



**Instructional Program Review – Annual Update
2021**

Date:	4/12/21
Program and Department:	Industrial Technology / Welding
CTE Program?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Additional programs included in this review:	None
Date of last comprehensive review:	2015-16
Submitted By:	Gabriel Marquez
Attachments (* as needed):	<input type="checkbox"/> 6-year assessment plan – All programs, when applicable <input type="checkbox"/> 2-year scheduling plan <input type="checkbox"/> Justification for Resource Requests (if needed)

I. Alignment of the Program with the AHC Mission

AHC Mission: Allan Hancock College fosters an educational culture that values equity and diversity and engages students in an inclusive learning environment. We offer pathways that encourage our student population to achieve personal, academic, and career goals through coursework leading to associate degrees, certificates, transfer, and skills building.

a. Have there been any changes that would require a change to your Program Mission?

<p>No change</p> <p>The mission of the Welding Technology Program at Allan Hancock College is one of a commitment to providing excellent opportunities for education in the career and technical field of welding to fulfill the needs of our diverse community and to enhance student learning by encouraging and helping students from our diverse community to further their chosen careers. This program trains and prepares student to enter the job market as qualified and competent entry level employees. The Welding Technology Program trains student in areas of critical thinking and problem solving to industry standards and it provides help to local employers or their employees who need training. The Welding Technology Program forms partnerships with industry partners that may provide employment to students that complete the program.</p>
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b. Explain how your program mission aligns with the college mission.

The college mission and values can be found here: <https://www.hancockcollege.edu/about/mission.php>

The Mission of the welding program aligns with the mission of the college by providing opportunities for education in the technical field of welding to disenfranchised, economically disadvantaged and non-traditional students that are pursuing a career in welding to serve the needs of our diverse community. The welding program works with local businesses to teach the welding skills necessary for students to earn their degrees and certificates while at the same time changing the odds by giving students an opportunity to improve their earning potential in the technical field of welding.

II. Student Success, Program Accessibility and Program Capacity

*NO data analysis required this year.

- a. Describe how the program works to promote student success (completions job placement, transfer). Include teaching innovations and use of academic and student support.

The welding program at Allan Hancock College works to promote student success by offering a timely offering of courses designed to promote student completion. The welding program also works with the career center and one of the best improvements to student success in the welding program has been the outstanding counseling where students are educated as they develop and educational plan that shows them when they can expect to complete their degree or certificate.

- b. List any notable accomplishments of the program (student awards, honors, or scholarships can be listed here also)

Several recent graduates of the program have gained employment and are successful in their chosen fields even during the pandemic. This year, several students have earned their certification and are now qualified for entry level welding positions in the welding industry. Several former student of the welding program have become a welding instructor at Allan Hancock College.

III. Quality and Innovation in the Program and Curriculum Review

- a. Are you on track in your assessment plan for course and program SLOs? If not, please explain why.

Progress was made towards assessing course and program SLOs. The way in which Course and program SLOs are assessed is being updated to reflect where students are in the program and to show student progress through the program. As important as the assessment of our students within the institution is we cannot forget that one of the most important assessment of our students, comes from the people who hire them. They let us know if we are doing a good job of training our students to enter the technical field of welding. We could easily fool ourselves thinking that we are teaching our students valuable skills that would help our students find employment. Student assessment was recently brought up at the most recent welding Advisory Meeting. The topic of how well prepared our students where, was brought up by one of our most active and supportive Welding Advisory members. The chair of The Welding Advisory Committee expressed how impressed he was with how well prepared several recent graduates of the welding program were in his company. This type of positive feedback lets the Welding Program faculty know that they are preparing their students well with valuable skills that directly translate in to employment opportunities.

- b. Have you shared your assessments or improvement plans with your department, program or advisory committee? If so, what actions resulted? If not, how do you plan to do so in the future?

Improvement plan was shared at last advisory meeting. The need of the welding program to stay in touch with ever-changing technology in manufacturing is evident and has been expressed by faculty and echoed by the welding advisory members in past welding advisory meetings. This will enable the welding program staff to be able to teach welding students relevant skills that are going to make graduates of the welding program at Allan Hancock College competitive in the job market.

- c. Did any of section, course or program improvement plans indicate that your program would benefit from specific resources in order to support student learning and/or faculty development? If so, please explain.

