Seward, Stefanie <sseward@sanjacinto.k12.ca.us>

San Jacinto Unified School District New Course Proposal

Google Forms <forms-receipts-noreply@google.com> Thu, Jan 30, 2020 at 11:17 AM
To: sseward@sanjacinto.k12.ca.us

Welding II

Thanks for filling out San Jacinto Unified School District New Course Proposal

Here's what we got from you:

EDIT RESPONSE

San Jacinto Unified School District New Course Proposal

For more information on how to complete this form please contact:
Janet Covacevich
Director, Secondary C & I
(951)929-7700 ext. 4263
jcovacevich@sanjacinto.k12.ca.us

Your email address (**sseward@sanjacinto.k12.ca.us**) was recorded when you submitted this form.

SAN JACINTO UNIFIED SCHOOL DISTRICT

Signature Page must be printed and wet signed

Access Signature Page at this link https://docs.google.com/a/sanjacinto.k12.ca.us/document/d/1TO2G1fXxR6WGNhinPY-oNaxtY130cZHUOjTT3Ntv5Zg/edit?usp=sharing

School *

SJHS

New Course Proposal Submitted By: *

Zachery Cain

Course Title *

Welding II

Transcript Title (15 characters or less) *

Please be sure to count each character and spaces used to be no more than 15.

Welding II

Course Code (assigned by Data Management, extension 4221):

I0301

Academic Department *

CTE Elective/Interdisciplinary

Graduation Requirement Met *

Electives

Honors (*note: Honors courses seeking A - G status must offer a non-Honors equivalent course) *

No

Grade Level (check all that apply) *

- [ ] 6th
- [ ] 7th
- [ ] 8th
- [ ] 9th
- [x] 10th
- [x] 11th
- [x] 12th

Pre-Requisite (list all that apply) *

Welding I (recommended)

Co-Requisite (list all that apply) *

None

Possible credits *

10 - year long class

Course Learning Environment *

- [x] Classroom Based
- [ ] Online/Hybrid

CALPADS Course Code (assigned by Data Mgt.)

8231

Career Technical Education Courses

Will this course be part of CTE Pathways? *

Yes

Is this an Integrated Course (Academics with Career Technical Education) *

No

CTE Courses Only: Indicate the Level of the Course:

Completer

CTE Courses Only: Indicate the Industry Sector

Manufacturing and Product Development

CTE Courses Only: Career Pathway & Code Pathway Name

Welding & Materials Joining

Submitting Courses That are Program Status, Courses Modeled After Another Institution, or Online, or AP

Course Plans for Program Status, Online, or AP must be attached to this form.

Will this course meet any of the descriptors above? *

Yes

Program Status Courses (can be auto approved) - Name the Exact Program and Course Title:

Submitting a Course Modeled After Another Institution:

When modeling after another institution's course, you will also need to enter a course overview specific to San Jacinto Unified School District as well as course content specific to SJUSD.
Any course modeled after another institution's course will not more forward until it has been written to reflect SJUSD's unique needs.

Submitting a course modeled after another institution.

Which school and ATP code? Must state exact course title.

Southwest High School (050816) Welding 2

Adopt an Online Publisher Course

Adopt a Program Status Course

Advanced Placement (AP) Courses Only: Please answer the following questions:

This section only applies to AP courses.

AP Courses Only: Date Submitted to CollegeBoard for AP Audit:

Month Day 2020

Exact Course Title

CollegeBoard Authorization Code

Course Content

Please note: There are not specific requirements regarding the number of units each course should have.
For reference: University of California A-G Guide: http://www.ucop.edu/agguide/a-g-requirements/index.html
Copy and paste the link into your web browser for course samples.

