



Fairbanks North Star Borough School District

Career & Technical Education Curriculum

Architecture

Cabinetmaking
Drafting

Inventor Welding

Construction

drafting

Metalworking
Woods

Trades

CAD Computer-Aided

Building
Autodesk

2023 – 2024 Revision, Draft 1

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We would also like to recognize the Board Curriculum Committee and the many teachers, administrators, parents, and community members for their contributions to this document.

Acronyms

ACC	Alaska Core Competencies
AKCIS	Alaska Career Information System
CTC	Community and Technical College
CTE	Career Technical Education
CTEPS	Career and Technical Education Program of Study
CTSO	Career Technical Student Organization
FNSBSD	Fairbanks North Star Borough School District
OSHA	Occupational Safety and Health Administration
PLCP	Personal Learning and Career Plan
PLTW	Project Lead the Way
RPC	Recognized Post-secondary Credential
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

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 CTOS: 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.

Concurrent Enrollment: 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.

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.

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: Performance standards 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.

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.

Architecture & Construction

Overview

Certification Options			
Course	Certification	Issuing Organization	Course or Exam Restrictions
Autodesk Inventor	Autodesk Inventor User Certificate		
Metalworking	Fundamentals of Metal Fabrication Certification	Fabricators & Manufacturers Association	
*Denotes exam offered by the FNSBSD during or at the end of the course.			

Middle School Courses

Architecture
Cabinetmaking
Drafting
Inventor
Welding
drafting
Metalworking
Woods
Trades
CAD
Computer-Aided
Building
Autodesk
Construction

Grades 6 – 8

Woodshop 1

COURSE INFORMATION	
Course Name:	Woodshop 1
Course Number:	TBD
Grade(s):	6-8
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	None
Sequence or CTEPS:	Architecture & Construction, Woods
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	SkillsUSA National Center of Construction Education and Research (NCCER)
Names/Numbers of Technical Standards:	SkillsUSA Technical Standards Book (TSB) NCCER CORE
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Woodshop I</i> is an introduction to modern day woodworking. Project plans and sketching, characteristics of wood, safe use and care of hand tools and basic power tools, basic fasteners/joinery and wood finishing are included in the course. Students complete a required project that is instructor approved, and it builds upon the lessons and previous projects built during the semester.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Safety; Wood Characteristics & Selection; Cutting; Fastening; Finishing Procedures
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	n/a

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	No
Core Technical Standards:	No
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	Joshua Bayles
Course Adapted From:	n/a
Date of Previous Course Revision:	New course
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will develop and demonstrate an understanding of the terms commonly used in the industry.	SkillsUSA AD 1.0, 1.1, 2.4		RST. 11-12.3-4	MP 5-6		B2-3	2, 4		Test or Quiz; Student Product
Students will understand how woodworking and carpentry careers fit within all aspects of the construction trades industry.	NCCER Orientation to Trade-27101; SkillsUSA TSB p.107, Total Qty Mngmt		RST. 11-12.4, 9	MP 5-6		E8	1, 4, 7, 10		Student Product
Students will demonstrate the safe use of tools, woodworking machines, and equipment.	NCCER CORE Basic Safety-00101; SkillsUSA TSB p.41, Occ. Hlth/ Safety		SL.11-12.4	MP 5		B3-4	1-3		Student Product
Students will demonstrate safe shop procedures when handling materials and working with others.	NCCER CORE Basic Safety-00101; SkillsUSA TSB p.41, Occ. Hlth/Safety		RST. 11-12.3-4	MP 5-6		B4	1-5, 9, 12		Student Product
Students will describe wood characteristics of lumber and wood product production.	NCCER Wood Bldg Mtls 27102-01		SL.11-12.4; WHST 11-12.2D, 4, 8	MP 3, 6		A4	2		Student Product

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will identify, select, and use appropriate materials and techniques in woodworking.	NCCER Wood Bldg Mtls 27102-01; NCCER CORE Hand Tools 00103 Pwr Tools 00104		RST. 11-12.2-4	MP 5-8		A2; D5	2		Student Product
Students will identify and use various types of measuring devices used in woodworking.	NCCER CORE Hand Tools 00103		RST. 11-12.2-4	MP 5-6		A2; D5	2		Student Product
Students will perform mathematical calculations required for tools and processes.	NCCER CORE Intro. to Construction Math 00102		RST. 11-12.4	MP 5-6		B4	2		Student Product
Students will demonstrate proper techniques for cutting, forming, shaping, and sanding wood materials.	NCCER Wood Bldg Mtls 27102-01; NCCER CORE Hand Tools 00103 Pwr Tools 00104		RST. 11-12.2-4	MP 1, 6		A2; D5	2		Student Product
Students will complete products that demonstrate proficiency in assembling and fastening stock with various basic methods (e.g., nails, staples, screws, adhesives, clamps).	NCCER Wood Bldg Mtls 27102-01; NCCER CORE Hand Tools 00103 Pwr Tools 00104		SL.11-12.4; RST. 11-12.9-10	MP 1, 4-8		A2; B3-4; D5; E8	2		Student Product

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	Hand tools, corded and cordless power tools, and woodworking machinery
Reference Materials:	
Supplies:	Lumber, adhesives, finishing products, and project specific parts

Woodshop 2

COURSE INFORMATION	
Course Name:	Woodshop 2
Course Number:	TBD
Grade(s):	6-8
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	None
Sequence or CTEPS:	Architecture & Construction, Woods
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	SkillsUSA National Center of Construction Education and Research (NCCER)
Names/Numbers of Technical Standards:	SkillsUSA Technical Standards Book (TSB) NCCER CORE
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	Woodshop 2 builds upon the skills and techniques taught in Woodshop 1. Project plans and sketching, characteristics of wood, safe use and care of hand tools and basic power tools, basic fasteners/joinery, and wood finishing are included in the course. Students complete a required project that is instructor approved, and it builds upon the lessons and previous projects built during the semester.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Safety; Wood Characteristics & Selection; Cutting; Fastening; Finishing Procedures
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	n/q

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	No
Core Technical Standards:	No
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	Joshua Bayles
Course Adapted From:	n/a
Date of Previous Course Revision:	New course
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will develop and demonstrate an understanding of the terms commonly used in the industry.	SkillsUSA AD 1.0, 1.1, 2.4		RST. 11-12.3-4	MP 5-6		B2-3	2, 4		Test or Quiz; Student Product
Students will understand how woodworking and carpentry careers fit within all aspects of the construction trades industry.	NCCER Orientation to Trade-27101; SkillsUSA TSB p.107, Total Qlty Mngmt		RST. 11-12.4, 9	MP 5-6		E8	1, 4, 7, 10		Student Product
Students will demonstrate the safe use of tools, woodworking machines, and equipment.	NCCER CORE Basic Safety-00101; SkillsUSA TSB p.41, Occ. Hlth/ Safety		SL.11-12.4	MP 5		B3-4	1-3		Student Product
Students will demonstrate safe shop procedures when handling materials and working with others.	NCCER CORE Basic Safety-00101; SkillsUSA TSB p.41, Occ. Hlth/Safety		RST. 11-12.3-4	MP 5-6		B4	1-5, 9, 12		Student Product
Students will describe wood characteristics of lumber and wood product production.	NCCER Wood Bldg Mtls 27102-01		SL.11-12.4; WHST 11-12.2D, 4, 8	MP 3, 6		A4	2		Student Product

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will identify, select, and use appropriate materials and techniques in woodworking.	NCCER Wood Bldg Mtls 27102-01; NCCER CORE Hand Tools 00103 Pwr Tools 00104		RST. 11-12.2-4	MP 5-8		A2; D5	2		Student Product
Students will identify and use various types of measuring devices used in woodworking.	NCCER CORE Hand Tools 00103		RST. 11-12.2-4	MP 5-6		A2; D5	2		Student Product
Students will perform mathematical calculations required for tools and processes.	NCCER CORE Intro. to Construction Math 00102		RST. 11-12.4	MP 5-6		B4	2		Student Product
Students will demonstrate proper techniques for cutting, forming, shaping, and sanding wood materials.	NCCER Wood Bldg Mtls 27102-01; NCCER CORE Hand Tools 00103 Pwr Tools 00104		RST. 11-12.2-4	MP 1, 6		A2; D5	2		Student Product
Students will complete products that demonstrate proficiency in assembling and fastening stock with various basic methods (e.g., nails, staples, screws, adhesives, clamps).	NCCER Wood Bldg Mtls 27102-01; NCCER CORE Hand Tools 00103 Pwr Tools 00104		SL.11-12.4; RST. 11-12.9-10	MP 1, 4-8		A2; B3-4; D5; E8	2		Student Product

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	Hand tools, corded and cordless power tools, and woodworking machinery
Reference Materials:	
Supplies:	Lumber, adhesives, finishing products, and project specific parts

High School Courses

Architecture
Cabinetmaking
Drafting
Inventor
Welding
drafting
Metalworking
Woods
Trades
CAD
Computer-Aided
Building
Autodesk
Construction

Grades 9-12

Architectural Drafting 1A

COURSE INFORMATION	
Course Name:	Architectural Drafting 1A
Course Number:	CTEC105
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Drafting 1A and Drafting 1B</i>
Sequence or CTEPS:	Drafting
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	Skills USA
Names/Numbers of Technical Standards:	AD1.0 – 3.0
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Architectural Drafting 1A</i> exposes students to the basic elements of architectural design, building code, site considerations, and mechanical considerations involved in drafting multiple representations of residential and commercial structures.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Room Design; Designing to Standards; Section Views
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): <i>(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)</i>	Revit Architecture Certified User
STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes

Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will develop and demonstrate an understanding of terms commonly used in the drafting profession.	SkillsUSA AD 1.0, 1.1, 2.4	AC 1, 6 AC-DES 2	CS.4	MP.1		B2-3	2, 4	Tech/Prod	Test or Quiz; Student Product
Students will demonstrate an understanding of room design by drawing functional floor plans.	SkillsUSA AD 3.0 (3.5)	AC 1-2, 6; AC-CST 7; AC-DES 1-8	IK.7	N-Q.1		B2-3	2, 4-8, 11	Tech/Prod	Student Product
Students will apply principles and procedures for adding annotation according to standard dimensioning practice.	SkillsUSA AD 3.0 (3.3, 3.4)	AC 1-2, 6; AC-DES 1-8	RT.1	N-Q.3		B2-3	2, 4-8, 11	Tech/Prod	Student Product
Students will develop elevation views according to national standards.	SkillsUSA AD 2.0 (2.3.3), AD 3.0 (3.2, 3.5)	AC 1-2, 6; AC-CST 7; AC-DES 1-8	RT.2-3	N-Q.1, 3		B2-3	2, 4-8, 11	Tech/Prod	Student Product
Students will develop site plans to national standards.	SkillsUSA AD 3.0 (3.5)	AC 1-2, 6; AC-CST 7; AC-DES 1-8	RT.2-3	N-Q.1, 3		B2-3	2, 4-8, 11	Tech/Prod	Student Product
Students will develop section views to national standards.	SkillsUSA AD 3.0 (3.2, 3.5)	AC 1-2, 6; AC-CST 7; AC-DES 1-8	RT.2-3	N-Q.1, 3		B2-3	2, 4-8, 11	Tech/Prod	Student Product
Students will develop detail drawings to national standards.	SkillsUSA AD 3.0 (3.5)	AC 1-2, 6; AC-CST 7; AC-DES 1-8	RT.2-3	N-Q.1, 3		B2-3	2, 4-8, 11	Tech/Prod	Student Product
Students will develop door and window schedules that meet architectural standards.	SkillsUSA AD 2.5 (2.5.8)	AC 1-2, 6; AC-CST 7; AC-DES 1-8	KI.3	N-Q.1, 3		B2-3	2, 4-8, 11	Tech/Prod	Student Product

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will draw revision blocks, title blocks, and sheet sizes that meet architectural standards.	SkillsUSA AD 2.5 (2.5.4)	AC 1-2, 6	IK.7	N-Q.2		B2-3	2, 4	Tech/Prod	Student Product
Students will understand building code as it relates to architectural drafting.	SkillsUSA AD 3.0	AC-CST 7 AC-DES 1-8	KI.3	N-Q.1-3		B2-3	2, 4-8, 11	Health/Safety	Student Product
Students will understand career fields related to architectural drafting.		AC 4-5, 7; AC-CST 1	IK.7	MP.7-8		B4	1-8, 10	Labor; Tech/Prod	Student Product

INSTRUCTIONAL RESOURCES

List the major instructional resources used for this course:

Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Architectural Drafting 1B

COURSE INFORMATION	
Course Name:	Architectural Drafting 1B
Course Number:	CTEC106
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Architectural Drafting 1A</i>
Sequence or CTEPS:	Drafting
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	Skills USA Drafting Practices and Standards Manual (DPSM)
Names/Numbers of Technical Standards:	Skills USA
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Architectural Drafting 1B</i> continues and completes an introductory in architectural designs and drafting. The students will complete a large project pertaining to design of a residential or commercial building. The design plan will include site plans, elevation drawings, floor plans, and detail drawings.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Room Design; Designing to Standards; Section Views
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): <i>(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)</i>	Autodesk Revit User Certificate
STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes

Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will develop and demonstrate understanding of terms commonly used in the drafting profession.	SkillsUSA AD 1.0, 1.1, 2.4	AC 1, 6; AC-DES 2	CS.4	MP.1		B2-3	2, 4	Tech/Prod	Quiz, Test; Portfolio
Students will demonstrate an understanding of room design by drawing functional floor plans.	SkillsUSA AD 3.0 (3.5)	AC 1-2, 6; AC-CST 7; AC-DES 1-8	IK.7	N-Q.1		B2-3	2, 4-8, 11	Tech/Prod	Quiz, Test; Portfolio
Students will apply principles and procedures for adding annotation according to standard dimensioning practice.	SkillsUSA AD 3.0 (3.3, 3.4)	AC 1-2, 6; AC-DES 1-8	RT.1	N-Q.3		B2-3	2, 4, 6, 8, 11	Tech/Prod	Quiz, Test; Portfolio
Students will develop elevation views according to national standards.	SkillsUSA AD 2.0 (2.3.3) 3.0 (3.2, 3.5)	AC 1-2, 6; AC-CST 7; AC-DES 1-8	RT.2; RT.3	N-Q.1, 3		B2-3	2, 4-8, 11	Tech/Prod	Quiz, Test; Portfolio
Students will develop site plans to national standards.	SkillsUSA AD 3.0 (3.5)	AC 1-2, 6; AC-CST 7; AC-DES 1-8	RT.2; RT.3	N-Q.1, 3		B2-3	2, 4-8, 11	Tech/Prod	Quiz, Test; Portfolio
Students will develop section views to national standards.	SkillsUSA AD 3.0 (3.2, 3.5)	AC 1-2, 6; AC-CST 7; AC-DES 1-8	RT.2; RT.3	N-Q.1, 3		B2-3	2, 4-8, 11	Tech/Prod	Quiz, Test; Portfolio
Students will develop detail drawings to national standards.	SkillsUSA AD 3.0 (3.5)	AC 1-2, 6; AC-CST 7; AC-DES 1-8	RT.2; RT.3	N-Q.1, 3		B2-3	2, 4-8, 11	Tech/Prod	Quiz, Test; Portfolio
Students will develop door and window schedules that meet architectural standards.	SkillsUSA AD 2.5 (2.5.8)	AC 1-2, 6; AC-CST 7; AC-DES 1-8	KI.3	N-Q.1, 3		B2-3	2, 4-8, 11	Tech/Prod	Quiz, Test; Portfolio
Students will understand basic building code as it relates to architectural drafting.		AC-CST 7; AC-DES 1-8	IK.7	N-Q.2		B2-3	2, 4-8, 11	Health/Safety	Quiz, Test; Portfolio