The need to update equipment, to acquire needed equipment to train students with relevant technology and the need to train staff has been identified for the Welding Program. This will enable the program to be able to train students with the technology that is being used in the industry. The Welding Program at Allan Hancock College is the place were industry professionals turn to when they need to upgrade their skills and were businesses turn to when they need employees or need to send their employees for training to improve their Welding skills. It is also the place where High School students come to after graduating from their High School welding program to be trained to enter the workforce. It is imperative that the Welding staff at Allan Hancock College be trained in the latest Welding Technology so that they continue to be leaders in Welding training innovations.

- d. In reviewing your outcomes and assessments have you identified any and all that indicate a modification should be made to the course outline, the student learning outcomes or the program outcomes? Please state what modifications you will be making.

After reviewing outcomes and assessments and with the success of recent graduates of the program the program faculty have determined that there is a need and an opportunity to introduce more automated processes that would make students in the welding program more competitive in the job market. The course outline in welding courses is current but because of the constant need of improvement and the ever changing technology in welding some of the courses will need to be modified for better skill building and for a smother flow through the program.

- e. Have all course outlines been reviewed within the last 5 years? If not, please explain the plan to bring course outlines up to date and include timelines for the review and submission to AP&P.

All courses in the welding program were reviewed or are in the process of review.

- f. For **CTE courses/programs only**, as per §55003, have prerequisites, corequisites and advisories (PCAs) for courses and/or programs been reviewed within the last 2 years?

Prerequisites, corequisites and advisories for welding courses were reviewed.

IV. Focus and Engagement of the Program

- a. Summarize major trends and opportunities as well as challenges that have emerged in the program

Welding is important in every major industry. Students in the welding program find work in a wide variety of occupations. Graduates of the welding program find employment in opportunities in agriculture or construction or even in aerospace.

- b. List any (internal or external) conditions that have influenced the program in the past year.

The welding program's offerings were affected by the pandemic. The amount of offerings were affected by the recent retirement of welding staff and the amount of students in the class was reduced to provide a more safe learning space for welding students.

Data for Program with Vocational TOP Codes (CTE):

<https://misweb.cccco.edu/perkins/main.aspx>

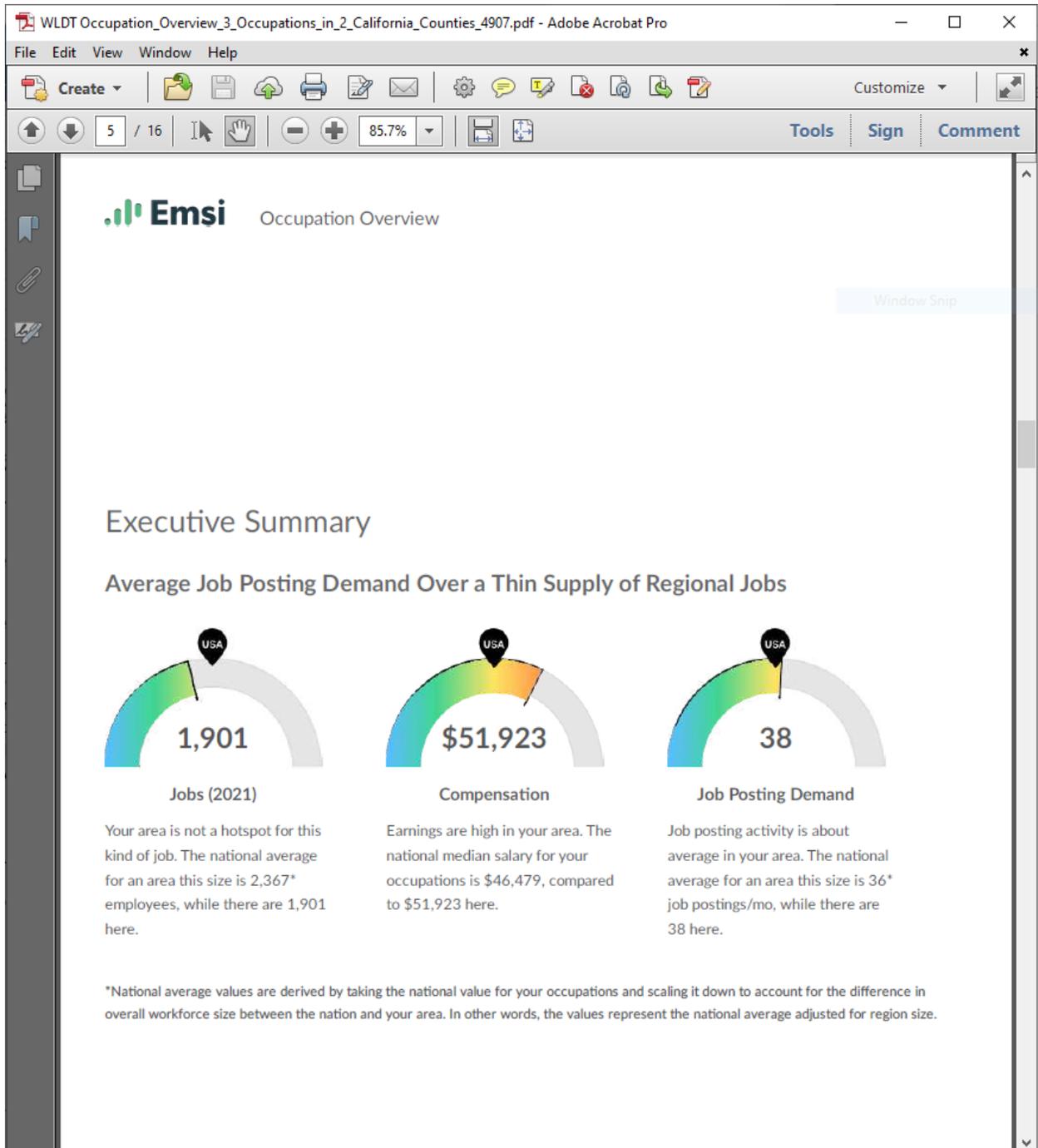
Please review the data and comment on any trends.