Course Overview: Provide a brief summary (3 - 5 sentences) of the course's content. *

Students will build on the knowledge and skills relating to the transfer of matter and energy through electrical, fluid, thermal and mechanical systems. They will also study more advanced fundamentals of mechanical and structural systems and facilities. Students will explore professional opportunities in the field of agricultural engineering and welding. This course provides students with a understanding of manufacturing processes and systems common to careers in welding and related industries. Topics include the interpretation and layout of welded and assembled part prints, mechanical bonding, joining, cohesive bonding, adhesive bonding, and mechanical fastening. Students will learn the safety of fabrication welding. Additionally, this course may be a gateway program for those students interested in pursuing a post-secondary study in mechanical or structural engineering. Leadership development is a required part of this course and will expose students to careers, leadership skills and achievement opportunities.

For EACH UNIT of the course, please provide:

1. A unit title
2. A concise 3 - 5 sentences describing the topics being addressed that demonstrate the critical thinking, depth, and progression of the content covered.
3. A brief 3 - 5 sentences summarizing a key assignment from this unit and covering:
a. how a student will complete this assignment
b. what a student will produce
c. what the student will learn
Most importantly, use the unit(s) and key assignment(s) to demonstrate that the course meets the subject specific course criteria on the A - G Guide.

Units (outline each unit in the section provided. Indicate new units with a number and title) *

Unit A. Careers in Welding
Assignment 1: Students will be introduced to industry professionals who will inform
the students about available careers in the welding industry. These presenters will
also be able to inform students about post high school educational opportunities for

students wishing to pursue welding.
1. Identify careers available within the Welding Industry
2. Identify how this course will increase skills, abilities and experiences in the Welding Industry
3. Describes the work environment
4. Describe and discuss apprenticeship
5. Research the prevalent entry-level wages
6. Identify colleges, trade schools and professional academies that offer the same career paths
7. Locates prospective employers

Assignment 2: Students will complete a 2-3-page paper on a career interest within the Welding Industry. The papers are meant to be a way of further developing the student's knowledge of welding career opportunities.

Unit B: American Welding Society (AWS) Welding Symbols and Nomenclature

Assignment 1: Students will be asked to demonstrate the proper procedure for setting up and shutting down the torch.

Assignment 2: Using the torch, the students will be asked to cut a straight line, a 45 degree beveled cut, and pierce and a circular hole.

1. Interpret scaled welding prints
2. Gather design and materials information
3. Perform calculations and use of the detail to plan, lay out, and produce parts or finished products
4. Understand the design parameters across welding process organizational levels
5. Use current information technology ideation and design process systems in the manufacturing of welded parts and products

Unit C: Understand Design and Fabrication Processes Using Gas Metal Arc Welding

Assignment 1: Following an instructor lead demonstration the students will use the GMAW machines to assemble a butt joint, corner joint, tee joint, and an edge joint. They will be asked to focus on safety and proper technique.

Assignment 2: Following the creation of these joints, the students will be asked to use their analytical skills to grade and judge the welds that they created. Students will be asked to focus on weld defects discussed in class. Furthermore they will be asked to explain how to prevent these defects from occurring in their future welds.

1. Performs the following functions correctly and safely in the flat position
2. Performs the following functions correctly and safely in the horizontal position
3. Performs the following functions correctly and safely in vertical position
4. Performs the following functions correctly and safely in the overhead position

Unit D: Understanding Design and Fabrication Processes Using Shielded Metal

Assignment 1: Following an instructor lead demonstration the students will use the SMAW machines to assemble a butt joint, corner joint, tee joint, lap joint, and an edge joint. They will be asked to focus on safety and proper technique. Understand the qualities of various raw and industrial materials and how these qualities affect the ability of the materials to be processed to produce useful and and value-added welded parts and products.Use welding tools and equipment, such as ocy-acetylene, to combine or join manufactured parts and products, resulting in a finished product that meets the standards of the American Welding Society or a similar industry.

Assignment 2: Following the creation of these joints, the students will be asked to use their analytical skills to grade and judge the welds that they created. Students be asked to focus on weld defects discussed in class.

Unit E: Project Planning and Design

Assignment 1: Students will be walked through the layout of a small project in order to gain an understanding of layout terms as well as how to properly use the tools.