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will complete an architectural portfolio.	SkillsUSA AD 3.0	AC 1-4, 6; AC-CST 4, 7; AC-DES 1-8,	KI.3	N-Q.1-3			2, 4-8, 11	Tech/Prod	Portfolio; Related Work Product
Students will understand career fields related to architectural drafting.		AC 4-5, 7; AC-CST 1	IK.7	MP.7-8		B4	1-8, 10	Labor; Tech/Prod	Field Trip; Research Project

INSTRUCTIONAL RESOURCES

List the major instructional resources used for this course:

Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Autodesk Inventor 1A

COURSE INFORMATION	
Course Name:	Autodesk Inventor 1A
Course Number:	CTEC313
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	None
Sequence or CTEPS:	Drafting
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	Skills USA Technical Standards Modern Drafting Practices and Standards Manual (MDPSM)
Names/Numbers of Technical Standards:	SkillsUSA Technical Standards TD 2.0, 10.1, 11.0, VA 2.0, 5.0 MDPSM 5.1-6.1, 21.2
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Autodesk Inventor 1A</i> is a 3D modeling course that develops the skills and knowledge to create drawings, parts, assemblies, and presentations in the computer environment.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	User Interface (UI); File Management (FM); Sketches (S); Part Modeling (PM); Assembly Modeling (AM); Presentation Files (P); Drawing (D); Visualization (V)
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): <i>(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)</i>	Autodesk Inventor User Certification
STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes

Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input checked="" type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	November 4, 2021
Postsecondary Institution Name:	University of Alaska Fairbanks Community and Technical College
Postsecondary Course Name:	Modeling Assembly and 3D Animation: Autodesk Inventor
Postsecondary Course Number:	DSGN F130
Postsecondary Course Credits:	3
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will demonstrate the ability to navigate the Inventor User Interface, including the ribbon, the ViewCube, and the browser.	TD 11.0	ST-ET.2-3	RI.6.4	MP 5		C4	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will understand the parametric nature of their designs and manipulate them through the browser.	TD 11.0	ST-ET.2-3	RI.9-10.4	MP 2, 5		B1	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create a project file and understand the importance of file structure and organization in a history based parametric modeling program.	TD 11.0	ST-ET.2-3	RI.9-10.8	MP 2-3, 7		B1	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create fully constrained sketches and demonstrate an understanding of dimensions and geometric constraints.	TD 2.0	ST-ET.2-3	RI.9-10.8	G-CO.1-2, 12		B4	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will use patterns and driven constraints within the sketch environment.	TD 2.0	ST-ET.2-3	RI.9-10.3	MP 4-5, 7		D6	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will use projected and cut geometry within the sketch environment.	TD 2.0	ST-ET.2-3	RI.11-12.2	G-CO.12		C4	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will modify sketches with the move, copy, rotate, trim, extend, and offset tools.	TD 2.0	ST-ET.2-3	RI.11-12.2	MP 5		C4	2, 11	Tech/Prod; Technology	Student Products; Assessments

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will create features using the extrude, shell, hole, sweep, loft, and revolve tools.	VA2.0	ST-ET.2-3	RI.8.10	MP 5		C4	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will pattern features using rectangular pattern, circular pattern, and mirror tools.	TD 11.0	ST-ET.2-3	RI.9-10.7	MP 5		C4	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create a multibody part.	VA2.0	ST-ET.2-3	RI.11-12.7	G-CO.12		C4	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create and use work features including planes, points, and axis.	TD 11.0	ST-ET.2-3	RI.11-12.7	MP 7; G-CO.12		C4	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create thread, fillet, and chamfer features.	TD 11.0	ST-ET.2-3	RI.8.10	MP 5-6		C4	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create components from a multibody part.	VA2.0	ST-ET.2-3	RI.11-12.7	MP 2, 7		C4	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will use assembly constraints and joints.	TD 11.0	ST-ET.2-3		MP 5		C4	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create and modify a part in the context of an assembly.	TD 11.0	ST-ET.2-3		MP 2		C4	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will place an assembly into a presentation file and create an exploded assembly view.	TD 11.0	ST-ET.2-3		MP 2-3, 6-7		C4	2, 11	Tech/Prod; Technology	Student Products; Assessments

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will create a drawing template including a border and title block.	TD 11.0	ST-ET.2-3; AC.1		MP 5		B4	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will use parts, assemblies, and presentation files to create drawings.	TD 11.0	ST-ET.2-3; AC.1		MP 5		D6	2, 4, 11	Tech/Prod; Technology	Student Products; Assessments
Students will annotate and dimension drawings according to industry norms.	TD 11.0	ST-ET.2-3; AC.1		MP 3-4		D6	2, 4, 11	Tech/Prod; Technology	Student Products; Assessments
Students will use section, detail, and auxiliary views to communicate design intent.	TD 5.0,11.0	ST-ET.2-3; AC.1		MP 3		D5	2, 4, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create rendered images in the studio environment.	TD 11.0	ST-ET.2-3		MP 5		B4	2, 4, 11	Tech/Prod; Technology	Student Products; Assessments
Students will animate an assembly including cameras constraints, and fades.	TD 11.0	ST-ET.2-3		MP 5		C4	2, 4, 11	Tech/Prod; Technology	Student Products; Assessments

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Autodesk Inventor 1B

COURSE INFORMATION	
Course Name:	Autodesk Inventor 1B
Course Number:	CTEC314
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Autodesk Inventor 1A</i>
Sequence or CTEPS:	Drafting
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	SkillsUSA Technical Standards Modern Drafting Practices and Standards Manual
Names/Numbers of Technical Standards:	SkillsUSA Technical Standards TD 2.0, 10.1, 11.0, VA 2.0 MDPSM 5.1-6.1, 21.2
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Autodesk Inventor 1B</i> is a 3D modeling course that further develops the skills and knowledge to create drawings, parts, assemblies, and presentations in a computer environment. It includes advance part and assembly modeling, as well as an introduction to different Inventor environments such as weldment, sheet metal, design, frame generator and analysis, and the rendering and animation tools.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	File Management (FM); Sketching (S); Part Modeling (PM); Assembly Modeling (AM); Presentation (P); Drawing (D); Weldments (W); Sheet Metal (SM)
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	Autodesk Inventor Professional Certification

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input checked="" type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	November 4, 2021
Postsecondary Institution Name:	University of Alaska Fairbanks Community and Technical College
Postsecondary Course Name:	Modeling Assembly and 3D Animation: Autodesk Inventor
Postsecondary Course Number:	DSGN F130
Postsecondary Course Credits:	3
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will create a read/write library within a project file.	TD 11.0	ST-ET.2-3	L.11-12.6; RLSTS.11.1-5, 10; WHSSTS.11-12.2d	MP 2-6		E3	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create dynamic input dimensions.	TD 2.0	ST-ET.2-3	RLSTS.11.1-5, 10	MP 2-6		E3	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will sketch using relax mode.	TD 2.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will use the 3D sketch tool.	TD 2.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create work features.	VA2.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		E3	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will edit existing parts using direct edit.	VA2.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10; WHSSTS.11.12.2 b-d	MP 2-6		E3	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create a 3D path using the intersection curve and project to surface commands.	VA2.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		E3	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create a part using surfaces.	VA2.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create an iPart.	VA2.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will emboss text and a profile.	VA2.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will use the coil tool to create a printable thread.	VA2.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will create a robust multibody parametric part that can withstand design revisions.	VA2.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		E3	2, 8, 11	Tech/Prod; Technology	Student Products; Assessments
Students will edit and apply a material to a part, body, and surface.	VA2.0; TD10.1	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create a level of detail.	TD 11.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will use shrink wrap.	TD 11.0	ST-ET.2-3	RLSTS.11.1-2.10	MP 2-7		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create a frame with the frame generator.	TD 11.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will perform stress analysis of parts and assemblies.	TD 11.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		B2	2, 8, 11	Tech/Prod; Technology	Student Products; Assessments
Students will use measuring tools and find the minimum distance between parts and components.	TD 11.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will animate a presentation file.	TD 11.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 2-6		E3	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will modify a style in a drawing.	TD 11.0	ST-ET.2-3	RLSTS.11.1-2, 4, 7-10	MP 3-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will edit a hole table.	TD 11.0	ST-ET.2-3; AC.1	RI.11-12.10	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will modify a bill of materials.	TD 10.1, 11.0	ST-ET.2-3; AC.1	RI.11-12.10; RLSTS.11.1-4, 8-9	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create a weldment.	TD 11.0	ST-ET.2-3	RI.11-12.10; RLSTS.11.1-4, 8-9	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry / Systems	Assessment
Students will modify sheet metal parts using corner seam, punch, and cut tools.	TD 11.0	ST-ET.2-3	RI.11-12.10; RLSTS.11. 1-4, 8-9	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments
Students will create, use, and export a flat pattern.	TD 11.0	ST-ET.2-3; AC.1	RI.11-12.10; RLSTS.11. 1-4, 8-9	MP 2-6		B2	2, 11	Tech/Prod; Technology	Student Products; Assessments

INSTRUCTIONAL RESOURCES

List the major instructional resources used for this course:

Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Building Trades 1A

COURSE INFORMATION	
Course Name:	Building Trades 1A
Course Number:	CTEC3011
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Algebra I</i> (may be concurrently enrolled)
Sequence or CTEPS:	
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	National Center for Construction Education and Research (NCCER) Skills USA
Names/Numbers of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015 Skills USA Technical Standards Carpentry Skills Assessment
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Building Trades 1A</i> is designed to introduce students to basic construction craft skills and industry expectations. Shop safety concepts will be emphasized along with the introduction and use of common hand and power tools. There will also be an emphasis on promoting employability skills such as critical thinking/problem-solving, communication skills, and teamwork. These skills will be reinforced through hands-on experiences.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	NCCER Core Curriculum, 5 th Edition, 2015

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will develop and demonstrate an understanding of safety culture and procedures used in the construction industry.	NCCER Core 00101-15	AC-CST 5, 9; AC-MO 1; ED 4	RSST.11- 12.10	MP 6		B3	1	Tech/Prod	Discussion; Quiz; Activity
Students will demonstrate safe and proper use of hand tools frequently used in construction trades.	NCCER Core 00103-15; SkillsUSA Carpentry C 10.1-10.2	AC 5, 9; AC-MO 1; ED 4	SL.11-12.4	MP 5-6		B2	2	Tech/Prod; Health/Safet y	Activity
Students will demonstrate the safe and proper use of stationary and hand-held power equipment frequently used in enclosed shops and on a current construction/industrial worksite.	NCCER Core 00103-15, 00104-15	AC 5, 9; AC-MO 1; ED 4	SL.11-12.4	MP 5-6		B2	2	Tech/Prod; Health/Safet y	Activity; Project
Students will use hand and power tools to construct common geometric shapes frequently used in construction and understand their connective relationship with one another.	NCCER Core 00103-15, 00104-15; SkillsUSA Carpentry C 10.1-10.2	ST-ET 1, 4; ED 3; AC 5	SL.11-12.4	MP 5-6; G-CO.1-3; G-C.2; G-MG.1		B2	8	Tech/Prod	Discussion; Activity; Project
Students will learn and apply the components of a project plan.	NCCER Core 00105-15; SkillsUSA C 1.2	ST-ET 1, 4; AC 6; AC-CST 2	SL.11-12.4	MP 2, 4, 6		B2	8	Tech/Prod	Discussion; Quiz; Activity
Students use hand and power tools to create various joinery systems commonly used in construction.	SkillsUSA Carpentry C 10.1-10.2	ST-ET 1, 4;	SL.11-12.4	MP6		B2	8	Tech/Prod	Activity; Project

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will learn how to read and utilize a tape measure in both standard and metric forms of measurements.	NCCER Core 00102-15, 00103-15	AC 6	RSST.11-12.10	5.MD.1, 4		B2	2	Tech/Prod	Discussion; Quiz; Activity; Project
Students will demonstrate mathematical concepts to solve problems frequently encountered in the construction industry.	NCCER Core 00102-15	ST-SM 1	RSST.11-12.10	MP 1-2, 4, 6		B2	8	Tech/Prod	Discussion; Quiz; Activity; Project
Students will use carpentry tools to lay out linear and angular measurements.	NCCER Core 00102-15, 00103-15	AC-CST 2; AC-MO 3	RSST.11-12.10	8.GA.1-A-B		B2	2	Tech/Prod	Discussion; Quiz; Activity; Project
Students will understand and identify careers related to the construction Industry.		AC 7	RSST.11-12.10	MP 3		B2	5	Tech/Prod	Discussion; Activity
Students will practice basic employability skills necessary to be successful in the construction industry.	NCCER Core 00108-15	ED 3, 5	SL.11-12.4	MP3		B2	4, 12	Tech/Prod	Discussion; Quiz; Activity; Project
Students will learn the communicative skills necessary to be effective in relating concepts to others and working as a productive member of a team.	NCCER Core 00107-15	AC 1; ED 2, 5	SL.11-12.1, 3-6	MP 1-3		B2	4, 12	Tech/Prod	Activity; Project; Discussion
Students will demonstrate craft skill competencies in sequential project-based activities.	NCCER Core 00103-15, 00104-15, 00105-15	AC-MO 3; AC-CST 2, 7, 9	SL.11-12.4, 6	MP 1-4, 6		B2	2	Tech/Prod	Activity; Project

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will become familiar with key trade terms frequently used in the construction industry.	NCCER Core 00101-15, 00103-15, 00104-15, 00105-15	AC 1	RSST.11- 12.10	MP 5-6		B2	4, 12	Tech/Prod	Discussion; Quiz

INSTRUCTIONAL RESOURCES

List the major instructional resources used for this course:

Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Building Trades 1B

COURSE INFORMATION	
Course Name:	Building Trades 1B
Course Number:	CTEC3022
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Building Trades 1A</i>
Sequence or CTEPS:	
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	National Center for Construction Education and Research (NCCER)
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015
Names/Numbers of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015 Skills USA Technical Standards Carpentry Skills Assessment
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Building Trades 1B</i> is a continuation of <i>Building Trades 1A</i> . This course is designed to introduce students to basic construction craft skills and industry expectations. Shop safety concepts will be emphasized along with the introduction and use of common hand and power tools. There will also be an emphasis on promoting employability skills such as critical thinking/problem-solving, communication skills, and teamwork. These skills will be reinforced through hands-on experiences involving more complex individual and group projects.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Carpentry; Drafting; Architecture & Construction; Engineering
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	NCCER Core Curriculum, 5 th Edition, 2015
STANDARDS	

This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will develop and demonstrate an understanding of safety culture and procedures used in the construction industry.	NCCER Core 00101-15	AC-CST 5, 9; AC-MO 1; ED 4	RI.6-12.1	MP 1, 6		B3	2	Tech/Prod	Discussion; Activity; Project; Quiz
Students will demonstrate safe and proper use of hand and power tools frequently used in construction trades.	NCCER Core 001033-15; SkillsUSA Carpentry C 10.1-10.2	AC 5, 9; AC-MO 1; ED 4	RI.6-12.1	MP 5		B3	2	Tech/Prod; Health/Safety	Discussion; Activity; Project; Quiz
Students will demonstrate the safe and proper use of stationary and hand-held power equipment frequently used in enclosed shops and on a current construction/industrial worksite.	NCCER Core 00103-15, 00104-15	AC-5, 9; AC-MO 1; ED 4	RI.6-12.1	MP 5-6		B3	2	Tech/Prod; Health/Safety	Discussion; Activity; Project; Quiz
Students will use hand and power tools to construct common geometric shapes frequently used in construction and understand their connective relationship with one another.	NCCER Core 00103-15, 00104-15; SkillsUSA Carpentry C 10.1-10.2	ST-ET 1, 4; ED 3; AC 5	RI.11-12.7	MP 5-6		B2	8	Tech/Prod	Discussion; Activity; Project; Quiz
Students will learn and apply the components of a project plan.	NCCER Core 00105-15; SkillsUSA C1.2	ST-ET 1, 4; AC 6; AC-CST 2	RI.11-12.7	MP 7		B2	8	Tech/Prod	Discussion; Activity; Project; Quiz
Students will use hand and power tools to create various joinery systems commonly used in construction.	NCCER 00103-15, 00104-15; SkillsUSA Carpentry C 10.1-10.2	ST-ET 1, 4	RI.11-12.7	MP 5-6		B2	8	Tech/Prod	Discussion; Activity; Project; Quiz

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will learn how to read and utilize a tape measure in both standard and metric forms of measurements.	NCCER Core 00102-15, 00103-15		RI.11-12.7	MP 4-6		B2	2	Tech/Prod	Discussion; Activity; Project; Quiz
Students will demonstrate mathematical concepts to solve equations frequently encountered in the construction industry.	NCCER Core 00102-15	ST-SM 1	RI.11-12.7	MP 1, 4		B2	8	Tech/Prod	Discussion; Activity; Project; Quiz
Students will use carpentry tools to lay out linear and angular measurements.	NCCER Core 00102-15, 00103-15	AC-CST 2; AC-MO 3	RI.11-12.7	MP 5-6		B2	2	Tech/Prod	Discussion; Activity; Project; Quiz
Students will understand and identify careers related to the construction industry.	NCCER Core 00108-15	AC 7	RI.6-12.10	MP 4		B2	2	Tech/Prod	Discussion; Activity; Project; Quiz
Students will practice basic employability skills necessary to become successful in the construction industry.	NCCER Core 00108-15	ED 3, 5	RI.11-12.7	MP 4		B2	4, 12	Tech/Prod	Discussion; Activity; Project; Quiz
Students will learn the communicative skills necessary to be effective in relating concepts to others and working as a productive member of a team.	NCCER Core 00107-15	AC 1; ED 2, 5	WS. 6-12.3; SL.6-12. 1-6	MP 4		B2	4, 12	Tech/Prod	Discussion; Activity; Project; Quiz
Students will demonstrate craft skill competencies in sequential project-based activities.	NCCER core 00103-15, 00104-15, 00105-15	AC-MO 3; AC-CST 2, 7, 9	WS. 6-12.2, 4, 9	MP 1, 4, 6		B2	2	Tech/Prod	Discussion; Activity; Project; Quiz
Students will become familiar with key trade terms frequently used in the construction industry.	NCCER core 00101-15, 00103-15, 00104-15, 00105-15		RI.6-12.4	MP 1, 4		B2	1	Tech/Prod	Discussion; Activity; Project; Quiz

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Building Trades 2A

COURSE INFORMATION	
Course Name:	Building Trades 2A
Course Number:	CTEC3033
Grade(s):	10-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Building Trades 1A/1B</i> or teacher recommendation
Sequence or CTEPS:	
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	National Center for Construction Education and Research (NCCER)
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015
Names/Numbers of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015 Skills USA Technical Standards Carpentry Skills Assessment
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Building Trades 2A</i> is designed for students who have taken <i>Building Trades 1A/1B</i> or equivalent. The course will guide/challenge students toward a greater development of craft skills and knowledge related to the residential and commercial carpentry industry. Students will learn how to construct basic foundations, floors, walls, and common roof systems. Students will also learn how to install doors and windows using a variety of hand and power tools.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Carpentry; Drafting; Architecture & Construction; Engineering
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	NCCER Core Curriculum, 5 th Edition, 2015

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will utilize all components acquired through previous course prerequisites and build upon such knowledge and skills toward greater challenges.	NCCER 00101-15, 00103-15, 00104-15	AC-CST 5, 9; AC- MO 1; ED 4	SL.11-12.4	MP 6		B1	2-3, 6, 8, 11-12	Tech/Prod	Discussion; Activity
Students will continue to develop and demonstrate an understanding of safety practices and procedures used in the construction industry.	NCCER 00101-15, 00103-15, 00104-15	AC-CST 5, 9; AC-MO 1; ED 4	SL.11-12.4	MP 1, 6		B1	3	Tech/Prod ; Health/Safe ty	Project- Based
Students will demonstrate the safe use and care of basic hand and power tools commonly used in carpentry.	NCCER 00103-15, 00104-15	AC-CST 5, 9 AC-MO 1 ED 4	SL.11-12.4	MP 1, 5-6		B3	3, 11	Tech/Prod ; Health/Safe ty	Worksheet; Project
Students will demonstrate knowledge of commonly used building materials, fasteners, and adhesives.	NCCER 27102-09	AC-CST 7	RLST.11- 12.8-10	MP 1, 5-6		B4	11	Tech/Prod	Worksheet; Project
Students will acquire a knowledge of terminology commonly used in reference to building components of frame construction.	NCCER 27105-09, 27106-09	AC 1	RLST.11- 12.8-10	MP 1, 5-6		B1	2, 11	Tech/Prod	Worksheet; Project
Students will become knowledgeable of flooring systems and how to layout the components for assembly.	NCCER 27106-09	AC 2, 6; AC-CST 7-8	RLST.11- 12.8-10	MP 1, 5-6		B4	2, 11	Tech/Prod	Project- Based Assessment
Students will construct a floor system in accordance to specifications provided by the instructor.	NCCER 27106-09	AC-CST 2, 6, 8	RLST.11- 12.8-10	MP 1, 4-7		B4	2, 11	Tech/Prod	Project- Based Assessment

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will become knowledgeable of wall systems and how to layout the components for assembly.	NCCER 27106-09	AC 2, 6; AC-CST, 7,8	RLST.11- 12.8-10	MP 1, 4-7		B2	2, 11	Tech/Prod	Project- Based Assessment
Students will construct and assemble multiple wall systems in accordance to specifications provided by the instructor.	NCCER 27106-09	AC-CST 2, 6, 8	RLST.11- 12.8-10	MP 1, 4-7		B4	2, 11	Tech/Prod	Project- Based Assessment
Students will become knowledgeable of roofing systems and learn how to layout components for assembly.	NCCER 27107-09	AC 2, 6; AC-CST 7-8	RLST.11- 12.8-10	MP 1, 4-7		B4	2, 11	Tech/Prod	Project- Based Assessment
Students will construct and assemble a roof system in accordance to specifications provided by the instructor.	NCCER 27107-09	AC-CST 2, 6, 8	RLST.11- 12.8-10	MP 1, 4-7		B4	2, 11	Tech/Prod	Project- Based Assessment
Students will learn how to physically install doors and windows in accordance to a roughed in project plan.	NCCER 27109-09	AC 2, 6; AC-CST 7-8	RLST.11- 12.8-10	MP 1, 4-7		B4	2, 11	Tech/Prod	Project- Based Assessment
Students will become knowledgeable of the numerous career pathways available in the construction industry and learn how to access local apprenticeship programs in their area.	NCCER 00101-15, 00103-15, 00104-15	AC 4-5, 7	RLST.11- 12.8-10	MP 1, 4-6, 8		B2	1, 8	Work Habits; Labor	Research Paper
Students will learn to access and attain industry certifications recognized by local unions.	NCCER 00101-15, 00103-15	AC 4-5, 7	RLST.11- 12.8-10	MP 1, 4-6		B2-3	2, 5	Labor; Health/Safe ty	Worksheet; Assessment

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Building Trades 2B

COURSE INFORMATION	
Course Name:	Building Trades 2B
Course Number:	CTEC3044
Grade(s):	10-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Building Trades 2A</i> or teacher recommendation
Sequence or CTEPS:	
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	National Center for Construction Education and Research (NCCER)
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015
Names/Numbers of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015 Skills USA Technical Standards Carpentry Skills Assessment
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Building Trades 2B</i> will guide/challenge students toward a greater development of craft skills and knowledge related to the residential and commercial carpentry industry. Students will learn how to construct basic foundations, floors, walls and common roof systems. Students will also learn how to install doors and windows using a variety of hand and power tools.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Carpentry; Drafting; Architecture & Construction; Engineering
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	NCCER Core Curriculum, 5 th Edition, 2015

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will utilize all components acquired through previous course prerequisites and build upon such knowledge and skills toward greater challenges.	NCCER 00101-15, 00103-15, 00104-15	AC-CST 5, 9; AC-MO 1; ED 4	SL.11-12.4	MP6		B1	2-3, 6, 8, 11-12	Tech/Prod	Discussion; Activity
Students will continue to develop and demonstrate an understanding of safety practice and procedures used in the construction industry.	NCCER 00101-15, 00103-15, 00104-15	AC-CST 5, 9; AC-MO 1; ED 4	SL.11-12.4	MP 1, 6		B1	3	Tech/Prod; Health/Safet y	Project- Based
Students will demonstrate the safe use and care of basic hand and power tools commonly used in carpentry.	NCCER 00103-15, 00104-15	AC-CST 5, 9; AC-MO 1; ED 4	SL.11-12.4	MP 1, 5-6		B3	3, 11	Tech/Prod; Health/Safet y	Worksheet; Project
Students will demonstrate knowledge of commonly used building materials, fasteners, and adhesives.	NCCER 27102-09	AC-CST 7	RLST.11-1, 2.8, 9.10	MP 1, 5-6		B4	11	Tech/Prod	Worksheet; Project
Students will acquire a knowledge of terminology commonly used in reference to building components of frame construction.	NCCER 27105-09, 27106-09	AC 1	RLST.11-1, 2.8, 9.10	MP 1, 5-6		B1	2, 11	Tech/Prod	Worksheet; Project
Students will become knowledgeable of flooring systems and how to layout the components for assembly.	NCCER 27106-09	AC 2, 6; AC-CST 7-8	RLST.11-1, 2.8, 9.10	MP 1, 5-6		B4	2, 11	Tech/Prod	Project- Based Assessment
Students will construct a floor system in accordance to specifications provided by the instructor.	NCCER 27106-09	AC-CST 2, 6, 8	RLST.11-1, 2.8, 9.10	MP 1, 4-7		B4	2, 11	Tech/Prod	Project- Based Assessment

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will become knowledgeable of wall systems and how to layout the components for assembly.	NCCER 27106-09	AC 2, 6; AC-CST 7-8	RLST.11-1, 2.8, 9.10	MP 1, 4-7		B2	2, 11	Tech/Prod	Project- Based Assessment
Students will construct and assemble multiple wall systems in accordance to specifications provided by the instructor.	NCCER 27106-09	AC-CST 2, 6, 8	RLST.11-1, 2.8, 9.10	MP 1, 4-7		B4	2, 11	Tech/Prod	Project- Based Assessment
Students will become knowledgeable of roofing systems and learn how to layout components for assembly.	NCCER 27107-09	AC 2, 6; AC-CST 7-8	RLST.11-1, 2.8, 9.10	MP 1, 4-7		B4	2, 11	Tech/Prod	Project- Based Assessment
Students will construct and assemble a roof system in accordance to specifications provided by the instructor.	NCCER 27107-09	AC-CST 2, 6, 8	RLST.11-1, 2.8, 9.10	MP 1, 4-7		B4	2, 11	Tech/Prod	Project- Based Assessment
Students will learn how to physically install doors and windows in accordance to a roughed in project plan.	NCCER 27109-09	AC 2, 6; AC-CST 7-8	RLST.11-1, 2.8, 9.10	MP 1, 4-7		B4	2, 11	Tech/Prod	Project- Based Assessment
Students will become knowledgeable of the numerous career pathways available in the construction industry and learn how to access local apprenticeship programs in their area.	NCCER 00101-15, 00103-15, 00104-15	AC 4-5, 7	RLST.11-1, 2.8, 9.10	MP 1, 4-6, 8		B2	1, 8	Work Habits; Labor	Research Paper
Students will learn to access and attain industry certifications recognized by local unions.	NCCER 00101-15, 00103-15	AC 4-5, 7	RLST.11-1, 2.8, 9.10	MP 1, 4-6		B2-3	2, 5	Labor; Health/Safet y	Worksheet; Assessment

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Building Trades 3A

COURSE INFORMATION	
Course Name:	Building Trades 3A
Course Number:	CTEC3055
Grade(s):	11-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Building Trades 2A/2B</i> or teacher recommendation
Sequence or CTEPS:	
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	National Center for Construction Education and Research (NCCER)
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015
Names/Numbers of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015 Skills USA Technical Standards Carpentry Skills Assessment
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Building Trades 3A</i> is for students who have successfully completed <i>Building Trades 2A/2B</i> and want to continue learning about residential and commercial carpentry. Students will expand their knowledge of building materials and become more proficient interpreting project plans. As the course progresses, students will develop a knowledge of finish carpentry and cabinet making. Students will learn how to build and install a cabinet.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Carpentry; Drafting; Architecture & Construction; Engineering
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	NCCER Core Curriculum, 5 th Edition, 2015

