District Career & Technical Education (CTE) Pathway Proposal

The Career & Technical Education (CTE) Pathway proposal is to be submitted to the CTE Coordinator for prior approval and should include the following information:

Name of State approved (CCCS) CTE Program: Manufacturing

CCCS Student Rights Assurance: Approved programs must assure and have strategies in place to ensure that no student is unlawfully: • Discriminated against the basis of age, race, religion, color, national origin, sex/gender, pregnancy status, gender identity, sexual orientation, or disability in its activities or programs as required by Title VI, Title IX, and Section 504, Age Discrimination Act, and Title II of the Americans with Disabilities Act. • Denied an equal opportunity to benefit from occupational education solely on the basis of race, color, religion, national origin, sex, age, or disability. Additionally, CTE staff must work with students with qualified disabilities (including the learning disabled and those with physical, sensory, and temporary disabilities) to provide appropriate assistance to students so that they may participate in approved CTE programs as fully as possible. Each program is responsible for providing evidence of each of these in the case of an audit or upon CCCS request.

I. GOALS

A. Provide a brief overview of the CTE Pathway. The welding pathway offers courses that educate students in the skills and knowledge in metal fabrication. Students will build on the skills and competencies presented in prerequisite courses. Students will learn cutting and welding applications of increasing complexity used in the manufacturing/metal fabrication industry.

B. How does this CTE Pathway fit into the overall educational program? CTE programs significantly increase not only the high school graduation rate, but also results in a higher percentage of students going to college and persisting through graduation. Students taking both academic and technical courses have lower dropout rates and better achievement gains than other students.

C. What benefits would students receive from this CTE pathway? Students will be proficient in fundamental safety practices in welding, general industry-based metal fabrication skills, multiple welding processes, project management, quality control methods and further advanced welding/metal fabrication technology and processes. Students will have the opportunity to earn industry certifications to ensure postsecondary readiness and success.

II. CAREER & TECHNICAL EDUCATION (CTE) PATHWAY COURSES

Complete the table below indicating the course sequence students would take within the CTE program. Other courses may be added or changed within the program, based upon the need of students or program modifications. New course names will be indicated in red text.

Pathway Name:	Manufacturing

Sub-Pathway Name (if applicable):	Welding

Level:	*State Approved Course Name:*	*State Approved Description:*	*CIP Code*
Level 1	Introduction to Welding	This introductory welding class teaches students the basics of Oxy-Acetylene welding and cutting, Wire Feed/Mig welding, SMAW (stick arc welding) and Plasma cutting. It also covers general and welding safety as well as general metal working procedures.	480000
Level 2	Welding Technology I	Welding Technology provides the foundational understanding of welding and welding processes. In this course students will learn industry based safety standards and become familiar with the following welding processes; Oxyacetylene welding and torch cutting, plasma cutting, and ARC welding. Students will become familiar with basic blueprint reading, weld symbols, welding-related math, and measurement. As their skill level is developed, small projects will be introduced throughout the year.	480000
Level 3	Welding Technology II	Welding Technology II students will be exposed to more advanced welding processes such as MIG/GMAW, as well as an introduction to TIG welding. In addition, they will have the opportunity to refine what they learned from Level I to a higher standard. Students will identify welding symbols on drawings, read detailed drawings, identify physical characteristics and mechanical properties of metal, explain pre and post heating of metals, identify equipment and filler metals utilized in GMAW, as well as prepare welding test plates. Through the course of the year, students will have the opportunity to create more advanced welding projects for the community as well as private individuals.	480000

Level 3	Welding for Jewelry Making	This course covers the proper use and care of hand tools, safety, jewelry making fundamentals, soldering, oxy-acetylene cutting and welding, computer aided plasma cutting, and related metal theory. This course covers the hazards of welding on health and safety, locating essential safety and product information, and applying shop safety procedures.	480000
Level 3	Introduction to Ornamental Iron	Forming, shaping, and fabrication of patio post, staircase railings, patio railings, gates, and safety in the welding trade. (This course is in direct alignment with WEL 205.)	480000
Level 3	Metal Sculpting	Metal sculpting introduces metal production in relation to commercial and industrial welding art and sculpture. The course is designed for continuous welding students. The course allows students to fabricate a sculpture of art using welding fabrication techniques, structure of assembly through the process of correct design and layout all producing a professional portfolio in relation to the final project.	480000
Level 4	Welding Technology III	In this course the student will build upon their prior learning in Level II and can expect to engage in more advanced welding processes. These processes include advanced TIG welding including alloys such as aluminum and stainless steel, advanced blueprint reading, drawing and design, specifications, billing of materials, and Welding Procedure Specifications (WPS). Students will engage in advanced layout and fabrication processes to create projects for the community as well as private individuals.	480000
Level 4	Welding Technology IV	Covers welding in all positions and on various joint configurations and may include multiple welding processes. Students should be familiar with basic metallurgy pertaining to the weldability of metals, structural joints, and safety in the welding industry. This course offers advanced welding students a chance to design and fabricate metal projects. Instructor approval is required before signing up for this course.	480000

Signature Page

Does the Career and Technical Education (CTE) Coordinator approve adoption of this program?

** *Your signature below indicates your approval of the program.*

Signature Joy Griffin (Jan 31, 2021 08:01 MST)

Does the Director of CIPG approve adoption of this program?

** *Your signature below indicates your approval of the program.*

Signature Erica Mason (Jan 31, 2021 08:33 MST)

Does the Chief Assessment Officer approve adoption of this program?

** *Your signature below indicates your approval of the program.*

Signature Matt Reynolds (Jan 31, 2021 13:22 MST)

Does the Assistant Superintendent approve adoption of this program?

** *Your signature below indicates your approval of the program.*

Signature _____

Does the Board of Education approve adoption of this program?	Yes	No

Date of BOE Meeting _____

Signature _____

Office use: The following information is required to build individual courses into Infinite Campus.

Credit Type: (FNA, PRA, MAT, etc)	
Department Code:	
Course Number:	
Course entered in NCAA database if applicable.	
Update Graduation Competencies course document if applicable for Math and English courses.	
VIP Code:	
CIP Code:	
Add to HEAR list, if applicable.	
Course Mapping SCED code:	
Date entered into Infinite Campus	
Credit amount:	