Assignment 2: Students will be given a metal dustpan that was built in the shop, and asked to reverse engineer it, and develop a set of plans to build one. This will require the student to use analytical skills to think through the steps

that were required to create this project. Furthermore students will also have to draw out and label measurements for cuts and bends that need to be made.
Assignment 3: Students will be charged with the task of designing and creating small project of their own choosing. Before beginning construction on the project, the students must submit a complete set of plans detailing the dimensions of the project, as well as any cuts or bends that need to be made.
Assignment 4: Students will be given the task of creating a small smoker/bbq. Students will be working from a blueprint that will be given to them.
Unit F: Safety Guidelines
Demonstrates the ability to perform all tasks in a safe manner utilizing correct techniques and procedures.
1. Uses safety goggles and gloves while welding
2. Applies all Cal/OSHA standards to the welding process
3. Checks welding equipment to ensure it is in correct working order
4. Ensures that all materials are safety maintained and stored after every class.

Course Materials

Provide the COURSE MATERIALS that students use and analyze throughout the course. When appropriate, please incorporate these materials into the course's unit descriptions in the COURSE CONTENT section. Some subject areas and disciplines require courses to include specific course materials. Please refer to the subject course criteria in the link above and/or the California Department of Education (http://www.cde.ca.gov/ci/cr/cf/imagen.asp) for more information.

Course Material

Please access the hyperlinked Google Slide deck for a sample of the required information for any course materials that will be used in the course.

Google Slide Deck Link w/samples

https://docs.google.com/a/sanjacinto.k12.ca.us/presentation/d/1LaBuMtWAqL9bMaPKGQ8ooRZ6AZOLtS2PV0HGPudpYqo/edit?usp=sharing

Select Course Material (select all that apply) *

- [x] Textbook
- [ ] Literary Text
- [x] Manual
- [ ] Periodical
- [ ] Scholarly Article
- [x] Website
- [ ] Primary Document
- [x] Multimedia
- [ ] Other

Course Material: Primary *

Exploring Metalworking (Goodheart Wilcox)
Welding Principles and Application (Delmar)

Course Materials: Additional (if applicable)

A-G Courses

For courses seeking A - G status please answer the questions below

Is this course being submitted for A-G status? *

Yes

Subject for A - G status

- [ ] "A" History/Social Science
- [ ] "B" English
- [ ] "C" Mathematics
- [ ] "D" Lab Science
- [ ] "E" Language Other Than English
- [ ] "F" Visual and Performing Arts
- [x] "G" Elective

Name the Discipline (i.e. US History, LOTE, Theater, etc.)

CTE-Elective Interdisciplinary

Is this an Integrated Course (Academics with Career Technical Education)

- ( ) Yes
- (•) No

Does this course need to be retro-activated to a previous year?

No

If yes, which year(s)?

- [ ] 2017-2018
- [ ] 2016-2017
- [ ] 2015-2016
- [ ] 2014-2015

Final Review

Please review your course prior to submission to ensure it meets all requirements, courses will not be moved forward until they have provided all the required information.

End of Course Submission

Before you submit, please verify that you have completed all required components for submission.

[Quoted text hidden]

Welding 2

Southwest High School (050816)

asic Course Information

Title:	Welding 2
Transcript abbreviations:	Welding 2 / 2756
Length of course:	Full Year
Subject area:	College-Preparatory Elective (G) / Interdisciplinary
UC honors designation?	No
Prerequisites:	Welding 1 (Recommended)
Co-requisites:	None
Integrated (Academics / CTE)?	Yes
Grade levels:	10th, 11th, 12th
Course learning environment:	Classroom Based

ourse Description

urse overview:

Students will build on the knowledge and skills relating to the transfer of matter and energy through electrical, fluid, thermal and mechanical systems. They will also study more advanced fundamentals of mechanical and structural systems and facilities. Students will explore professional opportunities in the field of agricultural engineering and welding. This course provides students with a understanding of manufacturing processes and systems common to careers in welding and related industries. Topics include the interpretation and layout of welded and assembled part prints, mechanical bonding, joining, cohesive bonding, adhesive bonding, and mechanical fastening. Students will learn the safety of fabrication welding. Additionally, this course may be a gateway program for those students interested in pursuing a post-secondary study in mechanical or structural engineering. Leadership development is a required part of this course and will expose students to careers, leadership skills and achievement opportunities.