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will review safety and technical standards for <i>Building Trades 1A/1B</i> and <i>2A/2B</i> .	NCCER CORE 00101-15	AC-CST 5, 9; AC-MO 1; ED 4	RS.6-12.4	MP 4		B1	2-3, 6, 8, 11-12	Tech/Prod	Discussion; Activity
Students will continue to learn about the various building materials, fasteners, and adhesives frequently used to interconnect building components.	NCCER Carpentry Level 1 27102-13	AC-CST 9; AC-MO 3	RS.6-12.4	MP 5		B4	11	Tech/Prod	Worksheet; Project
Students will continue to learn the essentials of reading blueprint plans and drawings. This would include specifications and types of information relevant to the carpentry trades.	NCCER CORE 00105-15; Carpentry Level 1 27104-13	AC 1, 6; AC-DES 6-7	RS.6-12.7	MP 4-5, 7		B1	3	Tech/Prod; Health/Safety	Project-based
Students will become acquainted with various types of concrete and mixtures, and will become knowledgeable of reinforcing materials, forms, and ties..	SkillsUSA C2.1, C3.1-3.4	AC-CST 9	RS.6-12.4	MP 5		B4	2, 11	Tech/Prod	Project-based; Assessment
Students will learn the basic components of designing, building, and installing cabinet systems. They will design and build a cabinet.	SkillsUSA C7.4; CM 1.0-5.0	AC 2, 6; AC-CST 7, 9	RS.6-12.4	MP5		B4	2, 11	Tech/Prod	Project-based; Assessment
Students will review applicable uniform plumbing codes/requirements.	SkillsUSA PLB.6.0	AC-MO 1, 3, 6	RS.6-12.4	MP 5		B1	2-3, 6, 8, 11-12	Tech/Prod; Health/Safety	Discussion; Activity; Quiz
Students will demonstrate understanding of types and uses of pipe and fittings.	SkillsUSA PLB.3.0	AC-CST 9	RS.6-12.4	MP 5		B4	11	Tech/Prod	Worksheet; Project

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will learn appropriate terminology related to the plumbing industry.	SkillsUSA PLB.1.0	AC 1	RS.6-12.4	MP 4-5		B4	2	Tech/Prod	Worksheet; Project
Students will review applicable National Electrical Codes/Requirements.	SkillsUSA ECW.1.0-2.0	AC-MO 1, 3, 6	RS.6-12.4	MP 4-5		B1	2-3, 6, 8, 11-12	Tech/Prod; Health/Safety	Discussion; Activity; Quiz
Students will learn the basic installation of branch circuits and wiring.	SkillsUSA ECW.2.0	AC-CST 9	RS.6-12.4	MP 5		B4	11	Tech/Prod	Worksheet; Project
Students will learn about cold climate housing technology and the various methods associated with green building.	NCCER-CORE 00105-14	AC-DES 1-8	RS.6-12.4	MP 5		B4	2, 5-8, 11-12	Tech/Prod Health/Safety Technology	Worksheet; Project

INSTRUCTIONAL RESOURCES

List the major instructional resources used for this course:

Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Building Trades 3B

COURSE INFORMATION	
Course Name:	Building Trades 3B
Course Number:	CTEC3066
Grade(s):	11-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Building Trades 3A</i>
Sequence or CTEPS:	
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	National Center for Construction Education and Research (NCCER)
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015
Names/Numbers of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015 Skills USA Technical Standards Carpentry Skills Assessment
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Building Trades 3B</i> is a continuation of <i>Building Trades 3A</i> and for students who want to continue learning about residential and commercial carpentry. Students will expand their knowledge of building materials and become more proficient interpreting project plans. As the course progresses, students will develop a knowledge of finish carpentry and cabinet making. Students will learn how to build and install a cabinet.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Carpentry; Drafting; Architecture & Construction; Engineering
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	NCCER Core Curriculum, 5 th Edition, 2015

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will review safety and technical standards for <i>Building Trades 1A/1B</i> and <i>2A/2B</i> .	NCCER CORE 00101-15	AC-CST 5, 9; AC-MO 1; ED 4	RS.6-12.4	MP 4		B1	2-3, 6, 8, 11-12	Tech/Prod	Discussion; Activity
Students will continue to learn about the various building materials, fasteners, and adhesives frequently used to interconnect building components.	NCCER Carpentry Level 1 27102-13	AC-CST 9; AC-MO 3	RS.6-12.4	MP 5		B4	11	Tech/Prod	Worksheet; Project
Students will continue to learn the essentials of reading blueprint plans and drawings. This would include specifications and types of information relevant to the carpentry trades.	NCCER CORE 00105-15; Carpentry Level 1 27104-13	AC 1, 6; AC-DES 6-7	RS.6-12.7	MP 4-5, 7		B1	3	Tech/Prod; Health/Safety	Project-based
Students will become acquainted with various types of concrete and mixtures, and will become knowledgeable of reinforcing materials, forms, and ties..	SkillsUSA C2.1, C3.1-3.4	AC-CST 9	RS.6-12.4	MP 5		B4	2, 11	Tech/Prod	Project-based; Assessment
Students will learn the basic components of design, building, and installing cabinet systems. They will design and build a cabinet.	SkillsUSA C7.4; CM 1.0-5.0	AC 2, 6; AC-CST 7, 9	RS.6-12.4	MP5		B4	2, 11	Tech/Prod	Project-based; Assessment
Students will review applicable uniform plumbing codes/requirements.	SkillsUSA PLB.6.0	AC-MO 1, 3, 6	RS.6-12.4	MP 5		B1	2-3, 6, 8, 11-12	Tech/Prod; Health/Safety	Discussion; Activity; Quiz
Students will demonstrate understanding of types and uses of pipe and fittings.	SkillsUSA PLB.3.0	AC-CST 9	RS.6-12.4	MP 5		B4	11	Tech/Prod	Worksheet; Project

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will learn appropriate terminology related to the plumbing industry.	SkillsUSA PLB.1.0	AC 1	RS.6-12.4	MP 4-5		B4	2	Tech/Prod	Worksheet; Project
Students will review applicable National Electrical Codes/Requirements.	SkillsUSA ECW.1.0-2.0	AC-MO 1, 3, 6	RS.6-12.4	MP 4-5		B1	2-3, 6, 8, 11-12	Tech/Prod; Health/Safety	Discussion; Activity; Quiz
Students will learn the basic installation of branch circuits and wiring.	SkillsUSA ECW.2.0	AC-CST 9	RS.6-12.4	MP 5		B4	11	Tech/Prod	Worksheet; Project
Students will learn about cold climate housing technology and the various methods associated with green building.	NCCER- CORE 00105-14	AC-DES 1-8	RS.6-12.4	MP 5		B4	2, 5-8, 11-12	Tech/Prod Health/Safety Technology	Worksheet; Project

INSTRUCTIONAL RESOURCES

List the major instructional resources used for this course:

Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Building Trades 4A

COURSE INFORMATION	
Course Name:	Building Trades 4A
Course Number:	CTEC3077
Grade(s):	12
Length (# of semesters):	One semester (two-period block)
Credit:	1 credit (0.5 Math elective credit and 0.5 CTE credit)
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Building Trades 3A/3B</i> or teacher recommendation
Sequence or CTEPS:	
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015
Names/Numbers of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015 Skills USA Technical Standards Carpentry Skills Assessment
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	In <i>Building Trades 4A</i> , students will declare a specific trade apprenticeship in which to focus upon throughout the school year. Both student and instructor will determine together a personalized assessment of the student's current knowledge and skills (based off the student's previous three years of study), and plot a direction for successful entry into such post-secondary apprenticeship program. Independent learning assignments which engage the apprenticeship program and local business partners will be utilized along with internet searches and resources. The course will discuss in further detail: building site earth work, soil types, foundational methods, roof rafters, stair calculations, along with enclosure methods and building envelopes. In addition, students will be expected to continue developing their craft skills by designing and building a capstone project. Students may independently choose to obtain other industry certifications or complete those they had previously began.

Instructional Topic Headings: (Separate each heading with a semi-colon.)	Carpentry; Drafting; Architecture & Construction; Engineering
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): <i>(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)</i>	National Center for Construction Education and Research (NCCER)
STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: <i>(Agreements should be reviewed and updated annually)</i>	<input type="checkbox"/> <i>(If checked, complete the Dual Credit section below.)</i>
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	Andrea Wade and Steve Raztloff
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Student's will engage in self-assessments and planning for their post-secondary future.	NCCER Core 00107-09	AC 7; ED 9-10	SL.6-12.4	MP 5-6		C4	1, 4, 10	Tech/Prod	Reflection; Discussion; Planning
Student's will <i>declare</i> a pre-apprenticeship program and will define sequential steps toward acceptance and entry.	NCCER Carpentry 1 27101-06	AC 5	WHST. 6-12.2	MP 5-6		C4	10	Tech/Prod	Discussion; Planning
Student's will make contact with their local apprenticeship program and local business partners.	NCCER Carpentry 1 27101-06	ED-TT 11; ED 5	LS.6-12.4	MP 5-6		C4	4, 10	Tech/Prod	Planning; Collaboration
Students will successfully submit an application to their local apprenticeship of choice along with a well-crafted résumé.	NCCER Carpentry 1 27101-06	ED 2, 10; AC 7	WHST. 6-12.2, 4	MP 5		C4	4, 10	Tech/Prod	Organizing ; Planning; Activity
Student's will engage in mock interviews.	NCCER Carpentry 1 27101-06	AC-DES 2	WHST. 6-12.2, 7	MP 5		C4	10	Tech/Prod	Preparation ; Reflection; Discussion
Student's will develop employability soft skills.	NCCER Core 00107-09, 00108-09	AC 5	WHST. 6-12.2	MP 5		C4	1, 12	Tech/Prod	Activity; Praxis; Discussion
Student's will develop leadership skills with the expectation to supervise other classmates in some phase of a construction process.	NCCER Core 00108-09	AC-CST 6-9; AC 6; ED 3, 5	SL.6-12.4	MP 5		C4	8-9, 12	Tech/Prod	Activity; Organization; Discussion

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students must perform necessary construction math calculations and measurements in complex scenarios.	SkillsUSA C1.0; NCCER Core 00102-09	ST-ET 1, 4; ST-SM 2	RST.6-12.10	MP 5		C4	6, 11	Tech/Prod	Activity; Project-based Assessment
Students must successfully design and build roof rafters and a set of stairs.	SkillsUSA C5.0, C8.0-8.3; NCCER Carpentry 27107-06, 27110-06	ST-ET 1, 4; ST-SM 2; AC 6	SL.6-12.2	MP 5		C4	4, 8	Tech/Prod	Activity; Project-based Assessment
Students will learn about building site earth work, soil types, and foundational structures.	SkillsUSA C2.0; NCCER Core 00101-09; Carpentry 1 27105-06, 27108-06	AC-CST 9; AC-DES 3	SL.9-12.4	MP 5		C4	2, 8	Tech/Prod	Discussion; Quiz
Students will design and build a <i>Capstone project</i> as approved by the instructor.	SkillsUSA C1.1-2, C4.1, C10.2	ST-ET 1, 4; AC 1, 6; AC-CST 1-9	SL.9-12.4	MP 5		C4	2, 4, 12	Tech/Prod	Planning; Organization; Activity
Students may mentor younger students in basic carpentry skills.	NCCER Core 00108-09	ED-TT 2, 4-5, 11	SL.9-12.4	MP 5		C4	4, 12	Tech/Prod	Leadership Discussion

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Building Trades 4B

COURSE INFORMATION	
Course Name:	Building Trades 4B
Course Number:	CTEC3088
Grade(s):	12
Length (# of semesters):	One semester (two-period block)
Credit:	1 credit (0.5 Math elective credit and 0.5 CTE credit)
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Building Trades 4A</i> or teacher recommendation
Sequence or CTEPS:	
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015 Skills USA
Names/Numbers of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015 Skills USA Technical Standards Carpentry Skills Assessment
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<p>In <i>Building Trades 4B</i>, students will continue to declare a specific trade apprenticeship in which to focus upon throughout the school year. Both student and instructor will determine together a personalized assessment of the student's current knowledge and skills (based off the student's previous three years of study) and plot a direction for successful entry into such post-secondary apprenticeship program.</p> <p>Independent learning assignments which engage the apprenticeship program and local business partners will be utilized, along with internet searches and resources. The course will discuss in further detail: building site earth work, soil types, foundational methods, roof rafters, stair calculations, along with enclosure methods and building envelopes. In addition, students will be expected to continue developing their craft skills by designing and building a capstone project. Students may independently choose to obtain other industry certifications or complete those they had previously began.</p>

Instructional Topic Headings: (Separate each heading with a semi-colon.)	Carpentry; Drafting; Architecture & Construction; Engineering
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): <i>(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)</i>	NCCER Core Curriculum, 5 th Edition, 2015
STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: <i>(Agreements should be reviewed and updated annually)</i>	<input type="checkbox"/> <i>(If checked, complete the Dual Credit section below.)</i>
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	Andrea Wade and Steve Raztloff
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Student's will engage in self-assessments and planning for their post-secondary future.	NCCER Core 00107-09	AC 7; ED 9-10	SL.6-12.4	MP 5-6		C4	1, 4, 10	Tech/Prod	Reflection; Discussion; Planning
Student's will <i>declare</i> a pre-apprenticeship program and will define sequential steps toward acceptance and entry.	NCCER Carpentry 1 27101-06	AC 5	WHST. 6-12.2	MP 5-6		C4	10	Tech/Prod	Discussion; Planning
Student's will make contact with their local apprenticeship program and local business partners.	NCCER Carpentry 1 27101-06	ED-TT 11; ED 5	LS.6-12.4	MP 5-6		C4	4, 10	Tech/Prod	Planning; Collaboration
Students will successfully submit an application to their local apprenticeship of choice along with a well-crafted résumé.	NCCER Carpentry 1 27101-06	ED 2, 10; AC 7	WHST. 6-12.2, 4	MP 5		C4	4, 10	Tech/Prod	Organizing; Planning; Activity
Student's will engage in mock interviews.	NCCER Carpentry 1 27101-06	AC-DES 2	WHST. 6-12.2, 7	MP 5		C4	10	Tech/Prod	Preparation; Reflection; Discussion
Student's will develop employability soft skills.	NCCER Core 00107-09, 00108-09	AC 5	WHST. 6-12.2	MP 5		C4	1, 12	Tech/Prod	Activity; Praxis; Discussion
Student's will develop leadership skills with the expectation to supervise other classmates in some phase of a construction process.	NCCER Core 00108-09	AC-CST 6-9; AC 6; ED 3, 5	SL.6-12.4	MP 5		C4	8-9, 12	Tech/Prod	Activity; Organization; Discussion

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students must perform necessary construction math calculations and measurements in complex scenarios.	SkillsUSA C1.0; NCCER Core 00102-09	ST-ET 1, 4; ST-SM 2	RST.6-12.10	MP 5		C4	6, 11	Tech/Prod	Activity; Project-based Assessment
Students must successfully design and build roof rafters and a set of stairs.	SkillsUSA C5.0, C8.0-8.3; NCCER Carpentry 27107-06, 27110-06	ST-ET 1, 4; ST-SM 2; AC 6	SL.6-12.2	MP 5		C4	4, 8	Tech/Prod	Activity; Project-based Assessment
Students will learn about building site earth work, soil types, and foundational structures.	SkillsUSA C2.0; NCCER Core 00101-09; Carpentry 1 27105-06, 27108-06	AC-CST 9; AC-DES 3	SL.9-12.4	MP 5		C4	2, 8	Tech/Prod	Discussion; Quiz
Students will design and build a <i>Capstone project</i> as approved by the instructor.	SkillsUSA C1.1-2, C4.1, C10.2	ST-ET 1, 4; AC 1, 6; AC-CST 1-9	SL.9-12.4	MP 5		C4	2, 4, 12	Tech/Prod	Planning; Organization; Activity
Students may mentor younger students in basic carpentry skills.	NCCER Core 00108-09	ED-TT 2, 4- 5, 11	SL.9-12.4	MP 5		C4	4, 12	Tech/Prod	Leadership Discussion

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Computer-Aided Drafting (CAD) 1A

COURSE INFORMATION	
Course Name:	Computer-Aided Drafting (CAD) 1A
Course Number:	CTEC103
Grade(s):	10-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Drafting 1A/1B</i>
Sequence or CTEPS:	Drafting
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	Modern Drafting Practices and Standards Manual Skills USA
Names/Numbers of Technical Standards:	MDPSM Chapters 3, 5-6, 10, 14, 21
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Computer Aided Drafting 1A</i> provides an understanding of the features, limitations, and considerations associated with the operation of a computer-based drafting system. Students will gain experience using CAD software and associated plotters, printers, etc. Students will progress in a self-paced curriculum incrementally developing CAD competency as demonstrated by drawings that are produced throughout the course.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Features of CAD System; Limitations of CAD System; Considerations in Operation of CAD System; CAD Software; Plotters; Printers
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will analyze multi-view drawings.	MDPSM 5.3	AC 1, 6	RST. 11-12.10	MP 7		B4	2, 4, 8	Tech/Prod; Technology	Drawings; Worksheets
Students will apply dimensions to drawings according to drafting standards and practices.	MDPSM 6.0-6.11	AC 1, 3, 6	RST. 11-12.10	MP 5		B4	2, 4, 8	Tech/Prod; Technology	Drawings; Worksheets
Students will understand and draw objects to correct scale.	MDPSM 3.1.4	AC 1-3, 6	RST. 11-12.5	MP 5		B4, E4	2, 4, 8	Tech/Prod; Technology	Drawings; Worksheets
Students will determine and utilize appropriate symbols and text techniques.	MDPSM 3.0, 5.1, 5.25.5, 6.0, 7.1-7.5	AC 1, 3, 6	RST. 11-12.5	MP 3		B4	2, 4, 8	Tech/Prod; Technology	Drawings; Worksheets
Students will understand the spatial relation between views and objects.	MDPSM 5.1-5.8	AC 1, 3, 6	RST. 11-12.3	MP 7		B4	2, 4, 8	Tech/Prod; Technology	Drawings; Worksheets
Students will use orthographic projection to develop views and object placement.	MDPSM 5.1, 5.8	AC 1, 3, 6	RST. 11-12.3	MP 5		B4	2, 4, 8	Tech/Prod; Technology	Drawings; Worksheets
Students will show proficiency in drawing pictorial-drawing methods such as isometric, oblique, and perspective using CAD software.	MDPSM 5.5	AC 1-3, 6	RST. 11-12.5	MP 5		B4	2, 4, 8	Tech/Prod; Technology	Drawings; Worksheets
Students will be aware of and practice basic CAD drafting techniques.	MDPSM 21.2	AC 1-7	RST. 11-12.5	MP 6		B4, E4	2, 4, 8	Tech/Prod; Technology	Drawings; Worksheets
Students will identify careers related to design and drafting.		AC 4-5, 7	RST. 11-12.3	MP 5		B4	10	Labor; Community; Work Habits	Research Paper
Students will develop and demonstrate understanding of terms commonly used in the drafting profession.	SkillsUSA AD 1.0, 1.1, 2.4	AC 1, 6	RST. 11-12.5	MP 3		B4	2, 4, 8	Tech/Prod; Technology	Drawings; Worksheets

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will apply principles and procedures for adding annotation according to standard dimensioning practice.	MDPSM 6.2, 14.0-14.7	AC 1-3, 6	RST. 11-12.3	MP 3		B4	2, 4, 8	Tech/Prod; Technology	Drawings; Worksheets
Students will draw revision blocks, title blocks, and sheet sizes according to industry standards.	MDPSM 10.1-10.4, 3.1-3.6; SkillsUSA AD 2.5 (2.5.4)	AC 1-3, 6	RST. 11-12.5	MP 5		B4	2, 4, 8	Tech/Prod; Technology	Drawings; Worksheets
Students will understand career fields related to CAD.		AC 1, 3-5, 7	RST.11-12.3	MP 3		B4	10	Tech/Prod; Technology	Research Paper
Students will utilize advanced drafting and design tools such as AutoCAD drafting programs and plotters.	MDPSM 21.0-21.11	AC 1-3, 6	RST.11-12.2	MP 3, 5		B4	2, 4, 8	Managem ent; Technology	Drawings; Worksheets
Students will construct advanced CAD two-dimensional drawings using multiple command methods, absolute and relative coordinates, and polar snap/grid.	MDPSM 5.3	AC 1-3, 6	RST. 11-12.5	MP 7		B4	2, 4, 8	Tech/Prod; Technology	Drawings; Worksheets

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Computer-Aided Drafting (CAD) 1B

COURSE INFORMATION	
Course Name:	Computer-Aided Drafting (CAD) 1B
Course Number:	CTEC104
Grade(s):	10-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Computer Aided Drafting (CAD) 1A</i>
Sequence or CTEPS:	
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	Modern Drafting Practices and Standards Manual www.thedraftingzone.com
Names/Numbers of Technical Standards:	MDPSM 5.1-6.1, 21.2
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Computer Aided Drafting 1B</i> emphasizes CAD techniques such as 3D applications, rendering, and working drawings. Projects are self-paced and require a high degree of self-motivation and discipline in order to attain the completion of the course.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	CAD Techniques; 3D Applications; Rendering Drawings; Working Drawings; Assembly Drawings; Animation Techniques
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	Autodesk User Certification
STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes

All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will demonstrate proper startup and care of computer drafting software and equipment.	MDPSM 21.0.3; SkillsUSA TD 11.0	AC 6	RST. 11-12.5	MP 5		B3	2, 8, 11	Tech & Prod; Technology	Performance; Quiz
Students will demonstrate advanced ability to manage computer-drawing files.	MDPSM 21.01-03, 21.1-3; SkillsUSA TD 11	AC 6	RST. 11-12.5	MP 5		B4	2, 4, 8, 11	Tech & Prod; Technology	Drawings
Students will develop knowledge of drafting symbols related to specific industrial sectors including electrical, welding, and mechanical.	MDPSM 3.0 .5.1, 5.25.5, 6.0, 7.1-7.5	AC 1, 6	RST. 11-12.5	M- 6		B3; E4	2, 4	Tech & Prod; Technology	Drawings; Quizzes
Students will use the CAD software vocabulary to explain drafting problems.	MDPSM 21 (all), TD 11	AC 1, 6	RST. 11-12.5	MP 5		B4; C4	2, 4, 8, 11	Tech & Prod; Technology	Quizzes
Students will create a drawing portfolio as a documentation of techniques.	SkillsUSA AD 3.1-3.5	AC 6	RST. 11-12.5	MP 3		B4	2, 4, 10	Tech & Prod; Technology	Portfolio
Students will develop and demonstrate understanding of terms commonly used in the drafting profession.	SkillsUSA AD 1.0, 1.11, 2.4	AC 1, 6	RST. 11-12.3	MP 3		B4	2, 4, 8	Tech & Prod; Technology	Drawings; Quizzes
Students will apply principles and procedures for adding annotation according to standard dimensioning practice.	MDPSM 6.2, 14.0-14.7; SkillsUSA AD 2.5	AC 1, 6	RST. 11-12.5	MP 3		B4	2, 4, 8, 11	Tech & Prod; Technology	Drawings; Quizzes
Students will draw revision blocks, title blocks, and sheet sizes according to standards.	MDPSM 10.1-10.4, 3.1-3.6; SkillsUSA AD 2.5 (2.5.4)	AC 1, 6	RST. 11-12.3	MP 5		B4	2, 4	Health/Safety	Drawings

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will understand how specific careers related to drafting fit within all aspects of the construction industry.		AC 4	RST. 11-12.2	MP 3		E4; E8	2, 8, 10	All Aspects 1-9	Research Paper
Students will demonstrate efficient use of basic CAD commands to construct three-dimensional drawings.	MDPSM 5.3, 5.5, 21 (all); SkillsUSA TD 9.0, 11.0	AC 2, 6	RST. 11-12.5	MP 5		B4; C4	2, 4, 8	Tech & Prod; Technology	Drawings

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Drafting 1A

COURSE INFORMATION	
Course Name:	Drafting 1A
Course Number:	CTEC101
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	None
Sequence or CTEPS:	
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	Modern Drafting Practices and Standards Manual
Names/Numbers of Technical Standards:	MDPSM 5.1-5.5, 6.1
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Drafting 1A</i> will introduce students to the basics skills of drafting, including pictorial representations, drawing tools, layout, scale, and introduction to Computer-Assisted Drafting (CAD). The students will focus on illustrating two-dimensional working drawings as well as three-dimensional isometric and oblique drawings, including proper dimensions. This course is a prerequisite to all other drafting courses and provides a foundation for the reading and plans in the construction and manufacturing industry.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Introduction to Basic Drafting Tools & Techniques and CAD; Measurement and Scales; Line Usage; Views & Planes; Industry Performance Standards; Dimension Techniques; Pictorial Views; Careers in Drafting & Design
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): <i>(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)</i>	
STANDARDS	

This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: <i>(Agreements should be reviewed and updated annually)</i>	<input checked="" type="checkbox"/> <i>(If checked, complete the Dual Credit section below.)</i>
Date of Current Agreement:	November 4, 2021
Postsecondary Institution Name:	University of Alaska Fairbanks Community and Technical College
Postsecondary Course Name:	Introduction to Drafting
Postsecondary Course Number:	DRT F101
Postsecondary Course Credits:	3
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? <i>(yes/no)</i>	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will analyze line types, planes, surfaces, and properties of basic multi-view drawings.	MDPSM 5.3-5.11	ST-SM 1	RST. 11-12.3	MP 4		B2, 4-5	8, 11	Tech/Prod; Technology	
Students will apply dimensions to drawings according to drafting standards and practices.	MDPSM 5.2	ST-SM 1	RST. 11-12.7	MP 6		B2, 4; E4	11	Tech/Prod; Technology	
Students will understand and draw objects to correct scale.	MDPSM 5.2	ST-SM 4	RST. 11-12.3	MP 6		B2, 4; E4	11	Tech/Prod; Technology	
Students will accurately calculate and center drawings.	MDPSM 5.3	ST-ET 1	RST. 11-12.3	MP 6		B2, 4; E4	2	Tech/Prod; Technology	
Students will use lines and line weights that meet drafting standards.	MDPSM 5.1	ST-ET 1	RST. 11-12.3	MP 6		B2, 4; E4	11	Tech/Prod; Technology	
Students will determine and utilize appropriate symbols and letter techniques.	MSPSM 6.1	ST-SM 3	RST. 11-12.7	MP 5		B2,4; E4	11	Tech/Prod; Technology	
Students will understand the spatial relation between views and objects.	MDPSM 5.2-5.5	ST-ET 5	RST. 11-12.10	MP 7		B2, 4; E4	2	Tech/ Prod; Technology	
Students will use orthographic projection to develop views and object placement.	MDPSM 5.3	ST-ET 1	RST. 11-12.3	MP 4, 7		B2, 4; E4	2	Tech/Prod; Technology	
Students will demonstrate geometric construction with drafting equipment.	MDPSM 5.2-5.5	ST-SM 1	RST. 11-12.3	MP 4		B2, 4; E4	11	Tech/Prod; Technology	

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Drafting 1B

COURSE INFORMATION	
Course Name:	Drafting 1B
Course Number:	CTEC102
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Drafting 1A</i>
Sequence or CTEPS:	
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	Modern Drafting Practices and Standards Manual
Names/Numbers of Technical Standards:	MDPSM 5.1-5.5, 6.1, 6.3, 21.2
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Drafting 1B</i> is a continuation of <i>Drafting 1A</i> . Students will gain experience and confidence in the use of Computer-Assisted Drafting, illustrating advanced pictorial drawings such as isometric, oblique pictorials, auxiliary views, and perspective drawings. The students will also learn basic architectural drafting skills and use the skills to draw multiple views of a residential home.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Advanced Pictorials; Isometrics; Oblique Pictorials; Perspective Drawings; Introduction to CAD
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): <i>(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)</i>	

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input checked="" type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	November 4, 2021
Postsecondary Institution Name:	University of Alaska Fairbanks Community and Technical College
Postsecondary Course Name:	Introduction to Drafting
Postsecondary Course Number:	DRT F101
Postsecondary Course Credits:	3
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will analyze line types, planes, surfaces, and properties of advanced multi-view drawings.	MDPSM 5.3-5.11	ST-SM 1	RST. 11-12.3	MP 4		B2-B3	2	Tech/Prod; Technology	
Students will demonstrate the ability to apply dimensions to advanced drawings according to drafting standards and practices.	MDPSM 5.2	ST 4	RST. 11-12.7	MP 6		B2-3; E4	2	Tech/Prod; Technology	
Students will understand and draw objects to correct scale.	MDPSM 5.2	ST-SM 4	RST. 11-12.3	MP 6		B2-3	2	Tech/Prod; Technology	
Students will use lines and weights that meet drafting standards.	MDPSM 5.1	ST-ET 1	RST. 11-12.3	MP 6		B2-4; E4	2	Tech/Prod; Technology	
Students will determine and utilize appropriate symbols and letter techniques.	MDPSM 6.1	ST-SM 3	RST. 11-12.3	MP 5		B2-4	2	Tech/Prod; Technology	
Students will demonstrate understanding of basic tolerance applications.	MDPSM 6.3	ST-ET.2	RST. 11-12.7	MP 7		B2-4	2	Tech/ Prod; Technology	
Students will demonstrate competence of spatial relationships between views and objects.	MDPSM 5.2-5.5	ST-ET.5	RST.11-12.10	MP 4, 7		E4	2	Tech/Prod; Technology	
Students will use orthographic projection to develop views and object placement.	MDPSM 5.3	ST-ET.1	RST. 11-12.3	MP 4		B4	2	Tech/Prod; Technology	
Students will identify and show proficiency in drawing advanced pictorial-drawing.	MDPSM 5.5	ST-ET.1	RST. 11-12.3	MP 4		B4	2	Tech/Prod; Technology	
Students will understand and practice CAD techniques.	MDPSM 21.2	ST-ET.1	RST. 11-12.3	MP 4		B4; E4	2	Tech/Prod; Technology	

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Introduction to Building Trades A

COURSE INFORMATION	
Course Name:	Introduction to Building Trades A
Course Number:	TBD
Grade(s):	10-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Algebra I</i>
Sequence or CTEPS:	Architecture and Construction
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	National Center for Construction Education and Research (NCCER)
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015
Names/Numbers of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015 Skills USA Technical Standards Carpentry Skills Assessment
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Introduction to Building Trades</i> is a one-year survey course designed for students to gain an understanding of basic home construction methods, and the safe and effective use of power and hand tools.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Carpentry; Drafting; Architecture & Construction; Engineering
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces <i>Technical Skills Assessment (TSA)</i> - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	National Center for Construction Education and Research (NCCER) Core Curriculum, 5th edition, 2015
STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes

All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	Andrew Foley
Course Adapted From:	FNSBSD Career & Technical Education Curriculum (Building Trades)
Date of Previous Course Revision:	New course
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will continue to develop and demonstrate an understanding of safety practices and procedures used in the construction industry.	NCCER 00101-15, 00103-15, 00104-15	SL.11- 12.4	MP 1, 6	NCCER 00101-15, 00103-15, 00104-15		B1	3	Project- Based	B1
Students will demonstrate the safe use and care of basic hand and power tools commonly used in carpentry.	NCCER 00103-15, 00104-15	SL.11- 12.4	MP 1, 5-6	NCCER 00103-15, 00104-15		B3	3, 11	Worksheet; Project	B3
Students will demonstrate knowledge of commonly used building materials, fasteners, and adhesives.	NCCER 27102-09	RLST.11- 12.8-10	MP 1, 5-6	NCCER 27102-09		B4	11	Worksheet; Project	B4
Students will acquire a knowledge of terminology commonly used in reference to building components of frame construction.	NCCER 27105-09, 27106-09	RLST.11- 12.8-10	MP 1, 5-6	NCCER 27105-09, 27106-09		B1	2, 11	Worksheet; Project	B1
Students will attain a basic understanding of sheetrock installation									
Students will become knowledgeable of wall systems and how to layout the components for assembly.									
Students will construct and assemble multiple wall systems in accordance to specifications provided by the instructor.	NCCER 27106-09	RLST.11- 12.8-10	MP 1, 4-7	NCCER 27106-09		B2	2, 11	Project- Based Assessment	B2
Students will become knowledgeable of basic home wiring.	NCCER 27106-09	RLST.11- 12.8-10	MP 1, 4-7	NCCER 27106-09		B4	2, 11	Project- Based Assessment	B4

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will attain a basic understanding of pressure and drain systems in the context of home plumbing.								Project-Based Assessment	
Students will learn how to physically install doors and windows in accordance to a roughed in project plan.								Project-Based Assessment	
Students will become knowledgeable of the numerous career pathways available in the construction industry and learn how to access local apprenticeship programs in their area.	NCCER 27109-09	RLST.11- 12.8-10	MP 1, 4-7	NCCER 27109-09		B4	2, 11	Project-Based Assessment	B4
Students will become knowledgeable of wall systems and how to layout the components for assembly.	NCCER 00101-15, 00103-15, 00104-15	RLST.11- 12.8-10	MP 1, 4-6, 8	NCCER 00101-15, 00103-15, 00104-15		B2	1, 8	Research Paper	B2
Students will construct and assemble multiple wall systems in accordance to specifications provided by the instructor.	NCCER 00101-15, 00103-15, 00104-15	SL.11- 12.4	MP 1, 6	NCCER 00101-15, 00103-15, 00104-15		B1	3	Project-Based	B1
Students will learn to access and attain industry certifications recognized by local unions.	NCCER 00101-15, 00103-15	RLST.11- 12.8-10	MP 1, 4-6	NCCER 00101-15, 00103-15		B2-3	2, 5	Worksheet; Assessment	B2-3

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Introduction to Building Trades B

COURSE INFORMATION	
Course Name:	Introduction to Building Trades B
Course Number:	TBD
Grade(s):	10-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	Introduction to Building Trades A or teacher recommendation
Sequence or CTEPS:	Architecture and Construction
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	National Center for Construction Education and Research (NCCER)
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015
Names/Numbers of Technical Standards:	NCCER Core Curriculum, 5 th Edition, 2015 Skills USA Technical Standards Carpentry Skills Assessment
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Introduction to Building Trades B</i> will guide/challenge students toward a greater development of craft skills and knowledge related to the residential and commercial carpentry industry. Students will learn how to finish the projects that they framed and roughed in during <i>Introduction to Building Trades A</i> . Students will also be learning how to safely use a variety of hand and power tools.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Carpentry; Drafting; Architecture & Construction; Engineering
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): <i>(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)</i>	NCCER Core Curriculum, 5 th Edition, 2015

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	Andrew Foley
Course Adapted From:	FNSBSD Career & Technical Education Curriculum (Building Trades)
Date of Previous Course Revision:	New course
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will utilize all components acquired through previous course prerequisites and build upon such knowledge and skills toward greater challenges.	NCCER 00101-15, 00103-15, 00104-15	SL.11-12.4	MP 6			B1	2-3, 6, 8, 11-12		Discussion; Activity
Students will continue to develop and demonstrate an understanding of safety practices and procedures used in the construction industry.	NCCER 00101-15, 00103-15, 00104-15	SL.11-12.4	MP 1, 6			B1	3		Project- Based
Students will demonstrate the safe use and care of basic hand and power tools commonly used in carpentry.	NCCER 00103-15, 00104-15	SL.11-12.4	MP 1, 5-6			B3	3, 11		Worksheet; Project
Students will demonstrate knowledge of commonly used building materials, fasteners, and adhesives.	NCCER 27102-09	RLST.11- 12.8-10	MP 1, 5-6			B4	11		Worksheet; Project
Students will attain a basic understanding of base trim and casing and window boxes.									Project- Based Assessment
Students will attain a basic understanding of cabinet installation.									Project Based Assessment
Students will construct a floor system in accordance to specifications provided by the instructor.	NCCER 27106-09	RLST.11- 12.8-10	MP 1, 4-7			B4	2, 11		Project Based Assessment

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will become knowledgeable of wall systems and how to layout the components for assembly.	NCCER 27106-09	RLST.11- 12.8-10	MP 1, 4-7			B2	2, 11		Project Based Assessment
Students will construct and assemble multiple wall systems in accordance to specifications provided by the instructor.	NCCER 27106-09	RLST.11- 12.8-10	MP 1, 4-7			B4	2, 11		Project Based Assessment
Students will attain a basic knowledge of how to create circuits and wire outlets, switches, and lights in the context of home building.									Project Based Assessment
Students will attain a basic understanding of finish plumbing by installing a faucet and a toilet.									Project-Based Assessment
Students will attain a basic understanding of drywall finishing, texturing, and painting.									Project-Based Assessment
Students will become knowledgeable of the numerous career pathways available in the construction industry and learn how to access local apprenticeship programs in their area.	NCCER 00101-15, 00103-15, 00104-15	RLST.11- 12.8-10	MP 1, 4-6, 8			B1	2-3, 6, 8, 11-12		Discussion; Activity
Students will learn to access and attain industry certifications recognized by local unions.	NCCER 00101-15, 00103-15	RLST.11- 12.8-10	MP 1, 4-6			B2-3	2, 5		Worksheet; Assessment

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Introduction to Cabinetmaking 1A/1B

COURSE INFORMATION	
Course Name:	Introduction to Cabinetmaking 1A/ 1B
Course Number:	Semester 1: CTEC311 semester 2: CTEC312
Grade(s):	10-12
Length (# of semesters):	Two semesters
Credit:	1 (0.5 each semester)
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Woods and Advanced Woods</i>
Sequence or CTEPS:	Woods
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	National Center for Construction Education and Research (NCCER)
Names/Numbers of Technical Standards:	NCCER
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Introduction to Cabinetmaking 1A</i> is an introduction to the materials, tools, and methods used in the cabinetmaking industry. Production techniques and modern hardware will be used as the student fabricates products in order to learn production and installation methods. Standard upper and base cabinetry, as well as custom casework, fixtures, and furniture products often requested by clients will be included.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Careers; Design; Materials; Production Tools; Joints; Types of Construction; Assembly Methods; Sanding & Finishing; Laminates; Countertops; Production
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will use stationary power tools to make joints commonly used by cabinetmakers.	NCCER 27501-03.4	AC-CST 9	RST. 11-12.9	MP 5		C4	2	Tech/Prod	Discussion; Quiz; Activity; Project
Students will safely use portable power equipment to make joints and prepare cabinets.	NCCER 00103	AC-CST 9	RST. 11-12.9	MP 5		B2	1-2	Tech/Prod; Health/Safety	Discussion; Quiz; Activity; Project
Students will build a cabinet from a set of drawings.	NCCER 27501-03.6	AC-CST 8	RST. 11-12.10	MP 6		B2	2	Tech/Prod	Discussion; Quiz; Activity; Project
Students will install plastic laminate on a countertop core.	NCCER 27501-03.7	AC-SCT 8	RST. 11-12.10	MP 6		B2	2	Tech/Prod	Discussion; Quiz; Activity; Project
Students will recognize the common types of woods used to make cabinets.	NCCER 27501-03.1	AC-DES 8	RST. 11-12.10	MP 2		B1	2	Tech/Prod	Discussion; Quiz; Activity; Project
Students will assemble cabinet components.	NCCER 27501, 27211	AC-CST 8	RST. 11-12.10	MP 6		B2	2	Tech/Prod	Discussion; Quiz; Activity; Project
Students will assemble drawer and door components.	NCCER 27501, 27211	AC-CST 8	RST. 11-12.10	MP 6		B2	2	Tech/Prod	Discussion; Quiz; Activity; Project
Students will install moldings.	NCCER 27501, 27211	AC-CST 8	RST. 11-12.10	MP 6		B2	2	Tech/Prod	Discussion; Quiz; Activity; Project

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will select and use various finishing abrasives.	NCCER 27501	AC-CST 9	RST. 11-12.9	MP 2		B2	2	Tech/Prod	Discussion; Quiz; Activity; Project
Students will prepare wood surfaces for finishes.	NCCER 27501	AC-CST 8	RST. 11-12.9	MP 1		B1	5-6	Tech/Prod	Discussion; Quiz; Activity; Project
Students will demonstrate knowledge of joinery construction and fastening methods.	NCCER 27501, 27211	AC-CST 8	RST. 11-12.9	MP 1		B3	4-6	Tech/Prod	Discussion; Quiz; Activity; Project

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Metalworking

COURSE INFORMATION	
Course Name:	Metalworking
Course Number:	CTEC4011
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	None
Sequence or CTEPS:	Welding
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	National Institute for Metalworking Skills; Metalworking Skills Standards; Science and Boreal Laboratories; Precision Metal forming Association (PMS) www.pma.org
Names/Numbers of Technical Standards:	American Welding Society (AWS)
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Metalworking</i> is a beginning course where students will fabricate small projects using cutting, bending, assembly tools, and welding processes. It explores metals' scientific importance, history of metals, safety in industry (including hand and power tools), and employment opportunities in metalworking. Studies will go over metal production, types, identification, usage, reading/interpreting drawings, and accurate project layout. Students will develop patterns, layout sheet metal projects, cut, bend, and assemble them.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Classifying Metals; Measurement; Safety Practices; Technology & Careers in Metalworking; Soldering; Heat Treatment of Metals; Layout Work; Hand Tools/Cutting Tools; Fasteners; Grinding; Drills & Drilling Machines; Sawing & Cutoff Machines; Sheet Metal; Metal Finishes; Metals Research; Metals Manufacturing/Projects
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC):	Fundamentals of Metal Fabrication Certification, Fabricators and Manufacturers Association International

(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)		http://www.fmanet.org/training/certificate-courses/fundamentals-of-metal-fabrication-certificate
STANDARDS		
This course addresses (enter yes/no):		
Alaska English Language Arts and Math Standards:	Yes	
Alaska Cultural Standards:	Yes	
All Aspects of Industry (AAI):	Yes	
Core Technical Standards:	Yes	
Employability Standards:	Yes	
EMPLOYABILITY STANDARDS		
Employability Standards source:	Alaska	
DUAL CREDIT AGREEMENT		
CTSO participation is included:		
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)	
Date of Current Agreement:	n/a	
Postsecondary Institution Name:	n/a	
Postsecondary Course Name:	n/a	
Postsecondary Course Number:	n/a	
Postsecondary Course Credits:	n/a	
AUTHOR		
Course Developed By:	Eric Olsen	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum	
Date of Previous Course Revision:	April 4, 2017	
COURSE DELIVERY MODEL		
Is this course brokered through another institution or agency? (yes/no)	No	

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will understand how welding and fabrication careers fit within the welding and metalworking industry.	AWS 1.2.1, 2.1, 2.4.3, 3.2.1.1; PMA 6		RST. 11-12.10	MP 4-5		B4	10		Discussion After Field Trips & Career Fairs; Construction Academies
Students will use hand and power tools safely.	AWS 2.4.2, 3.2.1.1-5, 3.3.1; PMA 4-5		SL 11-12.4	MP 5		B4	11		ID Quizzes; Safety Tests
Students will follow written and verbal directions.	AWS 2.3.1, 3.2.1.1, 3.3.1; PMA 1		RST. 11-12. 3, 10	MP 6		B4	8		Projects
Students will create accurate layouts and read simple technical drawings.	AWS 2.3.2, 3.2.1.2, 3.3.2; PMA 1		SL.11-12.4	MP 1, 6		B4	4, 8, 11		Projects
Students will identify, select, and use metals/materials for projects.	AWS 3.3.2 #3; PMA 8.2		RST. 11-12.3	MP 5		B4	2, 8		Worksheets; Quizzes; Projects
Students will develop and demonstrate understanding of terms used in the metalworking industry.	SkillsUSA CPS 3.0		SL. 11-12.4	MP 4-5		B4	4		Worksheets; Projects

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Tools of Technology & Trades

COURSE INFORMATION	
Course Name:	Tools of Technology & Trades
Course Number:	CTEC107
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	None
Sequence or CTEPS:	Woods, Carpentry, Construction Trades
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Engineering
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	National Center for Construction Education and Research (NCCER)
Names/Numbers of Technical Standards:	NCCER CORE
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Tools of Technology and Trades</i> is designed to introduce students to the common hand and power tools used throughout the world of technology and building trades. This is a hands-on course, which will equip students with the knowledge and confidence necessary for building projects using wood, metals, and electronics. Individual and group projects will hone craft skills and help prepare students for future challenges in the construction industry. Students will explore the strengths and weaknesses of various joinery and fastening systems, determining which choices to make based upon sound engineering principles. Students will learn the components of a project plan, determine materials, and figure out cost estimates.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Introduction to Shop Safety; Hand Tools & Power Tools Used for Cutting and Shaping Wood; Tools & Methods of Measurements; The Process & Components of Making a Plan or Drawing; Basic Milling & Fabrication of Materials; Joinery Systems & the Use of Fasteners; Hand & Power Tools for Cutting & Bending Metals; Basic Electronics

POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): <i>(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)</i>	
STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: <i>(Agreements should be reviewed and updated annually)</i>	<input type="checkbox"/> <i>(If checked, complete the Dual Credit section below.)</i>
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will develop and demonstrate understanding of safety skills and producers used in the construction industry.	NCCER Core Module 00101-04	AC 3	W.9-10.8	MP 5-6		B4	1	Tech/Prod; Health/Safety	Discussion; Activity; Project; Quiz
Students will demonstrate the safe use of basic hand and power tools.	NCCER Core Module 00101-04	AC-CST 9	RST. 11-12.10	MP 5		B4	2	Tech/Prod; Health/Safety	Discussion; Activity; Project; Quiz
Students will understand the application of tools and analyze which tool is best for a designated task.	NCCER Wood Bldg Mtls 27102-01; Core Hand Tools 00103; Pwr Tools 00104	AC-CST 9	RST. 11-12.10	MP 5-6		B4	2	Tech/Prod; Health/Safety	Discussion; Activity; Project; Quiz
Students will identify, select, and use appropriate tools for a designated task.	NCCER Wood Bldg Mtls 27102-01; Core Hand Tools 00103; Pwr Tools 00104	AC-CST 9	RST. 11-12.10	MP 5-6		B4	2	Tech/Prod; Health/Safety	Discussion; Activity; Project; Quiz
Students will determine the best choice for joints and fasteners, based upon their strengths and weaknesses.	NCCER 27212	AC-CST 7	RST. 11-12.10	MP 5-6		B4	5	Tech/Prod; Health/Safety	Discussion; Activity; Project; Quiz
Students will learn to read basic design plans.	NCCER Core Module 00105-04	AC 6	RI.9-10.1, 3-4, 7; RST. 11-12.1-2, 4-5, 9-10 WHST. 11-12.4, 9-10	MP 1		B4	2	Tech/Prod; Health/Safety	Discussion; Activity; Project; Quiz

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will complete various products assigned by the instructor that will demonstrate the ability to fasten stock using various basic methods (e.g., nails, staples, screws, wood glue, clamps).	NCCER Wood Bldg Mtls 27102-01; Core Hand Tools 00103; Pwr Tools 00104	AC 2	RST. 11-12.10	MP 1-2, 6-7		B4	2	Tech/Prod; Health/Safety	Discussion; Activity; Project; Quiz
Students will develop a basic plan for a simple project.	NCCER 27211 C & F; MDPSM 5.3	AC 6	RST. 11-12.1-2, 4-5, 9-10 WHST. 11-12.4, 9-10 L.11-12. 2-3, 6	MP 1-2, 6-7					
Students will understand basic electronics and simple wiring schematics.	SkillsUSA ECW.1.0-2.0	AC-M0 5	RST. 11-12.1-2, 4-5, 9-10 WHST. 11-12.4, 9-10 L.11-12. 2-3, 6	MP 1-2, 6-7		B4	2	Tech/Prod; Health/Safety	Discussion; Activity; Project; Quiz
Students will construct an electric motor using simple parts.	SkillsUSA ECW.1.0-2.0	AC-M0 3	RST. 11-12.10	MP 1-2, 6-7		B4	2	Tech/Prod; Health/Safety	Discussion; Activity; Project; Quiz
Students will construct moving parts on mechanical devices.	SkillsUSA ECW.1.0-2.0	AC-MO 3	RST. 11-12.10	MP 1-2, 6-7		B4	2	Tech/Prod; Health/Safety	Discussion; Activity; Project; Quiz

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Welding 1A

COURSE INFORMATION	
Course Name:	Welding 1A
Course Number:	CTEC501
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	None
Sequence or CTEPS:	Welding
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA, FFA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	American Welding Society (AWS) National Center of Construction Education and Research (NCCER)
Names/Numbers of Technical Standards:	AWS Sense Program NCCER Core
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Welding 1A</i> will follow the guidelines set forth by the American Welding Society for entry-level welder. Throughout the course, safety will be a primary consideration as the students gain basic knowledge of shielded metal arc welding, oxyacetylene welding and cutting, plasma cutting, and electrical tools and equipment. Students will also be introduced to basic shop drawings, welding symbols, and basic visual inspection of welds.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Welding Safety; Oxy Acetylene Welding (OAW) Process; Oxy Acetylene Cutting (OAC) Process; Plasma Arc Cutting (PAC) Process; Shielded Metal Arc Welding (SMAW) Process; Equipment, Tools, Base & Filler Metal Identification & Selection; Basic Print Reading; Metallurgy; Career Employability Information
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC):	AWS Guided Bend Test; NCCER Performance Tasks

<i>(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)</i>	
STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	Skills USA, FFA
Current Dual Credit Agreement: <i>(Agreements should be reviewed and updated annually)</i>	<input checked="" type="checkbox"/> <i>(If checked, complete the Dual Credit section below.)</i>
Date of Current Agreement:	November 4, 2021
Postsecondary Institution Name:	University of Alaska Fairbanks Community and Technical College
Postsecondary Course Name:	Welding I
Postsecondary Course Number:	WMT F103
Postsecondary Course Credits:	3
AUTHOR	
Course Developed By:	Pete Daley
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will demonstrate safe shop procedures in all welding procedures and shop work.	AWS 3.2.1.1		SL.9-12.1	MP 5-6		A1, 4; B3-4; C3; D6	1-5, 9, 12		Safety Tests
Students will utilize safe and efficient use of tools and equipment and perform housekeeping duties.	AWS 3.2.1.1		SL.9-12.1	MP 5-6		A1, 4; B3-4; C3; D6	1-5, 9, 12		Safety Tests
Students will utilize measurements and measuring devices to perform layout and fit-up procedures.	AWS II 3.2.1.2		WHST. 9-12.2	MP 5-6		B4	2, 4, 8		Worksheets; Quizzes; Projects
Students will understand basic print reading and interpret welding symbols.	AWS 3.2.1.2		RST. 9-12.4	MP 6		A3; B3-4	2, 4, 8		Worksheets; Quizzes; Projects
Students will identify metal properties and the metallurgy of a weld bead.	AWS II 3.2.1.4		RST. 9-12.3	MP 5		B3-4	2, 8		Worksheets; Discussion
Students will understand and develop skills in safe and basic use of Welding/Cutting equipment (i.e., OAW, OAC).	AWS 3.2.1.4		SL.9-12.1	MP 5-6		B2	2, 5, 8, 11		Worksheets; Quizzes; Projects; Tests
Students will understand and develop skills in safe and proficient use of Shielded Metal Arc Welding (SMAW) in F1 and F2 positions.	AWS 3.2.1.3		SL.9-12.1	MP 5-6		B2	2, 5, 8, 11		Worksheets; Quizzes; Projects; Tests
Students will understand and develop skills in safe and proficient use of Plasma Arc Cutting (PAC) equipment.	AWS 3.2.1.5		SL.9-12.1	MP 5-6		B2	2, 5, 8, 11		Worksheets; Quizzes; Projects; Tests

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will investigate careers and employability related to welding.	AWS 3.2.1.1		SL.9-12.1	MP 4		A7; B3; C2, 4; D6; E8	1-12		Discussion; Research Paper

INSTRUCTIONAL RESOURCES

List the major instructional resources used for this course:

Websites:	
Textbooks:	<i>Welding Fundamentals</i> , Goodheart-Willcox, 2017
Essential Equipment:	
Reference Materials:	
Supplies:	

Welding 1B

COURSE INFORMATION	
Course Name:	Welding 1B
Course Number:	CTEC5022
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Welding 1A</i>
Sequence or CTEPS:	Welding
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	American Welding Society (AWS) National Center of Construction Education and Research (NCCER)
Names/Numbers of Technical Standards:	AWS Sense NCCER Core
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Welding 1B</i> is a continuation of <i>Welding 1A</i> , and will follow the guidelines set forth by the American Welding Society for entry-level welder. Throughout the course, safety will be a primary consideration when students continue to use the Shielded Metal Arc Welding, oxyacetylene welding and cutting, plasma cutting, and electrical equipment. Students will also learn to read shop drawings, welding symbols, and advanced visual inspection of welds. They will learn the basics of the Gas Metal Arc Welding process.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Welding Safety; Oxy Acetylene Welding (OAW); Oxy Acetylene Cutting (OAC); Plasma; Print Reading; Metallurgy; Tools; Equipment; Shielded Metal Arc Welding (SMAW); Gas Metal Arc Welding (GMAW); Base & Filler Metal Identification & Selection; Career Employability Information
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC):	AWS Guided Bend Test & NCCER Performance Tests

(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	
STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	Skills USA, FFA
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input checked="" type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	November 4, 2021
Postsecondary Institution Name:	University of Alaska Fairbanks Community and Technical College
Postsecondary Course Name:	Welding I
Postsecondary Course Number:	WMT F103
Postsecondary Course Credits:	3
AUTHOR	
Course Developed By:	Pete Daley
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will demonstrate safe shop procedures in all welding procedures and shop work.	AWS 3.2.1.1		SL.9-12.1	MP 5-6		A1, 4; B3-4; C3; D6	1-5, 9, 12		Safety Tests
Students will utilize safe and efficient use of tools and equipment and perform housekeeping duties.	AWS 3.2.1.1		SL.9-12.1	MP 5-6		A1, 4; B3-4; C3; D6	1-5, 9, 12		Safety Tests
Students will utilize measurements and measuring devices to perform layout and fit-up procedures.	AWS II 3.2.1.2		WHST. 9-12.2	MP 5-6		B4	2, 4, 8		Worksheets; Quizzes; Projects
Students will understand basic print reading and interpret welding symbols.	AWS 3.2.1.2		RST. 9-12.4	MP 6		A3; B3-4	2, 4, 8		Worksheets; Quizzes; Projects
Students will identify metal properties and the metallurgy of a weld bead and properly select the appropriate filler metal.	AWS II 3.2.1.4		RST. 9-12.3	MP 5		B3-4	2, 8		Worksheets; Discussion
Students will understand and develop skills in safe and proficient use of Shielded Metal Arc Welding (SMAW) in F1-F3 and G1-G3 positions.	AWS 3.2.1.3		SL.9-12.1	MP 5-6		B2	2, 5, 8, 11		Worksheets; Quizzes; Projects; Tests
Students will understand and develop skills in safe and proficient use of Oxyacetylene Welding (OAW) in the F3 position.	AWS 3.2.1.4		SL.9-12.1	MP 5-6		B2	2, 5, 8, 11		Worksheets; Quizzes; Projects; Tests

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will demonstrate Gas Metal Arc Welding (GMAW).	AWS 3.2.1.3.2		SL.9-12.1	MP 5-6		B2	2, 5, 8, 11		Worksheets; Quizzes; Projects; Tests
Students will understand basic electrical principles as applied to the welding processes.			SL.9-12.1	MP 5-6		B4	2, 5, 8, 11		Worksheets; Quizzes; Projects; Tests
Students will demonstrate awareness of career employability.	AWS 3.2.1.1		SL.9-12.1	MP 4		B2, 4	1-12		Discussion; Research Paper

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	<i>Welding Fundamentals</i> , Goodheart-Willcox, 2017
Essential Equipment:	
Reference Materials:	
Supplies:	

Welding 2A

COURSE INFORMATION	
Course Name:	Welding 2A
Course Number:	CTEC5033
Grade(s):	10-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Welding 1A/1B</i>
Sequence or CTEPS:	Welding
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	American Welding Society (AWS) National Center of Construction Education and Research (NCCER)
Names/Numbers of Technical Standards:	AWS Sense NCCER Core
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Welding 2A</i> is a continuation of <i>Welding 1B</i> and will follow the guidelines set forth by the American Welding Society for the entry-level welder. Throughout the course, safety will be a primary consideration when students continue to use Shielded Metal Arc Welding, oxyacetylene welding and cutting, plasma cutting, gas metal arc welding, flux cored arc welding, gas tungsten arc welding, and related electrical equipment. Students will also learn to read shop drawings, welding symbols, and the advanced visual inspection of welds.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Welding Safety; Oxy Acetylene Welding (OAW) Process; Oxy Acetylene Cutting (OAC) Process; Gas Metal Arc Welding (GMAW) Process; Flux-Cored Arc Welding (FCAW) Process; Gas Tungsten Arc Welding (GTAW) Process; Shielded Metal Arc Welding (SMAW) Process; Plasma Arc Cutting (PAC) Process; Print Reading; Metallurgy; Tools; Equipment; Base & Filler Metal

	Identification and Selection; Career Employability Information
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): <i>(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)</i>	AWS Guided Bend Test; NCCER Performance Tests
STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	Skills USA, FFA
Current Dual Credit Agreement: <i>(Agreements should be reviewed and updated annually)</i>	<input checked="" type="checkbox"/> <i>(If checked, complete the Dual Credit section below.)</i>
Date of Current Agreement:	November 4, 2021
Postsecondary Institution Name:	University of Alaska Fairbanks Community and Technical College
Postsecondary Course Name:	Welding II
Postsecondary Course Number:	WMT F105
Postsecondary Course Credits:	3
AUTHOR	
Course Developed By:	Pete Daley
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will demonstrate safe shop procedures in all welding procedures and shop work.	AWS 3.2.1.1		RST. 11-12.10	MP 5-6		A1, 4; B3-4; C3; D6	1-5, 8-9, 12		Safety Tests
Students will utilize safe and efficient use of tools and equipment.	AWS 3.2.1.1		RST. 11-12.10	MP 5-6		A1, 4; B3-4; C3; D6	1-5, 8-9, 12		Safety Tests
Students will demonstrate project fabrication utilizing the various welding techniques and layout procedures.	AWS II 3.2.1.2		RST. 11-12.7	MP 4-6		B4	2, 4, 8		Worksheets; Projects
Students will effectively understand and apply advanced print reading skills.	AWS 3.2.1.2		RST. 11-12.7	MP 1		A3; B3-4	2, 4, 8		Worksheets
Students will identify metal properties and the metallurgy of a weld bead.	AWS II 3.2.1.4		RST. 11-12.9	MP 5		B3-4	2, 4, 8		Worksheets; Discussion
Students will understand and increase skills in safe and proficient use of Shielded Metal Arc Welding (SMAW) in F1-F4 and G1-G4 positions.	AWS 3.2.1.3		RST. 11-12.9	MP 5-6		B2	2, 4, 8		Worksheets; Projects; Quizzes; Tests
Students will demonstrate advanced use of Gas Metal Arc Welding (GMAW) and Flux-Cored Arc Welding (FCAW) in F1-F4 and G1-G4 positions.	AWS 3.2.1.3.2		RST. 11-12.9	MP 5-6		B2	2, 4, 8		Worksheets; Projects; Quizzes; Tests
Students will develop Gas Tungsten Arc Welding (GTAW) procedures.	AWS 3.2.1.3.4		RST. 11-12.10	MP 1		B2	2, 4, 8		Worksheets; Projects; Quizzes; Tests
Students will understand advanced electrical principles as applied to the welding processes.	AWS 3.2.1.3.4		RST. 11-12.3	MP 1, 5-6		B2	2, 4, 8		Worksheets; Discussion

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will demonstrate awareness of career employability.	AWS 3.2.1.1		RST. 11-12.4	MP 2		A7; B3; C2, 4; D6; E8	1-2, 4-5, 7-12		Discussion; Research Paper

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	<i>Welding Fundamentals</i> , Goodheart-Willcox, 2017
Essential Equipment:	
Reference Materials:	
Supplies:	

Welding 2B

COURSE INFORMATION	
Course Name:	Welding 2B
Course Number:	CTEC5044
Grade(s):	10-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Welding 2A</i>
Sequence or CTEPS:	Welding
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	American Welding Society (AWS) National Center of Construction Education and Research (NCCER)
Names/Numbers of Technical Standards:	AWS Sense NCCER Core
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Welding 2B</i> is a continuation of <i>Welding 2A</i> and will follow the guidelines set forth by the American Welding Society for the entry-level welder. Throughout the course, safety will be a primary consideration when students continue to use Shielded Metal Arc Welding, Oxy Acetylene Welding and Cutting, Plasma Cutting, Gas Metal Arc Welding, Flux-Cored Arc Welding, Gas Tungsten Arc Welding, and related electrical equipment. Students will also learn to read shop drawings, welding symbols, and the advanced visual inspection of welds.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Welding Safety; Oxy Acetylene Welding (OAW) Process; Oxy Acetylene Cutting (OAC) Process; Gas Metal Arc Welding (GMAW) Process; Flux-Cored Arc Welding (FCAW) Process; Gas Tungsten Arc Welding (GTAW) Process; Shielded Metal Arc Welding (SMAW) Process; Plasma Arc Cutting (PAC) Process; Print Reading; Metallurgy; Tools; Equipment; Base & Filler Metal

	Identification and Selection; Career Employability Information
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): <i>(Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)</i>	AWS Guided Bend Test; NCCER Performance Test
STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	Skills USA, FFA
Current Dual Credit Agreement: <i>(Agreements should be reviewed and updated annually)</i>	<input checked="" type="checkbox"/> <i>(If checked, complete the Dual Credit section below.)</i>
Date of Current Agreement:	November 4, 2021
Postsecondary Institution Name:	University of Alaska Fairbanks Community and Technical College
Postsecondary Course Name:	Welding II
Postsecondary Course Number:	WMT F105
Postsecondary Course Credits:	3
AUTHOR	
Course Developed By:	Pete Daley
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will demonstrate safe shop procedures in all welding procedures and shop work.	AWS 3.2.1.1		RST. 11-12.10	MP 5-6		A1, 4; B3-4; C3; D6	1-5, 8-9, 12		Safety Tests
Students will utilize safe and efficient use of tools and equipment.	AWS 3.2.1.1		RST. 11-12.10	MP 5-6		A1, 4; B3-4; C3; D6	1-5, 8-9, 12		Safety Tests
Students will demonstrate project fabrication utilizing the various welding techniques and layout procedures.	AWS II 3.2.1.2		RST. 11-12.7	MP 4-6		B4	2, 4, 8		Worksheets; Projects
Students will effectively understand and apply advanced print reading skills.	AWS 3.2.1.2		RST. 11-12.7	MP 1		A3; B-4	2, 4, 8		Worksheets
Students will identify metal properties and the metallurgy of a weld bead.	AWS II 3.2.1.4		RST. 11-12.9	MP 5		B3-4	2, 4, 8		Worksheets; Discussion
Students will understand and increase skills in safe and proficient use of Shielded Metal Arc Welding (SMAW) in F1-F4 and G1-G4 positions.	AWS 3.2.1.3		RST. 11-12.9	MP 5-6		B2	2, 4, 8		Worksheets; Projects; Quizzes; Tests
Students will demonstrate advanced use of Gas Metal Arc Welding (GMAW) and Flux-Cored Arc Welding (FCAW) in F1-F4 and G1-G4 positions.	AWS 3.2.1.3.2		RST. 11-12.9	MP 5-6		B2	2, 4, 8		Worksheets; Projects; Quizzes; Tests
Students will develop Gas Tungsten Arc Welding (GTAW) procedures on aluminum, carbon steel, and stainless steel in the F1-F4 positions.	AWS 3.2.1.3.4		RST. 11-12.10	MP 1		B2	2, 4, 8		Worksheets; Projects; Quizzes; Tests

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will understand advanced electrical principles as applied to the welding processes.	AWS 3.2.1.3.4		RST. 11-12.3	MP 1, 5-6		B2	2, 4, 8		Worksheets; Discussion
Students will demonstrate awareness of career employability.	AWS 3.2.1.1		RST. 11-12.4	MP 2		A7; B3; C2, 4; D6; E8	1-2, 4-5, 7-12		Discussion; Research Paper

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	<i>Welding Fundamentals</i> , Goodheart-Willcox, 2017
Essential Equipment:	
Reference Materials:	
Supplies:	

Woods

COURSE INFORMATION	
Course Name:	Woods
Course Number:	CTEC201
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	None
Sequence or CTEPS:	Woods
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	Skills USA National Center of Construction Education and Research (NCCER)
Names/Numbers of Technical Standards:	SkillsUSA Technical Standards Book (TSB) NCCER CORE
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Woods</i> is an introduction course to modern day woodworking. Students will acquire a fundamental knowledge in the safe use of hand tools, power equipment, and woodworking procedures. Students will plan, design, select materials, layout, cut, assemble, and finish projects approved by the instructor. Students' projects will increase in difficulty as the semester progresses.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Safety; Wood Characteristics & Selection; Cutting; Fastening
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will develop and demonstrate an understanding of terms commonly used in the industry.	SkillsUSA AD 1.0, 1.1, 2.4	AC 1, 6; AC-DES 2	RST. 11-12.3-4	MP 5-6		B2-3	2, 4	Tech/Prod	Test or Quiz; Student Product
Students will understand how woodworking and carpentry careers fit within all aspects of the construction trades industry.	NCCER Orientation to Trade- 27101; SkillsUSA TSB p.107, Total Qlty Mngmt	AC 4-5, 7; AC-CST 1	RST. 11-12.4, 9	MP 5-6		E8	1, 4, 7, 10	All Aspects	Student Product
Students will demonstrate the safe use of tools, woodworking machines, and equipment.	NCCER CORE Basic Safety- 00101; SkillsUSA TSB p.41, Occ. Hlth/ Safety	AC-CST 5, 9	SL.11-12.4	MP 5		B3-4	1-3	Health/Safety	Student Product
Students will demonstrate safe shop procedures when handling materials and working with others.	NCCER CORE Basic Safety- 00101; SkillsUSA TSB p.41, Occ. Hlth/Safety	AC 3; AC-CST 5	RST. 11-12.3-4	MP 5-6		B4	1-5, 9, 12	Health/Safety	Student Product
Students will describe wood characteristics and lumber and wood product production.	NCCER Wood Bldg Mtls 27102-01	AC 4-5, 7; AC-CST 1	SL.11- 12.4; WHST 11-12.2D, 4, 8	MP 3, 6		A4	2	Tech/Prod; Health/Safety	Student Product

Standards Alignment									
Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will identify, select, and use appropriate materials and techniques in woodworking.	NCCER Wood Bldg Mtls 27102-01; NCCER CORE Hand Tools 00103 Pwr Tools 00104	AC 2; AC-CST 8; AC-DES 8	RST. 11-12.2-4	MP 5-8		A2; D5	2	Tech/Prod; Health/Safety	Student Product
Students will identify and use various types of measuring devices used in woodworking.	NCCER CORE Hand Tools 00103	AC 2; AC-CST 8	RST. 11-12.2-4	MP 5-6		A2; D5	2	Tech/Prod; Health/Safety	Student Product
Students will perform mathematical calculations required for tools and processes.	NCCER CORE Intro. to Construction Math 00102	AC 1-2	RST. 11-12.4	MP 5-6		B4	2	Tech/Prod	Student Product
Students will demonstrate proper techniques for cutting, forming, shaping, and sanding wood materials.	NCCER Wood Bldg Mtls 27102-01; NCCER CORE Hand Tools 00103 Pwr Tools 00104	AC 2; AC-CST 8-9; AC-DES 6, 8	RST. 11-12.2-4	MP 1, 6		A2; D5	2	Tech/Prod; Health/Safety	Student Product
Students will complete products that demonstrate proficiency in assembling and fastening stock with various basic methods (e.g., nails, staples, screws, adhesives, clamps).	NCCER Wood Bldg Mtls 27102-01; NCCER CORE Hand Tools 00103 Pwr Tools 00104	AC 2, 6; AC-CST 8-9; AC-DES 6, 8	SL.11-12.4; RST. 11-12.9-10	MP 1, 4-8		A2; B3-4; D5; E8	2	All Aspects	Student Product

INSTRUCTIONAL RESOURCES	
List the major instructional resources used for this course:	
Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	

Woods, Advanced

COURSE INFORMATION	
Course Name:	Woods, Advanced
Course Number:	CTEC202
Grade(s):	9-12
Length (# of semesters):	One semester
Credit:	0.5
Foundational Course:	<input type="checkbox"/> This is a foundational CTE course (foundational courses are not technical)
Prerequisites:	<i>Woods</i>
Sequence or CTEPS:	Architecture & Construction
Date of District Course Revision:	Spring 2024
CAREER & TECHNICAL STUDENT ORGANIZATION (CTSO)	
CTSO Embedded in this Sequence:	Skills USA, National Center for Construction Education & Research (NCCER)
TECHNICAL/OCCUPATIONAL STANDARDS	
Source(s) of Technical Standards:	SkillsUSA National Center for Construction Education & Research (NCCER)
Names/Numbers of Technical Standards:	SkillsUSA: National Center for Construction Education & Research (NCCER)
REGISTRATION INFORMATION	
Course Description: (Brief paragraph - as will be shown in the student course catalog)	<i>Advanced Woods</i> is for students who have completed the first course of woodworking. It will aid students interested in the fundamentals of materials, tools, machines, and processes used in building furniture and cabinets. The skills learned in <i>Advanced Woods</i> will help prepare students to be cabinetmakers or finish carpenters. It will also provide experience in using different woods and developing more advanced techniques to build and assemble projects.
Instructional Topic Headings: (Separate each heading with a semi-colon.)	Design Aspects, Squaring, Adhesives, Joining
POSTSECONDARY CREDENTIAL	
Recognized Postsecondary Credential (RPC): (Replaces Technical Skills Assessment (TSA) - not all TSAs will qualify as an RPC, and RPC is not required for all courses)	n/a

STANDARDS	
This course addresses (enter yes/no):	
Alaska English Language Arts and Math Standards:	Yes
Alaska Cultural Standards:	Yes
All Aspects of Industry (AAI):	Yes
Core Technical Standards:	Yes
Employability Standards:	Yes
EMPLOYABILITY STANDARDS	
Employability Standards source:	Alaska
DUAL CREDIT AGREEMENT	
CTSO participation is included:	
Current Dual Credit Agreement: (Agreements should be reviewed and updated annually)	<input type="checkbox"/> (If checked, complete the Dual Credit section below.)
Date of Current Agreement:	n/a
Postsecondary Institution Name:	n/a
Postsecondary Course Name:	n/a
Postsecondary Course Number:	n/a
Postsecondary Course Credits:	n/a
AUTHOR	
Course Developed By:	Joshua Bayles
Course Adapted From:	FNSBSD Career & Technical Education Curriculum
Date of Previous Course Revision:	April 4, 2017
COURSE DELIVERY MODEL	
Is this course brokered through another institution or agency? (yes/no)	No

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will understand how woods and carpentry careers relate to the construction trades industry.	NCCER Orientation to Trade 27101; SkillsUSA- Technical Standards Book p.107 Total Quality Mngmt.		R 4.1-3, 7; W 4.2			C4			Test or Quiz; Student Product
Students will know and follow shop safety rules and practices.	NCCER Core Basic Safety 00101; SkillsUSA Technical Standards Book p.41 Occ. Health & Safety		R 4.1, 4.2, 4.4			B3			Student Product
Students will demonstrate job search techniques.	NCCER Orientation to Trade 27101; Tools for Success p.203		R 4.4, 4.7; W 4.2			C4			Student Product
Students will identify, safely use, and maintain tools and equipment.	NCCER Core Hand Tools 00103; Power Tools 00104		R 4.1, 4.2, 4.4						Student Product

Students will identify types of materials commonly used in wood products and construction.	NCCER Wood Building Materials 27102-01; Core Hand Tools 00103; Power Tools 00104		R 4.1, 4.2, 4.7			A2; D5			Student Product
Students will compute appropriate mathematical functions related to the design, cost estimating and construction of a simple wood product.	NCCER Core Introduction to Construction Math 00102					B1-2			Student Product
Students will plan product layout using selected style.	NCCER 27211 C & F; MDPSM 5.3					B2			Student Product
Students will demonstrate proper stock squaring methods.	NCCER Practice Exercises & Projects					B2			
Students will identify adhesives and know their best uses.	NCCER 27212		R 4.7			B2, 4			Student Product
Students will demonstrate proper use of a surface planer.	NCCER 27501, 3.8.0					B1			Student Product
Students will demonstrate proper gluing and clamping methods for edge and face joints.	NCCER 27501, 5.0.0, 7.2.0					B2			Student Product
Students will identify, set up, and use proper router bits, pattern routing, and edge profiling.	NCCER 27501, 3.6.0					B2			Student Product
Students will identify and fabricate basic wood joints.	NCCER 27501, 4.0.0					B1-2			Student Product

Standards Alignment

Student Performance Standards (Instructional Topic Headings)	Specific Occupational Skill Standards	Common Technical Core Standards	Alaska English/ Language Arts Standards	Alaska Math Standards	Alaska Science Standards	Alaska Cultural Standards	Employability/ Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
Students will build and complete products as assigned or designed by the student with the instructor's approval.	NCCER Core Basic Safety 00101; SkillsUSA Technical Standards Book p.41 Occ. Health & Safety		R4.4, 4.6, SD.6			B1-4			Test or Quiz; Student Product

INSTRUCTIONAL RESOURCES

List the major instructional resources used for this course:

Websites:	
Textbooks:	
Essential Equipment:	
Reference Materials:	
Supplies:	



The Fairbanks North Star Borough School District is an equal employment and educational opportunity institution, as well as a tobacco and nicotine-free learning and work environment.

Fairbanks North Star Borough School District

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