TD-MTN.1-2; TD.3	R.IK.11-12.10				B4	Tech/Prod; Technology  Class Assignments; Performance

## Instructional Resources

List the major instructional resources used for this course (websites, textbooks, essential equipment, reference materials, & supplies).	
<b>Websites:</b>	ASE Education Foundation Website: <a href="http://www.ASEeducationfoundation.org">www.ASEeducationfoundation.org</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	See Appendix
<b>Reference Materials:</b>	ASE Education Foundation Program Standards
<b>Supplies:</b>	See Appendix

# Basic Automotive Technology 1B

Course Information	
<b>Course Name</b>	<b>Basic Automotive Technology 1B</b>
<b>Course Number</b>	TBD after adoption
<b>Grade(s)</b>	11-12
<b>Length</b>	One semester
<b>Credit</b>	0.5
<b>Prerequisites</b>	<i>Basic Automotive Technology 1A</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Small Engine, Basic Automotive, Advanced Automotive
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	1. Automotive Service Excellence (ASE) ( <a href="http://www.ase.com">www.ase.com</a> ) 2. ASE Education Foundation ( <a href="https://www.aseeducationfoundation.org/">https://www.aseeducationfoundation.org/</a> )
<b>Names/Numbers of Occupational Standards</b>	ASE Education Foundation – Maintenance & Light Repair
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Basic Automotive Technology 1B</i> is an introduction to light vehicle transportation. During the course, basic fundamentals about automotive systems and repair are covered for entry into the advanced automotive course. In addition, alternative fuels, labor rates, technical service bulletins, NHSTA recalls, and career information are covered. This course concentrates on tasks covered in the ASE Education Foundation - Maintenance and Light Repair (MLR) Program.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Engine Repair, Automatic Transmission and Transaxle, Manual Drive Train and Axles, Suspension and Steering Systems, Brakes, Electrical and Electronic Systems, Heating and Air Conditioning, Engine Performance, Shop and Personal Safety, Tools and Equipment, Preparing Vehicle for Service
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	ASE Student Certificate
<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes

<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
<b>Author</b>	
<b>Course Developed By</b>	T. Boyarsky
<b>Course Adapted From</b>	ASE Education Foundation
<b>Date of Previous Course Revision</b>	N/A
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will understand how specific careers addressed in this course fit within all aspects of the automotive industry.	Safety & Pollution <a href="http://www.sp2.org">www.sp2.org</a>	TD.5-6	WT.7-9			B2-3	B2-4	Management; Labor  ASE Student Certification <a href="http://www.ase.org">www.ase.org</a> , SkillsUSA <a href="https://www.skillsusa.org/">https://www.skillsusa.org/</a>
Students demonstrate understanding of personal and shop safety.	ASE Certification <a href="http://www.ase.org">www.ase.org</a>	TD.3, 8	SL.11-12.4			D6	A6	Work Habits; Health/Safety  SkillsUSA <a href="https://www.skillsusa.org">https://www.skillsusa.org</a> , Performance
Students will demonstrate use and care of tools and equipment.	ASE Certification <a href="http://www.ase.org">www.ase.org</a>	TD.3, 8	SL.11-12.4				A6	Work Habits; Health/Safety  SkillsUSA <a href="https://www.skillsusa.org">https://www.skillsusa.org</a> , Performance
Students will earn recognized safety requirement certificates generic to the automotive industry. (I-CAR)	ASE Education Foundation Academic Skills <a href="https://www.aseeducationfoundation.org/">https://www.aseeducationfoundation.org/</a> , English, Science & Mathematics	TD-MTN.1-2; TD.3	R.IK.11-12.10				B4	Tech/Prod; Technology  SkillsUSA Technical Standards <a href="http://www.skillsusa.org">www.skillsusa.org</a>
Students will earn ASE student certificate at course completion.	ASE Student Certification <a href="http://www.ase.org">www.ase.org</a>	TD-MTN.1-2; TD.3	R.IK.11-12.10				B4	Tech/Prod; Technology  ASE Certification <a href="http://www.ase.org">www.ase.org</a> , Skills, English, Science & Mathematics
Students will perform the task list identified in the current 2012 ASE Education Foundation - Maintenance & Light Repair program. (193 performance tasks)	National Skills Standards Board <a href="http://nssb.org">http://nssb.org</a>	TD-MTN.1-2; TD.3	R.IK.11-12.10				B4	Tech/Prod; Technology  Class Assignments; Performance

## Instructional Resources

List the major instructional resources used for this course (websites, textbooks, essential equipment, reference materials, & supplies).	
<b>Websites:</b>	ASE Education Foundation Website: <a href="http://www.ASEeducationfoundation.org">www.ASEeducationfoundation.org</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	See Appendix
<b>Reference Materials:</b>	ASE Education Foundation Program Standards
<b>Supplies:</b>	See Appendix

# Diesel Operations & Technology 1A

Course Information	
<b>Course Name</b>	<b>Diesel Operations &amp; Technology 1A</b> (current pilot course title: Heavy Equipment Maintenance & Operations 1B)
<b>Course Number</b>	TBD after adoption (current pilot course # CTEE105P)
<b>Grade(s)</b>	11-12
<b>Length</b>	One semester
<b>Credit</b>	0.5
<b>Prerequisites</b>	<i>Basic Automotive 1A/1B</i> and/or Teacher Recommendation
<b>Sequence or CTEPS (You must first have the Sequence or CTEPS entered into the system.)</b>	Transportation, Logistics and Distribution and Construction (TDL), Heavy Equipment Operator (HEO) 1A, HEO 1B
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. National Center for Construction Education &amp; Research (NCCER)</li> <li>2. Occupational Safety &amp; Health Administration (OSHA)</li> <li>3. Mine Safety &amp; Health Administration (MSHA)</li> <li>4. United States Department of Labor (USDOL) Registered Apprenticeship</li> <li>5. Equipment &amp; Engine Training Council (EETC)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. NCCER: Heavy Equipment Operation (HEO) Level 1 and 2</li> <li>2. OSHA: 10 Hr. Construction Awareness</li> <li>3. MSHA: MSHA Awareness</li> <li>4. USDOL: OA/Operating Engineer</li> <li>5. Career Readiness Certificate</li> <li>6. EETC Compact Diesel Certificate</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Diesel Operations and Technology 1A</i> presents students with career, industries, and safety information. Students will explore their interest in operating and repairing diesel equipment in Alaska's construction, mining, and transportation industries. Students will have time to explore careers and identify diesel equipment and uses while understanding requirement for safety in industry.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Shop and Equipment Safety Practices; Heavy Equipment Identification and Uses; Maintenance and Light Repair; Career Opportunities, Employer and Employee Expectations; Employment Application and Resume Writing; Equipment Familiarization, Inspection, Startup, Operation and Shutdown; Equipment Simulator Operating; Rigging and Lifting.



Summative Assessments and Standards	
Technical Skills Assessment (TSA)	None
<b>Course Addresses:</b>	
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	Alaska
Tech Prep	
Current Tech Prep Articulation Agreement? (Y/N)	No
Date of Current Agreement	N/A
Postsecondary Institution Name	N/A
Postsecondary Course Name	N/A
Postsecondary Course Number	N/A
Number of Postsecondary Credits	N/A
Author	
Course Developed By	K. Shaw, T. Simko (reviewed by T. Boyarsky & J. Million in 2019)
Course Adapted From	Gerald Andrews; NCCER HEO, USDOL Registered Apprenticeship for Operating Engineer
Date of Previous Course Revision	Pilot status approved in April 2014
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 Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry	Formative Assessments
Students will research career opportunities available to heavy equipment operators and maintenance.	NCCER; USDOL-ONET	AC-5, 7; TD-1, 5-6; AC-CTS 8	RST. 1-2, 7	Math Practice 2	B1, 3; D5-6; E8	4, 7, 10	Technology; Work Habits	NCCER (N) 22101; AKCIS Portfolio
Students will explain the requirements necessary to make application to employment, create a resume, registered apprenticeship or university program. Develop a resume and personal learning career plan utilizing AKCIS.	NCCER; USDOL: OA/Operating Engineer	AC-5, 7; TD-1, 5-6; AC-CTS 8	RST. 2, 7; WRST.1-2, 4, 8-9		B1-4; D6	4, 7, 10	Technology; Work Habits	NCCER (N) 22101; OSHA 29CFR Part 29
Students will prepare for and take the Career Ready test striving for a level 4 Work Keys, through frequent practice of technical reading, locating information and applied mathematics.	NCCER; USDOL: OA/Operating Engineer	AC-5, 7; TD-1, 5-6	RST.7, 10; WRST.1-2, 4, 8-10	Math Practices 1-6, 8		4, 7, 10	Business Plan; Technology; Work Habits	AKCIS Portfolio; Career Ready
Students will explain acceptable employee, operator, manager characteristics including workplace ethics and responsibilities.	NCCER; USDOL: OA/Operating Engineer	AC-3, 5, 7; TD-5, 7; AC-CTS 5, 9	RST.2, 7; WRST.1, 8		B1, 3	1- 6, 9-10, 12	Management; Work Habits; Labor; Finance	NCCER (N) 22101
Students will identify what it means to have a drug free workplace, barrier crimes to employment and the need for personal health in the workplace. Summarize how it affects the employee and employer.	NCCER: USDOL:OA 29-30	AC-3, 5, 7; TD-5, 7; AC-CTS 5, 9	RST.2, 7, 9; WRST.1-2, 4, 8-9	Math Practice 2	B3	1, 3- 5, 8-10	Management; Health/Safety; Work Habits	NCCER (N) 22101-22103
Students will identify heavy equipment used in the construction, mining and transportation industries.	NCCER USDOL: OA/Operating Engineer	TD-2; AC-CTS 8-9	RST.2, 4-5, WRST.1-2, 4, 8			2, 4, 7, 11	Technology; Tech/Prod	NCCER (N) 22103; CAT; Case; Deere; Kubota
Students will demonstrate (on simulators) basic machine controls for Dozer, Loader, and Excavator. Optional Forklift and CDL.	NCCER; USDOL: OA/Operating Engineer	TD-2; AC-CTS 8				2, 11	Health/Safety; Technology; Tech/Prod	NCCER (N) 22104; SimLog
Students will explain and perform prestart inspection, startup, operation, and shutdown procedures for heavy equipment, including cold weather operations.	NCCER; USDOL: OA/Operating Engineer	TD-3; TD-MTN 1; AC-CTS 8-9	RST.2; WRST.1-2, 4			2, 11	Health/Safety; Technology; Tech/Prod	NCCER (N) 22102-22104; CAT; Deere
Students will be introduced to safety including OSHA, MSHA, NSTC and other standardized government and industry safety training.	OSHA	AC-3; AC-CTS 5, 9; TD-4-5; TD-HSE 1	RST.2; WRST.1-2, 4, 8		B3	1- 5, 7, 9	Health/Safety; Work Habits; Labor	NCCER (N) 22102; OSHA 29CFR. 1926