›urse content:

Unit 1: Careers in Welding

Students will continue to explore various career opportunities available in welding field. Within each career we will explore and discuss parts of the job, such as working conditions, job requirements, educational requirements, and job outlook.

⊒ Unit Assignment(s):

Key Assignments:

Assignment 1: Students will be introduced to industry professionals who will inform the students about available careers in the welding industry. These presenters will also be able to inform students about post high school educational opportunities for students wishing to pursue welding.

1. Identify careers available within the Welding Industry
2. Identify how this course will increase skills, abilities and experiences in the Welding Industry
3. Describes the work environment
4. Describe and discuss apprenticeship

5. Research the prevalent entry-level wages
6. Identify colleges, trade schools and professional academies that offer the same career paths
7. Locates prospective employers

Assignment 2: Students will complete a 2-3-page paper on a career interest within the Welding Industry. The papers are meant to be a way of further developing the student's knowledge of welding career opportunities.

4. Describe and discuss apprenticeship
5. Research the prevalent entry-level wages
6. Identify colleges, trade schools and professional academies that offer the same career paths
7. Locates prospective employers

Assignment 2: Students will complete a 2-3-page paper on a career interest within the Welding Industry. The papers are meant to be a way of further developing the student's knowledge of welding career opportunities.

Unit 2: American Welding Society (AWS) Welding Symbols and Nomenclature

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Upon completion of this unit the student will be able to do the following:

1. Understand and read AWS standard welding symbols
2. Understand Blueprints reading and drawing
3. Understand different types of lines

Unit 6: Fabrication Techniques Using Oxygen/Acetylene Torch

This unit provides students with an understanding of manufacturing processes and systems common to careers in welding and related industries. Topics include the interpretation and layout of welded and assembled part prints, mechanical bonding, joining, cohesive bonding, adhesive bonding, and mechanical fastening. Students will learn the safety of fabrication welding. Upon completion of the unit students will understand the theory of the oxygen/acetylene torch, as well as be able to properly demonstrate common cuts made with torch.

Unit Assignment(s):

Key Assignments:

Assignment 1: Students will be asked to demonstrate the proper procedure for setting up and shutting down the torch.

Assignment 2: Using the torch, the students will be asked to cut a straight line, a 45 degree beveled cut, and pierce and a circular hole.

1. Interpret scaled welding prints
2. Gather design and materials information
3. Perform calculations and use of the detail to plan, lay out, and produce parts or finished products
4. Understand the design parameters across welding process organizational levels
5. Use current information technology ideation and design process systems in the manufacturing of welded parts and products

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Unit 3: Understand Design and Fabrication Processes Using Gas Metal Arc Welding

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This unit provides students with an understanding of manufacturing processes and systems common to careers in welding and related industries. Topics include the interpretation and layout of welded and assembled part prints, mechanical bonding, joining, cohesive bonding, adhesive bonding, and mechanical fastening. Will prepare students to learn the safety of gas metal arc welding. Students will be able to safely perform welds using the gas metal are welding process in various positions.
Students will understand the basic theory of GMAW welding, understand and identify five basic welding joints, and identify and correct basic weld defects.

Unit Assignment(s):

Key Assignments:

Assignment 1: Following an instructor lead demonstration the students will use the GMAW machines to assemble a butt joint, corner joint, tee joint, and an edge joint. They will be asked to focus on safety and proper technique.

Assignment 2: Following the creation of these joints, the students will be asked to use their analytical skills to grade and judge the welds that they created. Students will be asked to focus on weld defects discussed in class. Furthermore they will be asked to explain how to prevent these defects from occurring in their future welds.

1. Performs the following functions correctly and safely in the flat position
2. Performs the following functions correctly and safely in the horizontal position
3. Performs the following functions correctly and safely in vertical position
4. Performs the following functions correctly and safely in the overhead position

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Unit 4: Understanding Design and Fabrication Processes Using Shielded Metal

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Arc Welding Students will understand the basic theory of SMAW welding, understand and identify five basic welding five basic welding joints, and identify and correct basic weld defects.