c. Current industry employment and wage data (please cite sources)

According to the Emsi data there are less job postings for Welders, Cutters, Solderers, Brazers, Plumbers, Pipefitters, and Steamfitters, Structural Metal Fabricators and Fitters, in this area than in the national average. It also states that the earnings are higher than in the national average. This shows that the welding program at Allan Hancock College is meeting the needs of our local industry better than the national average by providing qualified employees to our local industry and by providing graduates of the program wages that are better than the national average. It also shows that the welding program is successfully following the mission of the college.

“Emsi data is a hybrid dataset derived from official government sources such as the US Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics. Leveraging the unique strengths of each source, our data modeling team creates an authoritative dataset that captures more than 99% of all workers in the United States. This core offering is then enriched with data from online social profiles, resumés, and job postings to give you a complete view of the workforce.”

d. Industry employment and wage trends



The data shows that the welding program at Allan Hancock College is doing better than the national average in providing qualified employees to employers and that those employees are earning more than the national average. This shows that the welding program is in line with the mission of the college. The data also shows that there is still room for improvement.

e. TOP code employment CORE indicator report

f. Advisory committee recommendations

The Welding advisory Committee has made several reconditions to ensure student success.

1. To improve the Facilities including outdoor lab.
2. To improve and update and maintain welding equipment.
3. To continue to work with David Hernandez and counseling to continue the completion success.
4. To continue to outreach to recruit nontraditional and economically disadvantaged students in to Vocational programs.
5. To continue to offer full course offerings to ensure student success.
6. To continue to offer skill builder courses for welding industry professionals. This would require industry specific training for full time welding staff.

V. Continuous Improvement of the Program

a. Status of Final Plan of Action – Post Validation

Summarize the progress made on the recommendations from your last comprehensive program review plan of action

PLAN OF ACTION	ACTION TAKEN/RESULT AND STATUS
Restoration or addition of courses to offer full program offering to ensure that students can finish program in two years whether they are night or day time students. Will continue to invite and work with counselor to improve student success and completion.	Before the pandemic, more courses were offered to give students more opportunities to complete their chosen degrees or certificates along with continued work with counseling department has resulted in higher completion rates for the Welding program. It is the hope of the welding staff to resume this as we recover from the pandemic.
Careful consideration will be taken to determine if material fees should be increased.	There is no immediate plan to raise student lab fees further from their current place to keep courses available for the economically disadvantaged student.
Continue to participate in outreach functions to encourage and entice nontraditional and disadvantaged students in to the program.	Many outreach events have been postponed because of the pandemic. We continue to work with the High Schools to ensure a smooth transition to the community college.
Curriculum will be developed to improve skill building and to ensure student success. More classes will be developed to teach more advanced skill in classes were skill level is difficult achieve in one semester for certification like in TIG welding and pipe welding were a higher degree of skill is necessary.	As a reaction to the pandemic, a successful strategy was applied by welding faculty of reducing class size to ensure student learning quality and safety during the pandemic.
Will continue to work with instructors from Cuesta College who participated in the High School welding competition and one of which is in the Welding Advisory Committee.	High School welding competition was canceled for this year due to the pandemic.
Invite community partners and industry leaders for them to see and get involved with the exiting technical education opportunities at Allan Hancock College.	Program faculty have been collaborating with faculty at other colleges to find solutions to practical problems caused by the pandemic.
<p>Facilities</p> <p>1. Take advantage of the new facilities to better serve our students and the college by adding the much needed classes, and continue to improve the facilities to keep up with technology and industry to better serve students and the community by making every booth in the lab be able to be used for all the welding processes taught at Allan Hancock College. It would give the welding department the ability to offer the classes students need in the evening as well as in the day to finish their educational goals in the two years.</p> <p>2. Storage in old building metal containers will continue until more suitable storage is devised so new building is not cluttered. The purchase of six storage lockers approximately</p>	<p>1. Before the pandemic good progress was made to improve student completion and skill attainment. During the pandemic class size and offerings were reduced without compromising on student education and skill building as a result several students were able to complete the program and gain the skills they needed. To make up on some of the offerings to students an additional section was added to the summer schedule.</p> <p>2. The Storage container was used but the metal rack did not hold up for the intended use. A repair is planed for the summer.</p>

<p>\$600 each for instructors to keep instructional tools and materials for the different classes should alleviate some of the storage issue.</p> <p>3. Old lab space should be used for educational space requiring heavy electrical usage since it is already equipped.</p>	<p>3. There is no plan for using the old welding lab for educational use at this time.</p>
<p>Equipment</p> <p>1. Have a plan with advisory board recommendations to continually replace, upgrade or add two new pieces of equipment per year approximately \$15,000 each, to better serve our students needs by teaching with the latest equipment and methods to keep up with industry.</p> <p>2. Purchase two welding simulators approximately \$12,000 plus an additional \$4,000 for licensees to give students that need extra time to acquire welding skill an opportunity to practice without supervision by having it in a common area such as the library and for outreach.</p> <p>3. Purchase hydraulic press approximately \$15,000 to test weld specimens.</p> <p>4. Purchase two AutoCAD licensees approximately \$5,000 to incorporate technology in to the program by installing the software in to the programs two computers designated for student use.</p> <p>5. Items that would incorporate innovation being taught at the college would be items such as the incorporation of a welding robot to teach the latest technology used in industry. Small items also like welding chambers \$ 4,000 and positioners \$ 4,000 would teach students more advanced welding skills.</p>	<p>1. We continue to plan on replacing old equipment with new equipment to teach welding students with equipment they are likely to use in industry. Advanced welding training will be sought for full time instructor to be able to continue to teach students skills that will make graduates of the program competitive in the job market.</p> <p>2. After careful consideration after looking at other welding programs at other colleges it was determined that it would not be beneficial to the welding program to have welding simulators.</p> <p>3. Was purchased and implemented in to the program.</p> <p>4. AutoCAD has been installed on classroom computers.</p> <p>5. Robotic training will be sought for full time instructor. Fabrication table Welding positioner Magnetic particle tester Inflatable welding chamber Production saw as was discussed at last Welding Advisory meeting</p>
<p>The Staffing</p> <p>1. Find and hire a second full time welding instructor or several part time instructors to teach the additional classes to help students</p>	<p>1. 2nd full time instructor is not wanted at this time. A part time instructor was hired to replace recent retirement.</p>

reach their educational goals in a timelier manner. 2. Lab assistant and department secretary full time positions should be sought. A continuation of the use of student workers to assist in the operation of the lab should continue because it is vital to the program.	2. Part time lab assistant was hired. Full time Department secretary has been hired. The use of student workers has been made more difficult because of the pandemic.
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b. List any new resources that the program received in the past year and the results

Source	Specific Resource	Est. Amount \$	Impact on program or course outcomes
CTEA	Four Welding rod ovens	1,732 each	Improved organization of program consumables
CTEA	Two power hammers	7,342.15 each	Improved skill attainment by students

c. List any new or modified recommendations below, including rationale for these in the table.

Program Improvement Plan(Program ,Priority Number, year)	Anticipated Outcome (Goal)	Program Goal Status (Indicate if this goal is ongoing from a previous Annual Or Comprehensive Program Review or new this year).	Alignment to Strategic Directions and planning goals (see "Alignment to Strategic Directions" Attached	Activities	Justification (Evidence of need)	Resource Request (From table Below)	Anticipated Completion Date or On-going
WLDT P1 2021	Improve student success	On-going	Goal IR3 Goal IR4	Repair or update old equipment in the lab	Welding advisory recommendation/Program review	R1	On-going
WLDT P2 2021	Improve student success	New This year	Goal IE2 Goal SLS3	Provide Welding industry specific training for full time staff	Welding full time faculty observation and recommendation	R2	On-going

d. Summary of request for resources. Please list the type of request (facility, technology, staffing, equipment, other) and rank their priority.

Resource Requests (Program, RRX year)	Item	Program Goal	Type	One-time cost	On-going cost (per fiscal year)	Anticipated Completion Date or On-going
WLDT RR1 2021	Replace welding four welding machines that are no longer working or are no longer serving the needs of the welding program	WLDT P1 2021	Equipment update	32,000	NA	2022
WLDT RR1 2021	Welding positioner	WLDT P1 2021	Incorporate new Technology in to the welding program	4,000	NA	2022
WLDT RR1 2021	Magnetic particle tester	WLDT P1 2021	Incorporate new Technology in to the welding program	1,000	NA	2022
WLDT RR1 2021	Fabrication table Strong Hand Tools BuildPro Modular Welding Table, Model# TMA54738 with accessories	WLDT P1 2021	Incorporate new Technology in to the welding program	4,000	NA	2022
WLDT RR2 2021	Provide Welding specific training for fulltime instructor	WLDT P2 2021	Industry specific training	5,000	5,000	2022

Welding program two year plan

Spring

Core classes offered

Class Name	WLDT number	Day or Evening Class	Number of units
Beginning welding	WLDT 106	Day and Evening	3
Advanced Welding	WLDT 107	Day and Evening	3
Layout & Fabrication interpretation	WLDT 306	Evening	3
Shop Math and Measurement	WLDT 300	Evening	3

Selected welding units

Class Name	WLDT number	Day or Evening Class	Number of units
GMAW	WLDT 307	Daytime	3
TIG Welding	WLDT 308	Evening	3
Welding Certification	WLDT 330	Daytime	3
Advanced Welding Certification lab	WLDT 331	Daytime	2
Selected Welding Projects	WLDT 301	Day and Evening	1
Blacksmithing Projects	WLDT 319	Friday Evening	1
Welded sculptural Projects	WLDT 305	Friday Evening	1
Metal Yard Sculptures	WLDT 316	Friday Evening	.5

Fall

Core classes offered

Class Name	WLDT number	Day or Evening Class	Number of units
Beginning welding	WLDT 106	Day and Evening	3
Advanced Welding	WLDT 107	Day and Evening	3
Layout & Fabrication interpretation	WLDT 306	Evening	3
Shop Math and Measurement	WLDT 300	Evening	3

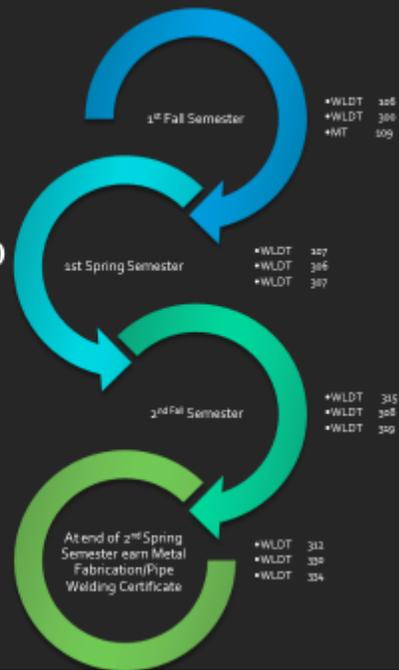
Selected welding units

Class Name	WLDT number	Day or Evening Class	Number of units
TIG Welding	WLDT 308	Daytime	3
Pipe Fitting and Welding	WLDT 312	Evening	3
Metal Fabrication	WLDT 315	Daytime	4
Selected Welding Projects	WLDT 301	Day and Evening	1
Pipe welding	WLDT 320	Evening	3
Welding Certification SMAW	WLDT 333	Friday Evening	1
Welding Certification GMAW	WLDT 334	Friday Evening	1
Ornamental Iron	WLDT 317	Friday Evening	1

Summer

Class Name	WLDT number	Day or Evening Class	Number of units
Mini Mig	WLDT 309	Evening	1
Flux Core Arc Welding	WLDT 335	Evening	1

Fall Welding program suggested schedule to earn certificate in Metal Fabrication and or Pipe Welding Certificate in two years.



1st Semester WLDT 106
 WLDT 300
 MT 109

2nd Semester WLDT 107
 WLDT 306
 WLDT 307

3rd Semester WLDT 315
 WLDT 308
 WLDT 319

4th Semester WLDT 312
 WLDT 330
 WLDT 334

Spring Welding program suggested class schedule to earn Certificate in Metal Fabrication and or Pipe welding Certificate in two years.



- 1st Semester WLDT 106
- WLDT 300
- MT 109
- 2nd Semester WLDT 107
- WLDT 306
- WLDT 307
- 3rd Semester WLDT 315
- WLDT 308
- WLDT 319
- 4th Semester WLDT 312
- WLDT 330
- WLDT 334

Welding Technology Program Class Offering Schedule

Core Courses

WLDT 106 Beginning Welding	4 section offered every semester	Daytime and Evening
WLDT 107 Advanced Welding	2 sections offered every semester	Daytime and Evening
WLDT 306 Layout and fab Inter.	1 section offered every semester	Evenings only
WLDT 300 Shop Math	1 section every semester	Evenings only
MT 109 Survey of Machining	2 sections every semester	Daytime and Evening

Selected Courses in Welding

WLDT 307 G.M.A.W Welding	1 section offered in Spring	Daytime only
WLDT 308 TIG Welding (GTAW)	1 section offered Spring and Fall	Daytime and Evening
WLDT 312 Pipe Fitting and Welding	1 section offered in Fall	Evenings only
WLDT 315 Metal Fabrication	1 section offered in Fall	Daytime only
WLDT 330 Welding Certification	1 section offered in Spring	Daytime only
Every other spring	1 section offered in Spring	Evenings only
WLDT 331 Advanced Welding Cert lab	1 section offered in Spring	Daytime only
Every other spring	1 section offered in Spring	Evenings only
WLDT 316 Metal Yard Sculptures	1 section offered in Fall	Friday evenings
WLDT 317 Ornamental Iron 1	1 section offered in Fall	Friday evenings
WLDT 319 Blacksmithing Projects	1 section offered in Fall	Friday evenings
WLDT 320 Pipe Welding	1 section offered in Fall cross listed w/312	Evenings only

Courses that can be substituted for Selected Courses in Welding

WLDT 301 Selected Welding Projects	2 sections every semester	Daytime and Evening
WLDT 309 Mini MIG (GMAW)	1 section offered in Summer	Evenings only
WLDT 318 Welding and Metal Sculpture	1 section offered in Spring	Friday evenings
WLDT 333 Welding Cert SMAW	1 section offered in Spring	Friday evenings
WLDT 334 Welding Cert GMAW	1 section offered in Spring	Friday evenings
WLDT 335 Flux Core Arc Welding	1 section offered in Summer	Evenings only

2 Year Scheduling Plan Spring

First semester Spring: WLDT 106, WLDT 300, MT 109

Second Semester Fall: WLDT 107, WLDT 306, WLDT 308

Summer

Summer: WLDT 335, WLDT 309

Third Semester Spring: WLDT 307, WLDT 330

Fourth Semester Fall: WLDT 320, WLDT 315

Ideal sequence to complete program in the shortest amount of time Fall

First semester Fall: WLDT 106, WLDT 300, MT 109

Second Semester Spring: WLDT 107, WLDT 306, WLDT 308

Third Semester Fall: WLDT 320, WLDT 315

Fourth Semester Spring: WLDT 307, WLDT 330

Summer

Summer: WLDT 335, WLDT 309