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry	Formative Assessments
Students will locate and describe fundamental, specific safety rules and hazard recognition when operating heavy equipment.	NCCER; USDOL: OA/Operating Engineer	AC-3; TD-4-5; TD-HSE 1 AC-CTS 5, 9	RST.2, 7			1-2, 4, 7-8, 10,	Health/Safety; Technology; Tech/Prod	NCCER (N) 22101-22104; OSHA 29CFR 1926
Students will demonstrate personal responsibility and accepted Industry Safety Practices such as <i>Good House Keeping</i> and fire safety practices.	OSHA	AC-3; TD-4-5; TD-HSE 1 AC-CTS-5, 9	RST.2, 7; WRST.1, 4		B3	1-5, 8-9	Health/Safety; Technology; Work Habits	NCCER (N) 22102; OSHA 29CFR 1926
Students will explain and demonstrate construction work zone safety and communication devices: fences, signs, and barricades.	OSHA	AC-3; TD-4-5; TD-HSE 1 AC-CTS-5, 9	RST.4; WRST.1, 4			1-4, 8	Health/Safety; Technology; Work Habits; Tech/Prod	NCCER (N) 22102; OSHA 29CFR 1926

## Instructional Resources

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

<b>Websites:</b>	NCCER Website: <a href="http://www.nccer.org">www.nccer.org</a> and EETC <a href="https://www.eetc.org">https://www.eetc.org</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	See Appendix
<b>Reference Materials:</b>	EETC Program Assessment Manual
<b>Supplies:</b>	Basic auto shop supplies; see diesel tool list in the appendix

# Diesel Operations & Technology 1B

Course Information	
<b>Course Name</b>	<b>Diesel Operations &amp; Technology 1B</b> (current pilot course title: Heavy Equipment Maintenance & Operations 1B)
<b>Course Number</b>	TBD after adoption (current pilot course # CTEE106P)
<b>Grade(s)</b>	11-12
<b>Length</b>	One semester
<b>Credit</b>	0.5
<b>Prerequisites</b>	<i>Diesel Operations &amp; Technology 1A</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Logistics and Distribution and Construction, Heavy Equipment Operator (HEO) 1A, HEO 1B
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. National Center for Construction Education &amp; Research (NCCER)</li> <li>2. Occupational Safety &amp; Health Administration (OSHA)</li> <li>3. Mine Safety &amp; Health Administration (MSHA)</li> <li>4. United States Department of Labor (USDOL) Registered Apprenticeship</li> <li>5. Equipment &amp; Engine Training Council (EETC)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. NCCER: Heavy Equipment Operation (HEO) Level 1 and 2</li> <li>2. OSHA: 10 Hr. Construction Awareness</li> <li>3. MSHA: MSHA Awareness</li> <li>4. USDOL: OA/Operating Engineer</li> <li>5. Career Readiness Certificate</li> <li>6. EETC Compact Diesel Certificate</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<p>In <i>Diesel Operations &amp; Technology 1B</i> students will continue to develop their interest, knowledge, and skills in diesel equipment operations, maintenance, and safety, while building on their experiences gained in <i>Diesel Operations &amp; Technology 1A</i> .</p> <p>Students will learn how to use operator manuals to safely start and shut down typical diesel equipment. Classes will incorporate manufacturer information and OSHA/MSHA safety standards in the classroom and lab.</p> <p>Students are introduced to diesel equipment mechanical systems to include: engines, powertrains, hydraulic, electric, and pneumatic systems in the classroom and on equipment. Students will also learn how to develop a preventative maintenance plan and safely perform preventative maintenance on construction equipment. They will also see cold weather operations, precautions, and preventative procedures. Here students will apply their knowledge of personal and industrial safety skills.</p>

<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Shop, Tool and Equipment Safety; Engine Construction; Preventative Maintenance; Basic Electrical Systems; HD Braking Systems; Diesel Fuel Injection; Starting and Charging Systems; Hydraulics; Maintenance and Light Repair
<b>Summative Assessments and Standards</b>	
<b>Technical Skills Assessment (TSA)</b>	<ul style="list-style-type: none"> <li>• Forklift Certification</li> <li>• OSHA 10</li> <li>• EETC Compact Diesel Certification</li> </ul>
<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes
<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
<b>Author</b>	
<b>Course Developed By</b>	K. Shaw, T. Simko (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	Gerald Andrews; NCCER HEO, USDOL Registered Apprenticeship for Operating Engineer
<b>Date of Previous Course Revision</b>	Pilot status approved in April 2014
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry	Formative Assessments
Students will identify and summarize machine specific safety concerns and standards for heavy equipment used in construction and mining (Loaders, Dozers, and Excavators, optional Forklift, CDL).	NCCER; USDOL: OA/Operating Engineer	AC-1; AC-CTS 5, 8-9	RST.2; WRST.1, 4, 8-9			2, 4-5, 8-9, 11-12	Health/Safety; Technology; Tech/Prod	NCCER (N) 22201, 22205, 22302, 22304
Students will understand and gain awareness of Job Safety Analysis/Job Hazard Analysis for the operation of equipment used in construction. (e.g., first time on the site, climbing onto equipment).	NCCER; OSHA; MSHA	AC-1, 3; AC-CTS 5, 9; TD-4-5; TD-HSE 1	RST.2, 5, 7, 9, 11-12; WRST.1, 4, 8-9		B3		Health/Safety; Technology; Tech/Prod	NCCER (N) 22201; OSHA; MSHA
Students will identify and summarize specific safety concerns and standards for heavy equipment used in construction/mining while in operation. (Loaders, Dozers, and Excavators) (e.g., excavation standard)	NCCER; OSHA; MSHA	AC-1, 3; AC-CTS 5, 9; TD-4-5; TD-HSE 1	RST.2, 5, 7; WRST.1, 4, 8-9			2, 5, 8, 11	Health/Safety; Technology; Tech/Prod	NCCER (N) 22201; OSHA; MSHA
Students will identify, research and evaluate heavy equipment and attachments used on construction sites, and explain/perform basic machine control.	NCCER Equipment Manufactures	AC-1; AC-CTS 7-8	RST.2, 7; WRST.2, 4, 8		B4	2, 8,	Technology; Tech/Prod	NCCER (N) 22201, 22104, 22205, 22302, 22304
Students will identify and summarize machine systems uses on heavy equipment: engine, powertrain, tires, tracks, undercarriage, hydraulic, pneumatic, fuel, electrical (12 and 24 volt) and ROPS/FROPS cabs.	NCCER Equipment Manufactures	AC-CTS 9	RST.7; WRST.1, 4, 7-8	Math Practices 1, 3, 5		2, 4, 8, 11	Health/Safety; Technology	NCCER (N) 22201, 22104, 22205, 22302, 22304
Students will explain the hazards of jump-starting equipment and demonstrate (simulate) how to properly jump a 6, 12 or 24 VDC electrical system.	NCCER Equipment Manufactures	AC-1, 3; C-CTS 5, 9; TD-4-5; TD-MTN 1; TD-HSE 1	WRST.1, 4, 7-8	Math Practices 1, 3, 5			Health/Safety; Technology; Tech/Prod	NCCER (N) 22102, 22205, 22302, 22304
Students will determine, explain and perform preventative maintenance on light and heavy equipment.	NCCER Equipment Manufactures	AC-CTS-9; TD-3, 6; TD-MTN 1-2	RST.9; WRST.1-2, 8	Math Practices 1-8	B3	2, 8, 11	Health/Safety; Technology; Tech/Prod; Finance	NCCER (N) 22102, 22104, 22205, 22302, 22304
Students will summarize the effect of cold weather operation on heavy equipment and how to prepare for it.	NCCER Equipment Manufactures	AC-CTS 9; TD-3, 6; TD-MTN 1-2	RST.9; WRST.1-2, 4, 8	Math Practices 1-2, 4	D5	2-3, 8, 11	Health/Safety; Technology; Work Habits; Tech/Prod; Finance	NCCER (N) 22104, 22205, 22302, 22304

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry	Formative Assessments
Students will summarize and perform preoperational inspection and startup checks, and complete a pre-op inspection and form.	NCCER Equipment Manufactures	AC-CTS 9; TD-3, 6; TD-MTN 1-2	RST.2, 7				3, 5, 6, 7	NCCER (N) 22104, 22205, 22302, 22304
Students will demonstrate machine specific basic control operations and evaluate personal progress with simulator benchmarks.	NCCER; SimLog	AC-1, 5-6; AC-CTS 8	RST.3				5, 6, 7	NCCER (N) 22104
Students will summarize and perform a post operation inspection, complete and explain the use of a post-op inspection and form.	NCCER Equipment Manufactures	AC-CTS 9; TD-3, 6; TD-MTN 1-2	RST.2-3, 7; WRST.1, 4, 8				2, 3, 5, 6, 7	NCCER (N) 22102, 22205, 22302, 22304
Students will explain safety concerns for heavy equipment while in transport.	NCCER Equipment Manufactures	AC-1, 3; AC-CTS 5, 9; TD-4-5; TD-HSE 1	RST.2-3, 7, 9				3, 5, 6, 7	NCCER (N) 22102, 22205, 22302, 22304

## Instructional Resources

List the major instructional resources used for this course (websites, textbooks, essential equipment, reference materials, & supplies).	
<b>Websites:</b>	NCCER Website: <a href="http://www.nccer.org">www.nccer.org</a> and EETC <a href="https://www.eetc.org">https://www.eetc.org</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	See Appendix
<b>Reference Materials:</b>	EETC Program Assessment Manual
<b>Supplies:</b>	Basic auto shop supplies; see diesel tool list in the appendix

# Introduction to Collision Repair

Course Information	
<b>Course Name</b>	<b>Introduction to Collision Repair</b>
<b>Course Number</b>	CTEE401
<b>Grade(s)</b>	9-12
<b>Length</b>	One semester
<b>Credit</b>	0.5
<b>Prerequisites</b>	None
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics; Collision Repair Pathway
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. The Inter-Industry Conference on Auto Collision Repair (I-CAR) (<a href="http://www.i-car.com">www.i-car.com</a>)</li> <li>2. Automobile Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>3. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>4. SkillsUSA Technical Standards (<a href="http://www.skillsusa.org">www.skillsusa.org</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Program Certification Standards for Collision Repair &amp; Refinishing, Program Standards 1-10 (p. 25-33)</li> <li>2. Task List Assumptions (TLA) (p. 40-57)</li> <li>3. Workplace Skills (WS) (p. 78)</li> <li>4. ASE Education Foundation</li> <li>5. Skills USA Technical Standards</li> <li>6. Trade Industrial and Technical Contests; Job Interview, Occupational Health &amp; Safety, Collision Repair Technology</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Introduction to Collision Repair</i> is an introduction to the knowledge, attitudes, and practical skills needed to work successfully as a Collision Repair Technician. The importance of basic vehicle and industry knowledge, understanding, entrepreneurship, and business management will be addressed, including reading damage reports, the estimating process, and developing a repair plan. Shop and occupational safety skills, tool care and use, comprehending and complying with requirements concerning ethics, employability skills, legal liability consequences, and insurance implications will be emphasized.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Introduction and Careers; Compressed Air Systems Technology; Shop Safety and Efficiency; Estimating Repair Costs; Job Success and ASE Certification



Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	Hazardous Airborne Pollutant Reduction, I-CAR
<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes
<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
Employability Standards	
<b>Source of Employability Standards</b>	Alaska
Tech Prep	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
Author	
<b>Course Developed By</b>	T. Boyarsky, D. Domke, J. Hayden, & E. Larson (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	FNSBSD Career & Technical Education Curriculum
<b>Date of Previous Course Revision</b>	May 7, 2013
Course Delivery Model	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will demonstrate an understanding of shop and occupational safety skills.	TLA.1, 5; ABRT (Ch. 9)	TD.5	RT.9; SL.11-12.4		B3; D5	A1-3, 6-7	Health/Safety	SkillsUSA (p. 37-39); Mock Interview; Role Play
Students will demonstrate appropriate care and use of tools and equipment.	TLA.1-2 (p.35); ABRT (Ch. 4-6, 8)	TD-MTN.1	SL.11-12.4		B1, 3	B1-2, 4-7	Labor; Health/Safety	Guest Speaker; Field Trip; Lab Demo; SkillsUSA (p. 152-15_)
Students will develop an understanding of the role of a productive team leader and team member.	WS.D.1-5; (p. 78); E.1-4; F.1-6 (p. 79); ABRT (Ch. 29)	TD.6; TD-SAL.2	SL.11-12.4		C4, E8	A1	Tech/Prod	Guest Speaker; Field Trip; Lab Demo; SkillsUSA (p. 152-15_)
Students will demonstrate basic vehicle and industry knowledge.	TLA 1-3 (p. 35); ABRT (Ch. 2)	TD.1; TD-OPS.3	SL.11-12.4			A2, 5	Work Habits	Guest Speaker; Field Trip; Lab Demo; SkillsUSA (p. 152-15_)
Students will demonstrate an understanding of entrepreneurship and the American enterprise system.	WS.E.3-4 (p. 79); ABRT (Ch. 29)		SL.11-12.4		B2, B4	A4-5; B2-3	Health/Safety; Tech/Prod	Guest Speaker; Field Trip; Lab Demo; SkillsUSA (p. 152-15_)
Students will demonstrate competence in job search and interview techniques.	WS.B.1-9; C.1-4 (p. 78); ABRT (Ch. 1)	TD.	RT.1; WT.1		B1, 3	A3; B1-5	Tech/Prod	Guest Speaker; Field Trip; Lab Demo; SkillsUSA (p. 152-15_)

## Instructional Resources

List the major instructional resources used for this course (websites, textbooks, essential equipment, reference materials, & supplies).	
<b>Websites:</b>	I-Car Website: <a href="http://www.i-car.com">www.i-car.com</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	Proper auto body shop PPE for every student, basic hand tools, and basic body shop hammers, dollies, and dent removal tools.
<b>Reference Materials:</b>	ASE Program Certification Standards for Collision Repair & Refinishing
<b>Supplies:</b>	Masking tape, sandpaper, body filler, mixing palettes, squeegees, auto doors, hoods, and decklids

# Non-Structural Analysis & Damage Repair 1A

Course Information	
<b>Course Name</b>	Non-Structural Analysis & Damage Repair 1A
<b>Course Number</b>	CTEE402
<b>Grade(s)</b>	10-12
<b>Length</b>	One semester
<b>Credit</b>	0.5
<b>Prerequisites</b>	Structural Analysis & Damage Repair 1A/1B and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics; Collision Repair Pathway
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. The Inter-Industry Conference on Auto Collision Repair (I-CAR) (<a href="http://www.i-car.com">www.i-car.com</a>)</li> <li>2. Automobile Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>3. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>4. SkillsUSA Technical Standards (<a href="http://www.skillsusa.org">www.skillsusa.org</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Program Certification Standards for Collision Repair &amp; Refinishing, Program Standards 1-10 (p. 25-33)</li> <li>2. Task List Assumptions (TLA) (p. 40-57)</li> <li>3. Workplace Skills (WS) (p. 78)</li> <li>4. ASE Education Foundation</li> <li>5. SkillsUSA Technical Standards Trade Industrial and Technical Contests; Job Interview, Occupational Health &amp; Safety, Collision Repair Technology</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Non-Structural Analysis and Damage Repair 1A</i> emphasizes reading damage reports and developing a repair plan, choosing from a variety of repair methods, tools, and materials to correctly repair metal and/or plastic materials and panels in modern automobiles. It is designed to cover non-structural straightening techniques, proper tool selection, and use in accordance with vehicle manufacturers' recommendations.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Vehicle Construction Technology; Power Tool and Equipment Technology; Body Shop Materials and Fastener Technology; Working Sheet Metal
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	Non-Structural Technician

<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes
<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
<b>Author</b>	
<b>Course Developed By</b>	T. Boyarsky, D. Domke, J. Hayden, E. Larson (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	FNSBSD Career & Technical Education Curriculum
<b>Date of Previous Course Revision</b>	May 7, 2013
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will demonstrate an understanding of shop and occupational safety skills.	TLA.1, 5 (p. 35 -36); ABRT (Ch. 9)	TD.5	RT.9; SL.11-12.4		B1, 3	A1-2, 6-7	Work Habits; Health/Safety; Technology	Written Exam; SkillsUSA (pg. 41-45)
Students will demonstrate appropriate care and use of tools and equipment.	TLA.1-2 (p.35); ABRT (Ch.4-6, 8)	TD-MTN.1	SL.11-12.4		B1, 3	B1-2, 4-5	Work Habits; Health/Safety; Labor	Lab Demo; Observation; Lab Exam
Students will develop an understanding of the role of a productive team leader and team member.	WS.D.1-5 (p. 78); E.1-4; F.1-6 (p. 79); ABRT (Ch. 29)	TD.6, TD-SAL.2	SL.11-12.4		C4, E8	A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation; Lab Exam
Students will review damage reports, analyze damage to determine appropriate methods and develop a plan for overall repair.	WS.H.1-9 (p. 79); TL.IIA.1 (p. 44)	TD.1, TD-MTN.1	R.IK.11-12.10			A1-2, 6-7; B1-2, 4-5	Work Habits	Lab Demo; Observation; Lab Exam; Labor Lab Checklist; Peer Review
Students will demonstrate the ability to remove and replace protective coatings.	WS.H.1-9 (p. 79); ABRT (Ch. 20)	TD.1, 2; TD-MTN.1	SL.11-12.4			A1-2, 6-7; B1-2, 4-5	Tech/Prod; Health/Safety	SkillsUSA (pg. 153-155); Lab Application
Students will inspect, remove and store all vehicle parts that may interfere with or be damaged during repair (i.e., exterior/interior trim and moldings, body panels, mechanical/electrical components).	WS.H.1-9 (p. 79); ABRT (Ch. 14)	TD.1, 2; TD-MTN.1	R.IK.11-12.10			A1-2, 6-7; B1-2, 4-5	Tech Prod; Labor	SkillsUSA (pg. 153-155); Lab Application; Labor Observation; Lab Checklist; Peer Review
Students will replace door skins according to manufacturer's procedures.	ABRT (Ch. 15)	TD.1, 2; D-MTN.1	R.IK.11-12.10	F-BF.1		A1-2, 6-7; B1-2, 4-5	Tech/Prod; Labor	SkillsUSA (pg. 153-155); Lab Application; Labor Observation; Lab Checklist; Peer Review
Students will be able to inspect, remove, replace and align bumper bars, covers, fenders, headers and other panels.	ABRT (Ch. 15)	TD.1, 2; TD-MTN.1	R.IK.11-12.10	F-BF.1		A1-2, 6-7; B1-2, 4-5	Tech/Prod; Health/Safety	SkillsUSA (pg. 153-155); Lab Application; Labor Observation; Lab Checklist; Peer Review

## Instructional Resources

List the major instructional resources used for this course (websites, textbooks, essential equipment, reference materials, & supplies).	
<b>Websites:</b>	I-Car Website: <a href="http://www.i-car.com">www.i-car.com</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	Proper auto body shop PPE for every student, basic hand tools, and basic body shop hammers, dollies, and dent removal tools.
<b>Reference Materials:</b>	ASE Program Certification Standards for Collision Repair & Refinishing
<b>Supplies:</b>	Masking tape, sandpaper, body filler, mixing palettes, squeegees, auto doors, hoods, and decklids

# Non-Structural Analysis & Damage Repair 1B

Course Information	
<b>Course Name</b>	<b>Non-Structural Analysis &amp; Damage Repair 1B</b>
<b>Course Number</b>	CTEE403
<b>Grade(s)</b>	10-12
<b>Length</b>	One semester
<b>Credit</b>	0.5
<b>Prerequisites</b>	<i>Non-Structural Analysis &amp; Damage Repair 1A</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics; Collision Repair Pathway
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. The Inter-Industry Conference on Auto Collision Repair (I-CAR) (<a href="http://www.i-car.com">www.i-car.com</a>)</li> <li>2. Automobile Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>3. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>4. SkillsUSA Technical Standards (<a href="http://www.skillsusa.org">www.skillsusa.org</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Program Certification Standards for Collision Repair &amp; Refinishing, Program Standards 1-10 (p. 25-33)</li> <li>2. Task List Assumptions (TLA) (p. 40-57)</li> <li>3. Workplace Skills (WS) (p. 78)</li> <li>4. ASE Education Foundation</li> <li>5. SkillsUSA Technical Standards Trade Industrial and Technical Contests; Job Interview, Occupational Health &amp; Safety, Collision Repair Technology</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Non-Structural Analysis &amp; Damage Repair 1B</i> builds on the skills developed in <i>Non-Structural Analysis &amp; Damage Repair 1A</i> , with emphasis on following a repair plan. In addition, this course will focus on body filling, metal finishing, welding, and cutting procedures performed according to manufacturer/industry specifications.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Vehicle Construction Technology; Power Tool and Equipment Technology; Body Shop Materials and Fastener Technology; Working Sheet Metal; Hood, Bumper, Fender, Lid and Trim Service; Passenger Compartment Service; Electrical/Electronic System Operation and Service
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	Non-Structural Technician Repair



<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes
<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
<b>Author</b>	
<b>Course Developed By</b>	T. Boyarsky, D. Domke, J. Hayden, E. Larson (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	FNSBSD Career & Technical Education Curriculum
<b>Date of Previous Course Revision</b>	May 7, 2013
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will demonstrate an understanding of shop and occupational safety skills.	TLA.1, 5 (p. 35-36); ABRT (Ch. 9)	TD.5	R.IK.9; SL.11-12.4		B1, 3	A1-2, 6-7	Technology	Observation; Lab Checklist; Peer Review
Students will demonstrate appropriate care and use of tools and equipment.	TLA.1-2 (p. 35); ABRT (Ch. 4-6, 8)	TD-MTN.1	SL.11-12.4		B1, 3	B1-2, 4-5	Work Habits; Labor	Lab Demo; Lab Skill Demo; SkillsUSA (pg. 153-155)
Students will develop an understanding of the role of a productive team leader and team member.	WS.D.1-5 (p. 78); E.1-4; F.1-6 (p. 79); ABRT (Ch. 29)	TD.6, TD-SAL.2	SL.11-12.4		B1, 3	A1-2, 6-7; B1-2, 4-5	Tech/Prod	Guest Instructor; Lab Demo; Lab Skill Demo; Field Trip; Hands-On Exam; SkillsUSA (pg. 153-155)
Students will understand how to remove paint from the damaged area of a body panel.	ABRT (Ch. 11, p. 301; Ch. 25, p. 791-795); CIMC.C1 (p. 17-5)	TD.1, TD-MTN.1	R.IK.11-12.10	F-BF.1	B1, 3	A1-2, 6-7; B1-2, 4-5	Work Habits	Lab Demo; Lab Skill Demo; SkillsUSA (pg. 153-155)
Students will locate and reduce surface irregularities on damaged body panels.	ABRT (Ch. 11, p. 298-301)	TD.1, TD-MTN.1	R.IK.11-12.10		B1, 3	A1-2, 6-7; B1-2, 4-5	Tech/Prod; Labor	Lab Demo; Lab Skill Demo; Field Trip; Hands-On Exam; SkillsUSA (pg. 153-155)
Students will demonstrate hammer and dolly techniques.	ABRT (Ch. 11, p. 298-301, 307; Ch. 25, p. 791-795)	TD.1, TD-MTN.1	SL.11-12.4		B1, 3	A1-2, 6-7; B1-2, 4-5	Tech/Prod; Technology; Labor	Lab Demo; Lab Skill Demo; Field Trip; Hands-On Exam; SkillsUSA (pg. 153-155)
Students will demonstrate the ability to heat or cold shrink stretched panel areas to proper contour.	ABRT (Ch. 11, p. 304-306, 308; Ch. 25, p. 791-795)	TD.1, TD-MTN.1	SL.11-12.4		B1, 3	A1-2, 6-7; B1-2, 4-5	Tech/Prod; Technology; Labor	Lab Demo; Lab Skill Demo; Field Trip; Hands-On Exam; SkillsUSA (pg. 153-155)

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will demonstrate competence in choosing and mixing body fillers for a particular repair job.	ABRT (Ch. 12, p. 321-323, 329-333)	TD.1, TD-MTN.1	R.IK.11-12.10	F-BF.1	B1, 3	A1-2, 6-7; B1-2, 4-5	Tech/Prod; Technology; Labor	Lab Demo; Lab Skill Demo; Field Trip; Hands-On Exam; SkillsUSA (pg. 153-155)
Students will demonstrate the ability to rough and finish sand cured body filler to contour.	ABRT (Ch. 12, p. 323-328)	TD.1, TD-MTN.1	R.IK.11-12.10		B1, 3	A1-2, 6-7; B1-2, 4-5	Tech/Prod; Technology; Labor	Lab Demo; Lab Skill Demo; Field Trip; Hands-on Exam; SkillsUSA (pg. 153-155)

## Instructional Resources

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

<b>Websites:</b>	I-Car Website: <a href="http://www.i-car.com">www.i-car.com</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	Proper auto body shop PPE for every student, basic hand tools, and basic body shop hammers, dollies, and dent removal tools.
<b>Reference Materials:</b>	ASE Program Certification Standards for Collision Repair & Refinishing
<b>Supplies:</b>	Masking tape, sandpaper, body filler, mixing palettes, squeegees, auto doors, hoods, and decklids

# Painting & Refinishing 1A

Course Information	
<b>Course Name</b>	<b>Painting &amp; Refinishing 1A</b>
<b>Course Number</b>	CTEE408
<b>Grade(s)</b>	10-12
<b>Length</b>	One semester (double block: first semester = <i>Painting &amp; Refinishing 1A</i> in conjunction with <i>Plastics &amp; Adhesives 1A</i> ; second semester = <i>Painting &amp; Refinishing 1B</i> in conjunction with <i>Plastics &amp; Adhesives 1B</i> )
<b>Credit</b>	0.5
<b>Prerequisites</b>	<i>Non-Structural Analysis and Damage Repair 1A/1B</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics; Collision Repair
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. The Inter-Industry Conference on Auto Collision Repair (I-CAR) (<a href="http://www.i-car.com">www.i-car.com</a>)</li> <li>2. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>3. SkillsUSA Technical Standards (<a href="http://www.skillsusa.org">www.skillsusa.org</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Program Certification Standards for Collision Repair &amp; Refinishing, Program Standards 1-10 (p. 25-33)</li> <li>2. Task List Assumptions (TLA) (p. 40-57)</li> <li>3. Workplace Skills (WS) (p. 78)</li> <li>4. ASE Education Foundation</li> <li>5. SkillsUSA Technical Standards Trade Industrial and Technical Contests; Job Interview, Occupational Health &amp; Safety, Collision Repair Technology</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	Students in <i>Painting and Refinishing 1A</i> will explore different procedures for surface preparation. They will design a plan that includes the selection and application of appropriate paints and finishes while demonstrating an understanding of shop and occupational safety skills.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Refinishing Procedures; Vehicle Surface Preparation and Masking; Refinishing Equipment Technology
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	Refinishing Technician

<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes
<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
<b>Author</b>	
<b>Course Developed By</b>	T. Boyarsky, D. Domke, J. Hayden, E. Larson (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	FNSBSD Career & Technical Education Curriculum
<b>Date of Previous Course Revision</b>	May 7, 2013
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will demonstrate an understanding of shop and occupational safety skills.	TLA.1, 5 (p. 35 -36); ABRT (Ch. 9);	TD.5	RT.9; SL.9-10.4-6		B1, 3	A1-2, 6-7	Work Habits; Health/Safety	Written Exam; SkillsUSA (pg. 41-45)
Students will demonstrate appropriate care and use of tools and equipment.	TLA.1-2 (p.35); ABRT (Ch. 4-6, 8)	TD-MTN.1	SL.9-10.4-6		B1, 3	B1-2, 4-5	Work Habits; Health/Safety; Labor	Lab Demo; Observation; Lab Exam
Students will develop an understanding of the role of a productive team leader and team member.	WS.D.1-5 (p. 78); E.1-4; F.1-6 (p. 79); ABRT (Ch. 29)	TD.6, TD-SAL.2	SL.9-10.4		C4, E8	A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation; Lab Exam
Students will be introduced to all safety devices, State and Federal regulations and the proper handling of hazardous materials commonly used in refinishing.	ABRT (Ch. 25-29); OSHA Guidelines	TD.4	R.IK.9-10.10			A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will understand the terminology, materials, finishes, surface preparation and masking required for the variety of types of finishes and surface conditions.	ABRT (Ch. 25-29)	TD.1, 2; TD-MTN.1	R.IK.9-10.10	G-MG.1		A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will understand the principles of spray gun operation including how to set up, adjust, clean and maintain all equipment common in refinishing.	ABRT (Ch. 25-29)	TD.1, 2; TD-MTN.1	R.IK.11-12.7			A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will develop an understanding of the various spraying techniques.	ABRT (Ch. 25-29)	TD.1, 2; TD-MTN.1	R.IK.11-12.7			A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will identify paint film defects and determine corrective actions for them.	ABRT (Ch. 25-29)	TD.1, 2; TD-MTN.1	R.IK.11-12.7			A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation

## Instructional Resources

List the major instructional resources used for this course (websites, textbooks, essential equipment, reference materials, & supplies).	
<b>Websites:</b>	I-Car Website: <a href="http://www.i-car.com">www.i-car.com</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	Proper auto body shop PPE for every student, basic hand tools, and basic body shop hammers, dollies, and dent removal tools.
<b>Reference Materials:</b>	ASE Program Certification Standards for Collision Repair & Refinishing
<b>Supplies:</b>	Masking tape, sandpaper, body filler, mixing palettes, squeegees, auto doors, hoods, and decklids

# Painting & Refinishing 1B

Course Information	
<b>Course Name</b>	<b>Painting &amp; Refinishing 1B</b>
<b>Course Number</b>	CTEE409
<b>Grade(s)</b>	10-12
<b>Length</b>	One semester
<b>Credit</b>	0.5 (double block: first semester = <i>Painting &amp; Refinishing 1A</i> in conjunction with <i>Plastics &amp; Adhesives 1A</i> ; second semester = <i>Painting &amp; Refinishing 1B</i> in conjunction with <i>Plastics &amp; Adhesives 1B</i> )
<b>Prerequisites</b>	<i>Painting &amp; Refinishing 1A</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics; Collision Repair
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. The Inter-Industry Conference on Auto Collision Repair (I-CAR) (<a href="http://www.i-car.com">www.i-car.com</a>)</li> <li>2. Automobile Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>3. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>4. SkillsUSA Technical Standards (<a href="http://www.skillsusa.org">www.skillsusa.org</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Program Certification Standards for Collision Repair &amp; Refinishing, Program Standards 1-10 (pg. 25-33)</li> <li>2. Task List Assumptions (TLA) (pg. 40-57)</li> <li>3. Workplace Skills (WS) (pg. 78)</li> <li>4. ASE Education Foundation</li> <li>5. SkillsUSA Technical Standards Trade Industrial and Technical Contests; Job Interview, Occupational Health &amp; Safety, Collision Repair Technology</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Painting and Refinishing 1B</i> is designed to provide instruction in the different procedures for applying appropriate paints and finishes. Students will inspect and identify types of finishes and surface conditions. They will develop a plan for refinishing using one paint system from start to finish in conformance with paint system manufacturers specifications and complying with established safety rules established by OSHA, NIOSH, and EPA.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Refinishing Procedures; Vehicle Surface Preparation and Masking; Refinishing Equipment Technology



Summative Assessments and Standards	
Technical Skills Assessment (TSA)	Refinishing Technician
<b>Course Addresses:</b>	
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	Alaska
Tech Prep	
Current Tech Prep Articulation Agreement? (Y/N)	No
Date of Current Agreement	N/A
Postsecondary Institution Name	N/A
Postsecondary Course Name	N/A
Postsecondary Course Number	N/A
Number of Postsecondary Credits	N/A
Author	
Course Developed By	T. Boyarsky, D. Domke, J. Hayden, E. Larson (reviewed by T. Boyarsky & J. Million in 2019)
Course Adapted From	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision	May 7, 2013
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 Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will demonstrate an understanding of shop and occupational safety skills.	TLA.1, 5 (p. 35-36); ABRT (Ch. 9)	TD.5	RT.9; SL.11-12.4		B1, 3	A1-3, 6-7	Work Habits; Health/Safety	Written Exam; SkillsUsa (pg. 41-45)
Students will demonstrate appropriate care and use of tools and equipment.	TLA.1-2 (p. 35); ABRT (Ch.4-6, 8)	TD-MTN.1	RT.9		B1, 3	B1-2, 4-5;	Work Habits; Health/Safety; Labor	Lab Demo; Observation; Lab Exam
Students will develop an understanding of the role of a productive team leader and team member.	WS.D.1-5 (p. 78); E.1-4; F.1-6 (p. 79); ABRT (Ch. 29)	TD.6, TD-SAL.2	SL.11-12.4		C4, E8	A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation; Lab Exam
Students will include all safety devices, State and Federal regulations and the proper handling of hazardous materials commonly used in refinishing in their plan of action.	ABRT (Ch. 25-29); OSHA Guidelines	TD.4	SL.11-12.2			A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will select materials/finish, prepare the surface and do the masking required for the selected type of finish and surface condition.	ABRT (Ch. 25-29)	TD.1, TD-MTN.1	R.CS.11-12.5			A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will apply the principles of spray gun operation including appropriate to set up, adjustments, cleaning and maintenance of all equipment used in their refinishing project.	ABRT (Ch. 25-29)	TD.1, TD-MTN.1		N-Q.2		A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will correctly mix the selected type and color of paints according to manufacturers' recommendations.	ABRT (Ch. 25-29)	TD.1, TD-MTN.1		N-Q.3		A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will identify any paint problems that may occur in the spraying, drying and curing of paint finish.	ABRT (Ch. 25-29)	TD.1, TD-MTN.1	R.CS.11-12.5			A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will select the proper cleaning products and tools for the important task of cleaning the vehicle and before and after repairs.	ABRT (Ch. 25-29)	TD.1, TD-MTN.1				A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation

## Instructional Resources

List the major instructional resources used for this course (websites, textbooks, essential equipment, reference materials, & supplies).	
<b>Websites:</b>	I-Car Website: <a href="http://www.i-car.com">www.i-car.com</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	Proper auto body shop PPE for every student, basic hand tools, and basic body shop hammers, dollies, and dent removal tools.
<b>Reference Materials:</b>	ASE Program Certification Standards for Collision Repair & Refinishing
<b>Supplies:</b>	Masking tape, sandpaper, body filler, mixing palettes, squeegees, auto doors, hoods, and decklids

# Plastics & Adhesives 1A

Course Information	
<b>Course Name</b>	<b>Plastics &amp; Adhesives 1A</b>
<b>Course Number</b>	CTEE406
<b>Grade(s)</b>	10-12
<b>Length</b>	One semester (double block: first semester = <i>Painting &amp; Refinishing 1A</i> in conjunction with <i>Plastics &amp; Adhesives 1A</i> ; second semester = <i>Painting &amp; Refinishing 1B</i> in conjunction with <i>Plastics &amp; Adhesives 1B</i> )
<b>Credit</b>	0.5
<b>Prerequisites</b>	<i>Non-Structural Analysis &amp; Damage Repair 1A/1B</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics; Collision Repair
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. The Inter-Industry Conference on Auto Collision Repair (I-CAR) (<a href="http://www.i-car.com">www.i-car.com</a>)</li> <li>2. Automobile Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>3. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>4. SkillsUSA Technical Standards (<a href="http://www.skillsusa.org">www.skillsusa.org</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Program Certification Standards for Collision Repair &amp; Refinish, Program Standards 1-10 (p. 25-33)</li> <li>2. Task List Assumptions (TLA) (p. 40-57)</li> <li>3. Workplace Skills (WS) (p. 78)</li> <li>4. ASE Education Foundation</li> <li>5. SkillsUSA Technical Standards Trade Industrial and Technical Contests; Job Interview, Occupational Health &amp; Safety, Collision Repair Technology</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Plastics and Adhesives 1A</i> introduces students to the identification of automotive plastic parts, reinforced fiberglass parts, and sheet molded compounds (SMC). They will study the selection of adhesives and develop an understanding of adhesive repair methods, tools, and materials.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Repairing Plastics; Using Body Fillers; Door, Roof, and Glass Service
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	Non-Structural Technician

<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes
<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
<b>Author</b>	
<b>Course Developed By</b>	T. Boyarsky, D. Domke, J. Hayden, E. Larson (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	FNSBSD Career & Technical Education Curriculum
<b>Date of Previous Course Revision</b>	May 7, 2013
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will demonstrate an understanding of shop and occupational safety skills.	TLA.1, 5 (pg. 35 -36); ABRT (Ch. 9)	TD.5	R.IK.9: SL.9-10.4		B1, 3	A1-3, 6-7	Work Habits; Health/Safety	Written Exam; SkillsUsa (p.41-45)
Students will demonstrate appropriate care and use of tools and equipment.	TLA.1-2 (pg. 35); ABRT (Ch. 4-6, 8)	TD-MTN.1	SL.9-10.4		B1, 3	B1-2, 4-5	Work Habits; Health/Safety; Labor	Lab Demo; Observation; Lab Exam
Students will develop an understanding of the role of a productive team leader and team member.	WS.D.1-5 (pg. 78); E.1-4; F.1-6 (pg. 79); ABRT (Ch. 29)	TD.6, TD-SAL.2	SL.9-10.4-5		C4, E8	A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation; Lab Exam
Students will develop the ability to identify automotive plastic parts, reinforced fiberglass parts and SMC fiberglass parts.	ABRT (Ch. 13-14)	TD.1, 2; TD-MTN.1	R.CS.11-12.5			A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will study and understand the selection of adhesive repair methods, tools and materials.	ABRT (Ch. 13-14)	TD.1, 2; TD-MTN.1	R.CS.11-12.5			A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will understand how to select and use plastic welding methods, tools and materials.	ABRT (Ch. 13-14)	TD.1, 2; TD-MTN.1	R.CS.11-12.5			A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will develop an understanding of automotive plastic parts refinishing materials and methods.	ABRT (Ch. 13-14)	TD.1, 2; TD-MTN.1	R.CS.11-12.5			A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	
Students will understand how to repair and replace SMC fiberglass automotive parts according to manufacturers' specifications.	ABRT (Ch. 13-14)	TD.1, 2; TD-MTN.1	R.CS.11-12.5	G-MG.1		A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation

## Instructional Resources

List the major instructional resources used for this course (websites, textbooks, essential equipment, reference materials, & supplies).	
<b>Websites:</b>	I-Car Website: <a href="http://www.i-car.com">www.i-car.com</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	Proper auto body shop PPE for every student, basic hand tools, and basic body shop hammers, dollies, and dent removal tools.
<b>Reference Materials:</b>	ASE Program Certification Standards for Collision Repair & Refinishing
<b>Supplies:</b>	Masking tape, sandpaper, body filler, mixing palettes, squeegees, auto doors, hoods, and decklids

# Plastics & Adhesives 1B

Course Information	
<b>Course Name</b>	<b>Plastics &amp; Adhesives 1B</b>
<b>Course Number</b>	CTEE407
<b>Grade(s)</b>	10-12
<b>Length</b>	One semester (double block: first semester = <i>Painting &amp; Refinishing 1A</i> in conjunction with <i>Plastics &amp; Adhesives 1A</i> ; second semester = <i>Painting &amp; Refinishing 1B</i> in conjunction with <i>Plastics &amp; Adhesives 1B</i> )
<b>Credit</b>	0.5
<b>Prerequisites</b>	<i>Plastics &amp; Adhesives 1A</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics; Collision Repair
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. The Inter-Industry Conference on Auto Collision Repair (I-CAR) (<a href="http://www.i-car.com">www.i-car.com</a>)</li> <li>2. Automobile Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>3. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>4. SkillsUSA Technical Standards (<a href="http://www.skillsusa.org">www.skillsusa.org</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Program Certification Standards for Collision Repair &amp; Refinishing, Program Standards 1-10 (p. 25-33)</li> <li>2. Task List Assumptions (TLA) (p. 40-57)</li> <li>3. Workplace Skills (WS) (p. 78)</li> <li>4. ASE Education Foundation</li> <li>5. SkillsUSA Technical Standards Trade Industrial and Technical Contests; Job Interview, Occupational Health &amp; Safety, Collision Repair Technology</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Plastics and Adhesives 1B</i> continues the study of automotive plastic parts identification, reinforced fiberglass parts, and sheet molded compounds (SMC). Students will study and evaluate the selection of adhesives and develop an understanding of adhesive repair methods, tools, and materials.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Repairing Plastics; Using Body Fillers; Door, Roof, and Glass Service; Power Tool and Equipment Technology; Restoring Corrosive Protection
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	Non-Structural Technician



<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes
<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
<b>Author</b>	
<b>Course Developed By</b>	T. Boyarsky, D. Domke, J. Hayden, E. Larson (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	FNSBSD Career & Technical Education Curriculum
<b>Date of Previous Course Revision</b>	May 7, 2013
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will demonstrate an understanding of shop and occupational safety skills.	TLA.1, 5 (pg. 35 -36); ABRT (Ch. 9)	TD.5	SL.9-19.4		B1, 3	A1-3, 6-7	Work Habits; Health/Safety	Written Exam; SkillsUsa (pg. 41-45)
Students will demonstrate appropriate care and use of tools and equipment.	TLA.1-2 (pg. 35); ABRT (Ch. 4-6, 8)	TD-MTN.1	SL.9-19.4		B1, 3	B1-2, 4-5	Work Habits; Health/Safety; Labor	Lab Demo; Observation; Lab Exam
Students participate as a productive team leader and team member.	WS.D.1-5 (p. 78); E.1-4; F.1-6 (pg. 79); ABRT (Ch. 29)	TD.6, TD-SAL.2	SL.9-10.1, 3		C4, E8	A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation; Lab Exam
Students will study and understand the selection of adhesive repair methods, tools and materials.	ABRT (Ch. 13-14)	TD.1, 2; TD-MTN.1	RST.9-10.7, 3			A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will repair plastic automotive parts using airless welding methods.	ABRT (Ch. 13-14, 23-25)	TD.1, 2; TD-MTN.1				A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will repair and replace SMC fiberglass automotive parts according to manufacturer's specifications.	ABRT (Ch. 13-14, 23-25)	TD.1, 2; TD-MTN.1		MP.1,2,5, 6		A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation
Students will refinish and retexture repaired automotive plastic parts.	ABRT (Ch. 13-14, 23-25)	TD.1, 2; TD-MTN.1		MP.1,2,5, 6		A1-2, 6-7; B1-2, 4-5	Work Habits; Health/Safety; Tech/Prod	Lab Demo; Observation

## Instructional Resources

List the major instructional resources used for this course (websites, textbooks, essential equipment, reference materials, & supplies).	
<b>Websites:</b>	I-Car Website: <a href="http://www.i-car.com">www.i-car.com</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	Proper auto body shop PPE for every student, basic hand tools, and basic body shop hammers, dollies, and dent removal tools.
<b>Reference Materials:</b>	ASE Program Certification Standards for Collision Repair & Refinishing
<b>Supplies:</b>	Masking tape, sandpaper, body filler, mixing palettes, squeegees, auto doors, hoods, and decklids

# Small Engines 1A

Course Information	
<b>Course Name</b>	<b>Small Engines 1A</b>
<b>Course Number</b>	CTEE305
<b>Grade(s)</b>	9-12
<b>Length</b>	One semester
<b>Credit</b>	0.5
<b>Prerequisites</b>	None
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics, Automotive Technology
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. Automotive Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>2. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>3. Equipment &amp; Engine Training Council (EETC) (<a href="https://www.eetc.org">https://www.eetc.org</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Education Foundation - Maintenance &amp; Light Repair (MLR)</li> <li>2. ASE Education Foundation 2018 MLR Task List</li> <li>3. EETC Program Standards – Category 1, Section 4</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Small Engines 1A</i> covers the principles of small gasoline and diesel engines, safe working habits, employability skills, and environmental concerns related to internal combustion.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Lab Safety and Shop Procedures; Engine Operating Systems; Tools and Equipment; Employability Skills; Emission and Environmental Concerns; Electrical; Engine Theory and Design; Industry Performance Standards; Encourage Career and Technical Student Organization (CTSO) Involvement.
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	EETC 2 & 4 cycle certification after completion of 2-year sequence from Equipment and Engine Training Council (EETC).
Course Addresses:	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes
<b>All Aspects of Industry (AAI)</b>	Yes

<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	Yes
<b>Date of Current Agreement</b>	2019
<b>Postsecondary Institution Name</b>	UAF/Community & Technical College
<b>Postsecondary Course Name</b>	Introduction to Small Engine Repair
<b>Postsecondary Course Number</b>	F100
<b>Number of Postsecondary Credits</b>	1.0
<b>Author</b>	
<b>Course Developed By</b>	T. Boyarsky, K. Shaw (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	FNSBSD Curriculum
<b>Date of Previous Course Revision</b>	May 13, 2014
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry	Formative Assessments
Students will identify potential shop hazards and demonstrate safe shop procedures.	EETC Category 1, Section 4 103-104, 201-202, 500, 600						Health/Safety	AK EED Safety Manual; SkillsUSA
Students will learn to use tools and equipment safely.	EETC Category 1, Section 4 100-104, 401	TD.5	RSI 9-10 #1-4			1-2	Health/Safety	AK EED Safety Manual; SkillsUSA
Students will discuss common engine fuel systems and their uses.	EETC Category 1, Section 4 101-104	TD.2; TD-MTN.1-2	RSI 9-10 #1-4		B4, E2	2, 4	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will illustrate the types, operation, and maintenance of common fuel delivery systems.	EETC Category 1, Section 4 104, 204	TD.2; TD-MTN.1-2	RSI 9-10 #1-4	MP 1-2, 5	B4, E2	2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will explain the concepts of small engine ignition systems and compare/contrast various ignition systems.	EETC Category 1, Section 4 101-104, 500	TD.2; TD-MTN.1-2	RSI 9-10 #1-4	MP 1-2, 5	B4	2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will analyze the operation of small engine ignition systems.	EETC Category 1, Section 4 101-104	TD.2; TD-MTN.1-2	RSI 9-10 #1-4	MP 1-3, 5		2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will identify emission and environmental concerns related to use and maintenance of small engines.	EETC Category 1, Section 4 101-104, 201, 400, 600	TD.2; TD-MTN.1-2	RSI 9-10 #1-4	MP 1-3, 5	B4, E2	2, 5, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will understand engine design and structure.	EETC Category 1, Section 4 101-104	TD.2; TD-MTN.1-2	RSI 9-10 #1-4	MP 1-2, 5	B4, E2	2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will describe general concepts of oils and lubrication in small engines.	EETC Category 1, Section 4 101-104, 201	TD.2; TD-MTN.1-2	RSI 9-10 #1-4	MP 1-3, 5	B4, E2	2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will recognize the purposes, properties and importance of oil to small engines.	EETC Category 1, Section 4 101-104, 201	TD.2; TD-MTN.1-2	RSI 9-10 #1-4	MP 1-3, 5	B4, E2	2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will demonstrate and understand small engine cooling concepts by comparing/contrasting various cooling methods.	EETC Category 1, Section 4 104, 203	TD.2; TD-MTN.1-2	RSI 9-10 #1-4 SL 9-10, #4-5	MP 1-3, 5	B4, E2	2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry	Formative Assessments
Students will apply mathematics and measurement fundamentals.	EETC Category 1, Section 4 600	TD.2; TD-MTN.1-2		MP 5-6		2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will demonstrate small engine troubleshooting techniques according to service manuals.	EETC Category 1, Section 4 202, 500, 600	TD.2; TD-MTN.1-2	RSI 9-10 #1-4 SL 9-10, #4-5	MP 1-3, 5	B4, E2	2, 7-8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will perform general preventative maintenance on a small engine.	EETC Category 1, Section 4 104, 500, 600	TD.2; TD-MTN.1-2		MP 1-3, 5	B4, E2	1, 2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will demonstrate employability skills including timeliness, workplace communication, and problem solving.	EETC Category 1, Section 4 600 #20, 21; 301, 500 #27	TD.6	LS 9-10, #4, #6 W 9-10, #6		B1, C4, E1-8	1, 3, 10	Work Habits; Labor	EETC 2 & 4 Stroke; SkillsUSA

## Instructional Resources

List the major instructional resources used for this course (websites, textbooks, essential equipment, reference materials, & supplies).	
<b>Websites:</b>	<a href="https://www.eetc.org/">https://www.eetc.org/</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	See EETC supply list – Category 1, Section 4 pages 4-4 to 4-6.
<b>Reference Materials:</b>	EETC Program Assessment Manual – Category 1, Section 4
<b>Supplies:</b>	See EETC supply list – Category 1, Section 4 pages 4-4 to 4-6.

# Small Engines 1B

Course Information	
<b>Course Name</b>	<b>Small Engines 1B</b>
<b>Course Number</b>	CTEE306
<b>Grade(s)</b>	9-12
<b>Length</b>	One semester
<b>Credit</b>	0.5
<b>Prerequisites</b>	<i>Small Engines 1A</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics, Automotive Technology, Small Engines
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. Automotive Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>2. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>3. Equipment &amp; Engine Training Council (EETC) (<a href="https://www.eetc.org">https://www.eetc.org</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Education Foundation - Maintenance &amp; Light Repair (MLR)</li> <li>2. ASE Education Foundation 2018 MLR Task List</li> <li>3. EETC Program Standards – Category 1, Section 4</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Small Engines 1B</i> is a hands-on course emphasizing tools and equipment used in small engine diagnostics and repair, fuel systems, and electrical systems.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Career Awareness, Engine Top-End Service, Tools, Emission Systems, Safety, Electrical System Service, Fuel Systems, Mathematics Skills, General Information-Service Manual, Encourage Career and Technical Student Organization (CTSO) Involvement, Battery/Charging Systems and Language Skills.
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	EETC 2 & 4 cycle certification after completion of 2-year sequence from Equipment and Engine Training Council (EETC).
<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes
<b>All Aspects of Industry (AAI)</b>	Yes

<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	Yes
<b>Date of Current Agreement</b>	2019
<b>Postsecondary Institution Name</b>	UAF/Community & Technical College
<b>Postsecondary Course Name</b>	Snow Machine Maintenance & Repair
<b>Postsecondary Course Number</b>	F170
<b>Number of Postsecondary Credits</b>	1.0
<b>Author</b>	
<b>Course Developed By</b>	T. Boyarsky, K. Shaw (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	FNSBSD Curriculum
<b>Date of Previous Course Revision</b>	May 13, 2014
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No



## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry	Formative Assessments
Students will learn to use tools and equipment safely.	EETC Category 1, Section 4 100-104, 401	TD.5	RSI 9-10, #1-4			1-2	Health/Safety	AK EED Safety Manual; SkillsUSA
Students will perform service and business procedures.	EETC Category 1, Section 4 500, 600, 700		SL 9-10, #4, 5		B4, E2, E8		Business Plan; Management; Finance; Tech/Prod	EETC 2 & 4 Stroke; SkillsUSA
Students will learn to use fasteners, gaskets, sealants and adhesives properly.	EETC Category 1, Section 4 202, 401, 600						Tech/Prod	EETC 2 & 4 Stroke; SkillsUSA
Students will discuss common engine fuel systems and their uses.	EETC Category 1, Section 4 101-104, 204	TD.2; TD-MTN.1-2	SL.9-10, #4, 5		B4, E2	2, 4	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will illustrate the types, operation, and maintenance of common fuel delivery systems.	EETC Category 1, Section 4 104, 202	TD.2; TD-MTN.1-2	LS 9-10, #4, 6	MP 1-2, 5	B4, E2	2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will explain the principles of fuel combustion in relation to small engine operations.	EETC Category 1, Section 4 102, 104, 204	TD.2; TD-MTN.1-2	SL.9SL -10, #4, 5	MP 1-2, 5	B4, E2	2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will demonstrate knowledge of carburetors and their operation.	EETC Category 1, Section 4 104, 202							
Students will explain the principles and operations of carburetors. Students will summarize common carburetor systems and their parts.	EETC Category 1, Section 4 104, 204							
Students will explain how electricity works.	EETC Category 1, Section 4 205, 500	TD.2; TD-MTN.1-2	SL 9-10, #4, 5	MP 1-3, 5		2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will identify emission and environmental concerns related to use and maintenance of small engines.	EETC Category 1, Section 4 101-104, 201, 204, 600	TD.2; TD-MTN.1-2		MP 1-3, 5	B4, E2	2, 5, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will understand and explain how exhaust interacts with their world environment.	EETC Category 1, Section 4 101-104, 206, 400, 401, 600	TD.2; TD-MTN.1-2	SL 9-10, #4, 5	MP 1-2, 5	B4, E1-8	2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry	Formative Assessments
Students will service a small engine electrical system.	EETC Category 1, Section 4 104, 205, 500	TD.2; TD-MTN.1-2	SL.9-10.4	MP 1-3, 5		2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will learn how to check DC starter/generator circuits.	EETC Category 1, Section 4 104, 205, 500							
Students will maintain an alternator charging system and related parts.	EETC Category 1, Section 4 104, 205, 500							
Students will troubleshoot an alternator charging system.	EETC Category 1, Section 4 104, 205, 500							
Students will apply mathematics and measurement fundamentals.	EETC Category 1, Section 4 401, 600	TD.2; TD-MTN.1-2		MP 5-6		2, 8	Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will demonstrate employability skills including timeliness, workplace communication, problem solving.	EETC Category 1, Section 4 600 #20, 21; 301; 500 #27	TD.6			B1, C4, E1-8	1, 3, 10	Work Habits; Labor	EETC 2 & 4 Stroke; SkillsUSA

## Instructional Resources

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

<b>Websites:</b>	<a href="https://www.eetc.org/">https://www.eetc.org/</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	See EETC supply list – Category 1, Section 4 pages 4-4 to 4-6.
<b>Reference Materials:</b>	EETC Program Assessment Manual – Category 1, Section 4
<b>Supplies:</b>	See EETC supply list – Category 1, Section 4 pages 4-4 to 4-6.

# Small Engines 2A

Course Information	
Course Name	Small Engines 2A
Course Number	CTEE307
Grade(s)	9-12
Length	One semester
Credit	0.5
Prerequisites	<i>Small Engines 1B</i> and/or Teacher Recommendation
Sequence or CTEPS (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics, Automotive Technology, Small Engines
Date of District Course Revision	Spring 2019
Career & Technical Student Organization (CTSO)	
CTSO Embedded in this Sequence	SkillsUSA
Occupational Standards	
Source of Occupational Standards	<ol style="list-style-type: none"> <li>1. Automotive Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>2. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>3. Equipment &amp; Engine Training Council (EETC) (<a href="https://www.eetc.org">https://www.eetc.org</a>)</li> </ol>
Names/Numbers of Occupational Standards	<ol style="list-style-type: none"> <li>1. ASE Education Foundation - Maintenance &amp; Light Repair (MLR)</li> <li>2. ASE Education Foundation 2018 MLR Task List</li> <li>3. EETC Program Standards – Category 1, Section 4</li> </ol>
Registration Information	
Course Description (brief paragraph – as shown in your student handbook or course list)	<i>Small Engines 2A</i> is designed to provide students with a working knowledge of motorcycle and ATV recreational vehicle operation and service. Instruction in major engine systems operation and common engine service techniques is included.
Instructional Topic Headings (please separate each heading by a semi-colon)	Career Awareness; Lab Safety and Shop Procedures; Brakes; Troubleshooting and Maintenance; General Information-Service Manual; Engine Crankcase/Valvetrain Service; Fuel Systems; Mathematics Skills; Drive Service; Battery/Charging Systems and Careers.
Summative Assessments and Standards	
Technical Skills Assessment (TSA)	EETC 2 & 4 cycle certification after completion of 2-year sequence from Equipment and Engine Training Council (EETC).
<b>Course Addresses:</b>	
Alaska ELA and Math Standards	Yes
Alaska Cultural Standards	Yes
All Aspects of Industry (AAI)	Yes

<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
<b>Author</b>	
<b>Course Developed By</b>	T. Boyarsky, K.Shaw (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	FNSBSD Curriculum
<b>Date of Previous Course Revision</b>	May 13, 2014
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry	Formative Assessments
Students will understand and appreciate the importance of OSHA standards.	EETC Category 1, Section 4 101-104		R.KI.9-10.1; R.CS.9-10.6; SL.9-10, #4		B1, C4, E2		Business Plan; Management; Tech/Prod; Health/Safety; Work Habits	EETC 2 & 4 Stroke; SkillsUSA
Students will perform service and business procedures.	EETC Category 1, Section 4 101-104, 401, 500, 600, 700		SL 9-10, #4, 5		B4, E2, E8		Business Plan; Management; Finance; Tech/Prod; Labor	EETC 2 & 4 Stroke; Workorders; SkillsUSA
Students will perform minor to major tune-ups on engines.	EETC Category 1, Section 4 301, 401, 500, 600, 700		SL.9-10, #4	N-Q.3; N-VM.1-3	B4		Tech/Prod	EETC 2 & 4 Stroke
Students will understand how various valvetrains work.	EETC Category 1, Section 4 104, 401, 600		SL.9-10.4	N-VM.1-3	B4		Technology	EETC 2 & 4 Stroke
Students will perform valve service on different engine designs	EETC Category 1, Section 4 104, 401, 600			MP 1-2, 5	B4		Management; Tech/Prod	EETC 2 & 4 Stroke
Students will analyze the operation brake systems.			R.CS.11-12.6	MP.1-2,5				
Students will apply mathematics and measurement fundamentals while performing maintenance tasks.	EETC Category 1, Section 4 401, 600		SL.9-10.4	MP 1-2, 5			Tech/Prod	EETC 2 & 4 Stroke; SkillsUSA
Students will explain the terms and rationale behind small engine troubleshooting.	EETC Category 1, Section 4 104, 301, 401, 500, 600, 700	TD.2; TD-MT.1-2	RSI 9-10, #1-4; SL 9-10, #4, 5		B4	2, 4		EETC 2 & 4 Stroke; SkillsUSA
Students will demonstrate small engine troubleshooting techniques according to service manuals.	EETC Category 1, Section 4 301, 401, 500, 600, 700		RSI 9-10, #1-4;					EETC 2 & 4 Stroke; SkillsUSA
Students will demonstrate the use of reference materials and service manuals, including interpreting graphics and illustrations.	EETC Category 1, Section 4 301, 401, 500, 600, 700		RSI 9-10, #1-4; SL 9-10, #4, 5			8, 11		SkillsUSA
Students will demonstrate employability skills.	EETC Category 1, Section 4 600 #20, 21		SL 9-10, #4, 5		B1, C4, E1-8	1, 2, 8	Management; Tech/Prod; Work Habits	SkillsUSA

## Instructional Resources

List the major instructional resources used for this course (websites, textbooks, essential equipment, reference materials, & supplies).	
<b>Websites:</b>	<a href="https://www.eetc.org/">https://www.eetc.org/</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	See EETC supply list – Category 1, Section 4 pages 4-4 to 4-6.
<b>Reference Materials:</b>	EETC Program Assessment Manual – Category 1, Section 4
<b>Supplies:</b>	See EETC supply list – Category 1, Section 4 pages 4-4 to 4-6.

# Small Engines 2B

Course Information	
<b>Course Name</b>	<b>Small Engines 2B</b>
<b>Course Number</b>	CTEE308
<b>Grade(s)</b>	9-12
<b>Length</b>	One semester
<b>Credit</b>	0.5
<b>Prerequisites</b>	<i>Small Engines 2A</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics, Automotive Technology
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. Automotive Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>2. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>3. Equipment &amp; Engine Training Council (EETC) (<a href="https://www.eetc.org">https://www.eetc.org</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Education Foundation - Maintenance &amp; Light Repair (MLR)</li> <li>2. ASE Education Foundation 2018 MLR Task List</li> <li>3. EETC Program Standards – Category 1, Section 4</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Small Engines 2B</i> is the last course in the small engine series, and places extra emphasis on preparing students for service writer, maintenance, or mechanic employment at dealerships or independent shops locally or nationally with an EETC two- and four-stroke engine certification. Students are encouraged to participate in SkillsUSA programs and competitions.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Troubleshooting and Maintenance; Employability Skills, Power Transmissions, Dealership Practices, Brakes and Safety, Career and Technical Student Organization (CTSO) Involvement.
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	EETC two- & four-cycle certification after completion of 2-year sequence from Equipment and Engine Training Council (EETC).
<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes

<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
<b>Author</b>	
<b>Course Developed By</b>	T. Boyarsky, K. Shaw (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	FNSBSD Curriculum
<b>Date of Previous Course Revision</b>	May 13, 2014
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No



## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry	Formative Assessments
Students will identify numerous fastener, gasket, and seal types, as well as their uses.	EETC Category 1, Section 4 101-104, 401		SL.11-12.4,5	N-Q.3; N-VM.1-3		2, 4	Tech/Prod; Technology	AK EED Safety Manual
Students will engage in engine troubleshooting and failure analysis.	EETC Category 1, Section 4 101-104, 500, 600, 700		SL.11-12.4,5	N-Q.3; N-VM.1-3	B4		Tech/Prod; Technology	EETC 2 & 4 Stroke
Students will identify the training/education requirements related to small engines occupations and describe aspects of those occupations.	EETC Category 1, Section 4 600-700		RSI 9-10, #1-4, SL 9-10, #4, 5		B1, C4, E1-8	10	Finance; Tech/Prod; Labor; Work Habits	EETC 2 & 4 Stroke
Students will demonstrate appropriate workplace communication and behavioral interactions.	EETC Category 1, Section 4 101-104, 600-700		SL 9-10, #4, 5		B1, C4, E1-8	2, 4	Finance; Tech/Prod; Labor; Work Habits	EETC 2 & 4 Stroke
Students will demonstrate competence with shop paperwork and computer duties (i.e., sales orders, service contracts, inventory).	EETC Category 1, Section 4 401, 600, 700		RSI 9-10, #1-4, SL 9-10, #4, 5, W 9-10, #6			2	Finance; Tech/Prod	EETC 2 & 4 Stroke
Students will practice skills for maintaining employment.	EETC Category 1, Section 4 101-104, 202, 204, 301, 600, 700		SL.11-12.4,5		B1, C4, E1-8	10	Management; Tech/Prod; Labor; Work Habits	SkillsUSA
Students will demonstrate safe working habits in accordance with OSHA standards.	EETC Category 1, Section 4 104, 201, 202, 204, 301, 500, 600, 700		SL.11-12.4,5		B1, C4, E2		Business Plan; Management; Tech/Prod; Labor; Health/Safety	EETC 2 & 4 Stroke; SkillsUSA
Students will identify education and training opportunities to increase skill and competence working with small engines.	EETC Category 1, Section 4 600, 700		SL.11-12.4,5		E1-8	10	Business Plan; Finance; Technology; Work Habits	SkillsUSA

## Instructional Resources

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

<b>Websites:</b>	<a href="https://www.eetc.org/">https://www.eetc.org/</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	See EETC supply list – Category 1, Section 4 pages 4-4 to 4-6.
<b>Reference Materials:</b>	EETC Program Assessment Manual – Category 1, Section 4
<b>Supplies:</b>	See EETC supply list – Category 1, Section 4 pages 4-4 to 4-6.

# Structural Analysis & Damage Repair 1A

Course Information	
<b>Course Name</b>	<b>Structural Analysis &amp; Damage Repair 1A</b>
<b>Course Number</b>	CTEE404
<b>Grade(s)</b>	9-12
<b>Length</b>	One semester
<b>Credit</b>	0.5
<b>Prerequisites</b>	<i>Introduction to Collision Repair</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics; Collision Repair
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. The Inter-Industry Conference on Auto Collision Repair (I-CAR) (<a href="http://www.i-car.com">www.i-car.com</a>)</li> <li>2. Automobile Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>3. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>4. SkillsUSA Technical Standards (<a href="http://www.skillsusa.org">www.skillsusa.org</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Program Certification Standards for Collision Repair &amp; Refinish , Program Standards 1-10 (p. 25-33)</li> <li>2. Task List Assumptions (TLA) (p. 40-57)</li> <li>3. Workplace Skills (WS) (p. 78)</li> <li>4. ASE Education Foundation</li> <li>5. SkillsUSA Technical Standards Trade Industrial and Technical Contests; Job Interview, Occupational Health &amp; Safety, Collision Repair Technology</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Structural Analysis and Damage Repair 1A</i> is designed to provide instruction in the different procedures for structural damage analysis and repair of vehicle structure. Students will be trained to determine the extent of damage, the methods, and order of repair. They will be introduced to the measuring and pulling of uni-body and frame-type vehicles, and making the repairs in accordance with vehicle manufacturers' recommendations.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Service Information Specifications and Measurements; Welding Equipment Technology; Working Sheet Metal
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	Steel Structural Technician

<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes
<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
<b>Author</b>	
<b>Course Developed By</b>	T. Boyarsky, D. Domke, J. Hayden, E. Larson (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	FNSBSD Career & Technical Education Curriculum
<b>Date of Previous Course Revision</b>	May 7, 2013
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No

## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will demonstrate an understanding of shop and occupational safety skills.	TLA.1, 5 (pg. 35-36); ABRT (Ch. 9)	TD.5	RT.9; R.KI.3; R.CS.4			B1, 3 A1-3, 6-7	Technology; Health/Safety; Labor	Observation; Lab Checklist; Peer Review
Students will demonstrate appropriate care and use of tools and equipment.	TLA.1-2 (pg. 35); ABRT (Ch. 4-6, 8)	TD-MTN.1	SL.4			B1, 3 B1-2, 4-5	Technology; Health/Safety; Labor	Lab Demo; Lab Skill Demo; SkillsUSA (pg. 153-155)
Students will develop an understanding of the role of a productive team leader and team member.	WS.D.1-5 (pg. 78); E.1-4; F.1-6 (pg. 79); ABRT (Ch. 29)	TD.6, TD-SAL.2	W.1.C; SL.1.B; S9-10L.1.C; SL.9-10.1.D			C4, E8 A1-3, 6-7; B1-2, 4-5	Technology; Health/Safety; Labor	Guest Instructor; Lab Demo; Lab Skill Demo; Field Trip; Hands-On Exam; SkillsUSA (pg. 153-155)
Students will determine the direction of impact, the extent of the direct and indirect damage and devise a plan to address the methods and sequence of repair.	ABRT (Ch. 3)	TD.1, 2; TD-MTN.1				A1-3, 6-7; B1-2, 4-5	Work Habits	SkillsUSA (pg. 153-155); Lab Application
Students will diagnose and measure structural damage according to industry specifications.	ABRT (Ch. 2-3, 17)	TD.1, 2; TD-MTN.1				A1-3, 6-7; B1-2, 4-5	Technology; Labor	SkillsUSA (pg. 153-155); Lab Application
Students will demonstrate the ability to attach frame or body anchoring devices.	ABRT (Ch. 18)	TD.1, 2; TD-MTN.1				A1-3, 6-7; B1-2, 4-5	Tech/Prod; Technology; Labor	SkillsUSA (pg. 153-155); Lab Application; Lab Quiz
Students will demonstrate competence in straightening and aligning mash, sag, sideway, twist or diamond frame damage.	WS.H.1-9 (pg. 79); ABRT (Ch. 18)	TD.1, 2; TD-MTN.1				A1-3, 6-7; B1-2, 4-5	Tech/Prod; Technology; Labor	SkillsUSA (pg. 153-155); Lab Application
Students will diagnose and measure unibody vehicles using a dedicated measuring system.	WS.H.1-9 (pg. 79); ABRT (Ch. 17)	TD.1, 2; TD-MTN.1				A1-3, 6-7; B1-2, 4-5	Tech/Prod; Technology; Labor	SkillsUSA (pg. 153-155); Lab Application; Lab Quiz

## Instructional Resources

List the major instructional resources used for this course (websites, textbooks, essential equipment, reference materials, & supplies).	
<b>Websites:</b>	I-Car Website: <a href="http://www.i-car.com">www.i-car.com</a>
<b>Textbooks:</b>	See Appendix
<b>Essential Equipment:</b>	Proper auto body shop PPE for every student, basic hand tools, and basic body shop hammers, dollies, and dent removal tools.
<b>Reference Materials:</b>	ASE Program Certification Standards for Collision Repair & Refinishing
<b>Supplies:</b>	Masking tape, sandpaper, body filler, mixing palettes, squeegees, auto doors, hoods, and decklids

# Structural Analysis & Damage Repair 1B

Course Information	
<b>Course Name</b>	<b>Structural Analysis &amp; Damage Repair 1B</b>
<b>Course Number</b>	CTEE405
<b>Grade(s)</b>	10-12
<b>Length</b>	One semester
<b>Credit</b>	0.5
<b>Prerequisites</b>	<i>Structural Analysis &amp; Damage Repair 1A</i> and/or Teacher Recommendation
<b>Sequence or CTEPS</b> (You must first have the Sequence or CTEPS entered into the system.)	Transportation, Distribution & Logistics; Collision Repair
<b>Date of District Course Revision</b>	Spring 2019
Career & Technical Student Organization (CTSO)	
<b>CTSO Embedded in this Sequence</b>	SkillsUSA
Occupational Standards	
<b>Source of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. The Inter-Industry Conference on Auto Collision Repair (I-CAR) (<a href="http://www.i-car.com">www.i-car.com</a>)</li> <li>2. Automobile Service Excellence (ASE) (<a href="http://www.ase.com">www.ase.com</a>)</li> <li>3. ASE Education Foundation (<a href="https://www.aseeducationfoundation.org">https://www.aseeducationfoundation.org</a>)</li> <li>4. SkillsUSA Technical Standards (<a href="http://www.skillsusa.org">www.skillsusa.org</a>)</li> </ol>
<b>Names/Numbers of Occupational Standards</b>	<ol style="list-style-type: none"> <li>1. ASE Program Certification Standards for Collision Repair &amp; Refinish, Program Standards 1-10 (pg. 25-33)</li> <li>2. Task List Assumptions (TLA) (pg. 40-57)</li> <li>3. Workplace Skills (WS) (pg. 78)</li> <li>4. ASE Education Foundation</li> <li>5. SkillsUSA Technical Standards Trade Industrial and Technical Contests; Job Interview, Occupational Health &amp; Safety, Collision Repair Technology</li> </ol>
Registration Information	
<b>Course Description</b> (brief paragraph – as shown in your student handbook or course list)	<i>Structural Analysis &amp; Damage Repair 1B</i> builds on the skills developed in <i>Structural Analysis &amp; Damage Repair 1A</i> with emphasis on following a repair plan. In addition, this course will focus on body filling, metal finishing, welding, and cutting procedures performed according to manufacturer's/industry specifications.
<b>Instructional Topic Headings</b> (please separate each heading by a semi-colon)	Service Information Specifications and Measurements; Welding Equipment Technology; Working Sheet Metal; Body Frame Damage Measurement; Unibody/Frame Realignment; Chassis Service and Wheel Alignment
Summative Assessments and Standards	
<b>Technical Skills Assessment (TSA)</b>	Steel Structural Technician

<b>Course Addresses:</b>	
<b>Alaska ELA and Math Standards</b>	Yes
<b>Alaska Cultural Standards</b>	Yes
<b>All Aspects of Industry (AAI)</b>	Yes
<b>Core Technical Standards</b>	Yes
<b>Employability Standards</b>	Yes
<b>Employability Standards</b>	
<b>Source of Employability Standards</b>	Alaska
<b>Tech Prep</b>	
<b>Current Tech Prep Articulation Agreement? (Y/N)</b>	No
<b>Date of Current Agreement</b>	N/A
<b>Postsecondary Institution Name</b>	N/A
<b>Postsecondary Course Name</b>	N/A
<b>Postsecondary Course Number</b>	N/A
<b>Number of Postsecondary Credits</b>	N/A
<b>Author</b>	
<b>Course Developed By</b>	T. Boyarsky, D. Domke, J. Hayden, E. Larson (reviewed by T. Boyarsky & J. Million in 2019)
<b>Course Adapted From</b>	FNSBSD Career & Technical Education Curriculum
<b>Date of Previous Course Revision</b>	May 7, 2013
<b>Course Delivery Model</b>	
<b>Is the course brokered through another institution or agency? (Y/N)</b>	No



## Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will demonstrate an understanding of shop and occupational safety skills.	TLA.1, 5 (pg. 35-36); ABRT (Ch. 9)	TD.5	RT.9; R.KI.3; R.CS.4		B1, 3	A1-3, 6-7	Technology; Health/Safety; Labor	Observation; Lab Checklist; Peer Review
Students will demonstrate appropriate care and use of tools and equipment.	TLA.1-2 (pg. 35); ABRT (Ch. 4-6, 8)	TD-MTN.1	SL.4		B1, 3	B1-2, 4-5	Technology; Health/Safety; Labor	Lab Demo; Lab Skill Demo; SkillsUSA (pg. 153-155)
Students will develop an understanding of the role of a productive team leader and team member.	WS.D.1-5 (pg. 78); E.1-4; F.1-6 (pg. 79); ABRT (Ch. 29)	TD.6, TD-SAL.2	W.1.C; SL.1.B S9-10L.1.C; SL9-10.1.D		C4, E8	A1-3, 6-7; B1-2, 4-5	Technology; Health/Safety; Labor	Guest Instructor; Lab Demo; Lab Skill Demo; Field Trip; Hands-On Exam; SkillsUSA (pg. 153-155)
Students will demonstrate the ability to protect panels, glass, interior, computers and electronic control modules during welding and cutting operations.	TL.ID.9-10 (pg. 42); ABRT (Ch. 19)	TD.1, 2; TD-MTN.1; MN-MIR.1-2	SL.11-12.4	G-MG.1		A1-3, 6-7	Work Habits	Lab Demo; Lab Skill Demo; Hands-On Exam; SkillsUSA (pg. 153-155)
Students will demonstrate competence in setting up and adjusting the welder for the material being welded.	TL.ID.4-5 (pg. 42); ABRT (Ch. 8, 19)	TD.1, 2; TD-MTN.1; MN-MIR.1-2	SL.11-12.4	S-CP.6		A1-3, 6-7	Health/Safety	Lab Demo; Lab Skill Demo; Hands-On Exam; SkillsUSA (pg. 153-155)
Students will demonstrate the ability to remove and replace modular and/or fixed glass using manufacturer's specifications/procedures and recommended materials.	L.IC.1-2 (pg. 42); ABRT (Ch. 15)	TD.1, 2; TD-MTN.1; MN-MIR.1-2	SL.11-12.4; R.KI.3	G-MG.1	B1, 3	A1-3, 6-7	Tech/Prod; Technology; Health/Safety	Lab Demo; Lab Skill Demo; Hands-On Exam; SkillsUSA (pg. 153-155)

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Common Technical Core Standards	Alaska ENG/LA Standards	Alaska Math Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/Systems	Assessments
Students will identify weldable and non-weldable materials used in collision repair.	ABRT (Ch. 8, 19)	TD.1, 2; TD-MTN.1; MN-MIR.1-2	SL.11-12.4		B1, 3	A1-3, 6-7	Technology; Health/Safety	Lab Demo; Lab Skill Demo; Hands-On Exam; SkillsUSA (p. 153-155)
Students will determine the correct welder type, electrode, wiretype, diameter and gas to be used in a specific welding situation.	L.ID.3 (p. 42); ABRT (Ch. 8)	TD.1, 2; TD-MTN.1; MN-MIR.1-2	R.KI.3	S-CP.6	B1, 3	A1-3, 6-7	Technology; Health/Safety	Lab Demo; Lab Skill Demo; Hands-On Exam; SkillsUSA (p. 153-155)

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<b>Reference Materials:</b>	ASE Program Certification Standards for Collision Repair & Refinishing
<b>Supplies:</b>	Masking tape, sandpaper, body filler, mixing palettes, squeegees, auto doors, hoods, and decklids

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Fairbanks North Star Borough School District