Unit Assignment(s):

Key Assignments:
Assignment 1: Following an instructor lead demonstration the students will use the SMAW machines to assemble a butt joint, corner joint, tee joint, lap joint, and an edge joint. They will be asked to focus on safety and proper technique.
Understand the qualities of various raw and industrial materials and how these qualities affect the ability of the materials to be processed to produce useful and and value-added welded parts and products.
Use welding tools and equipment, such as ocy-acetylene, to combine or join manufactured parts and products, resulting in a finished product that meets the standards of the American Welding Society or a similar industry.
Assignment 2: Following the creation of these joints, the students will be asked to

use their analytical skills to grade and judge the welds that they created. Students be asked to focus on weld defects discussed in class. Furthermore they will be

Unit 5: Project Planning and Design

Upon completion of this unit students will understand the basics of how to measure and lay out a project that they have designed. Students will become proficient with a tape measure, square, compass, ruler, and other tools involved in the design/layout process.

Unit Assignment(s):

Key Assignments:

Assignment 1: Students will be walked through the layout of a small project in order to gain an understanding of layout terms as well as how to properly use the tools.

Assignment 2: Students will be given a metal dustpan that was built in the shop, and asked to reverse engineer it, and develop a set of plans to build one. This will require the student to use analytical skills to think through the steps that were required to create this project. Furthermore students will also have to draw out and label measurements for cuts and bends that need to be made.

Assignment 3: Students will be charged with the task of designing and creating small project of their own choosing. Before beginning construction on the project, the students must submit a complete set of plans detailing the dimensions of the project, as well as any cuts or bends that need to be made.

Assignment 4: Students will be given the task of creating a small smoker/bbq. Students will be working from a blueprint that will be given to them.

Unit 6: Safety Guidelines

Objectives: Students will be introduced to the shop and the safety procedures that

must be followed to ensure the safety of everyone working in it.

Demonstrates the ability to perform all tasks in a safe manner utilizing correct

techniques and procedures.

1. Uses safety goggles and gloves while welding
2. Applies all Cal/OSHA standards to the welding process
3. Checks welding equipment to ensure it is in correct working order
4. Ensures that all materials are safety maintained and stored after every

   class.

Unit Assignment(s):

Possible Procedures: Students will prepare a 2 minute presentation on one particular power tool, its purpose, and safety precautions associated with it. Also the students will be required to pass a 75 question safety exam.

ourse Materials

Textbooks

Title	Author	Publisher	Edition	Website	Primar
xploring Metalworking	John R. Walker	Goodheart/Wilcox	2009	https://www.g-w.com/exploring-metalworking-2009	Yes
Welding Principles and Application	Larry Jeffus	Delmar	7th Edition	http://www.cengage.com/c/welding-principles-and-applications-8e-jeffus/9781305494695	Yes

EDUCATING AND INSPIRING EXCELLENCE

SJUSD

SAN JACINTO UNIFIED SCHOOL DISTRICT

New Course Signature/Approval Page

I. Suggested Course Title: Welding II

II. Department(s): CTE Elective

III. School: San Jacinto High School

IV. School Committee Members:

a. Name: Zach Cain Signature:
b. Name: Courtney Hall Signature:
c. Name: [illegible] Signature: Erika Gardner
d. Name: Stefanie Seward Signature:
e. Name: Signature:

V. Committee Meeting Date(s):

VI. Department Chair Signature:

a. Name: RCastillo Signature: Date: 1/30/20
b. Name: Signature: Date:

VII. Principal Signature:

a. Name: Courtney Hall Signature: Date: 1/30/2020

VIII. Course Proposal Reviewed by Educational Services:

a. Executive Director, Educational Services: Janet Covacevich
Signature: Date: 1-30-20
b. Assistant Superintendent of Educational Services:
Signature: Date: 2/2/2020

IX. Course Proposal Approved by the Board of Trustees:

a. SJUSD Board of Trustees President:
Signature: Date: