

BIG BEND COMMUNITY COLLEGE

INDUSTRY, MANUFACTURING & TRADES

WELDING TECHNOLOGY



The Welding Technology program is designed for persons to acquire the technical knowledge and skills required to obtain a career in welding, fabrication, and related occupations. Graduates may qualify for positions in industries such as machinery fabrication, structural fabrication, pipe fabrication, plant maintenance, and trade occupations which require welding skills. Students who complete the first year of the program will gain sufficient training to obtain entry-level employment. The second year of the program will focus on advanced skills in welding applications in specialty areas.

Persons who complete the two-year program of study may earn the Associate in Applied Science (AAS) degree in Welding Technology with an emphasis in structural welding, industrial production welding or pipe welding. The one-year welding certificate of achievement is available for students who do not wish to complete a two-year degree. Local employers indicate that there are jobs available for students who complete either the certificate or the AAS degree. Interested students must work out their individual programs with a department advisor.

This program has been designed to allow students to enroll at the beginning of each quarter. Students entering the program will progress sequentially through the lab classes; lecture classes are offered during scheduled quarters only.

ENTRY REQUIREMENTS

- Complete Admissions and Placement processes Meet with Welding faculty/advisor prior to enrolling

DEGREE REQUIREMENTS

Related Instruction and Program Core (87 Credits)

- | | |
|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> BUS 120 – Human Relations on the Job (4) <input type="checkbox"/> CMST 100 – Human Communications (4) <input type="checkbox"/> ENGL 109 – Applied Technical Writing (3) <input type="checkbox"/> FAD 150 – Industrial First Aid & CPR (2) <input type="checkbox"/> MAP 101 – Applied Mathematics (AUT/WLD) (5) <input type="checkbox"/> WLD 110 – Welding Theory I (5) <input type="checkbox"/> WLD 111 – Welding Process I (6) <input type="checkbox"/> WLD 112 – Thermal Cutting & Welding (3) <input type="checkbox"/> WLD 120 – Welding Theory II (5) <input type="checkbox"/> WLD 121 – Welding Process II (6) <input type="checkbox"/> WLD 122 – Gas Metal Arc Welding I (3) <input type="checkbox"/> WLD 130 – Welding Theory III (5) <input type="checkbox"/> WLD 131 – Welding Process III (6) <input type="checkbox"/> WLD 132 – Gas Tungsten Arc Welding I (TIG) (3) | <ul style="list-style-type: none"> <input type="checkbox"/> WLD 151 – Technical Drawing Interpretation (3) <input type="checkbox"/> WLD 152 – Welding Layout I (3) <input type="checkbox"/> WLD 153 – Welding Layout II (3) <input type="checkbox"/> WLD 205 – Weld Test Methods (4) <input type="checkbox"/> WLD 206 – Welding Codes and Standards (4) <input type="checkbox"/> WLD 207 – Welding Metallurgy (4) <input type="checkbox"/> WLD 212 – Gas Metal Arc Welding II (3) <p>APPROVED WELDING ELECTIVES AS NEEDED</p> <ul style="list-style-type: none"> <input type="checkbox"/> WLD 190 – Skill Improvement (2-6) <input type="checkbox"/> WLD 290 – Skill Improvement II (2-6) <input type="checkbox"/> WLD 295 – Work-Based Learning (1-4) <input type="checkbox"/> WLD 297 - Work-Based Learning Seminar (1) |
|---|---|

Structural Welding Option (24 Credits Total)

- | | |
|--|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> WLD 241 – Structural Weld Process I (6) <input type="checkbox"/> WLD 242 – Structural Welding I (3) <input type="checkbox"/> WLD 243 – Structural Weld Process II (6) | <ul style="list-style-type: none"> <input type="checkbox"/> WLD 244 – Submerged Arc Welding (3) <input type="checkbox"/> WLD 245 – Structural Weld Process III (6) |
|--|--|

Production Welding Option (24 credits Total)

- | | |
|--|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> WLD 261 – Production Weld Process I (6) <input type="checkbox"/> WLD 262 – Production Welding I (3) <input type="checkbox"/> WLD 263 – Production Weld Process II (6) | <ul style="list-style-type: none"> <input type="checkbox"/> WLD 264 – Advanced Arc Welding (3) <input type="checkbox"/> WLD 265 – Production Weld Process III (6) |
|--|---|

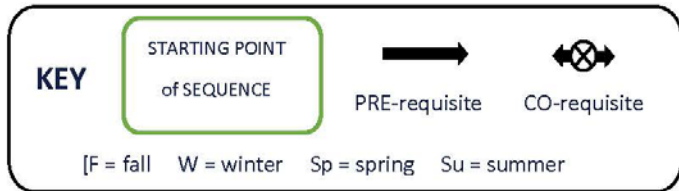
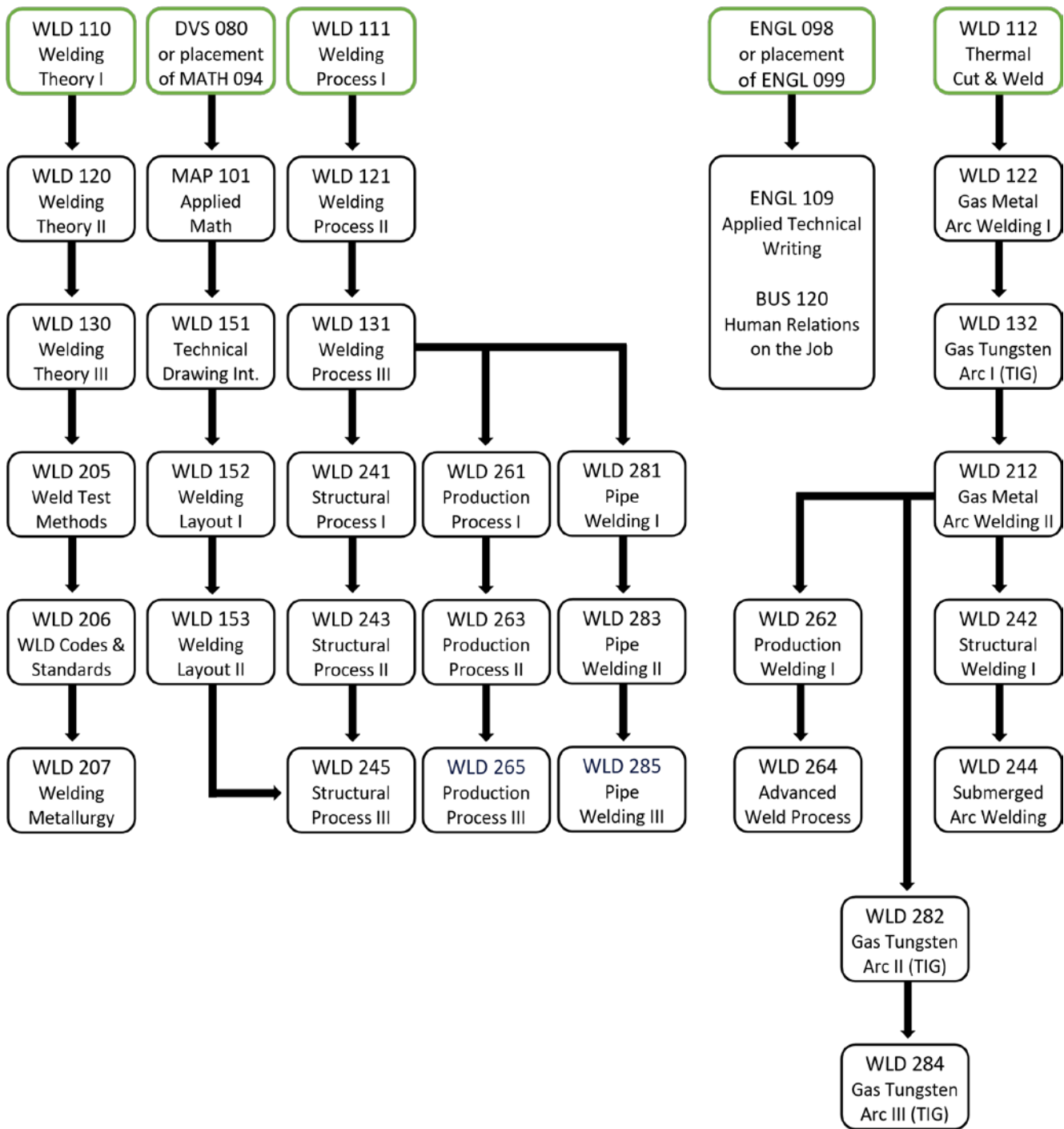
Pipe Welding Option (24 Credits Total)

- | | |
|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> WLD 281 – Pipe Welding I (6) <input type="checkbox"/> WLD 282 – Gas Tungsten Arc Welding II (TIG) (3) <input type="checkbox"/> WLD 283 – Pipe Welding II (6) | <ul style="list-style-type: none"> <input type="checkbox"/> WLD 284 – Gas Tungsten Arc Welding III (TIG) (3) <input type="checkbox"/> WLD 285 – Pipe Welding III (6) |
|---|--|

111 TOTAL DEGREE CREDITS

WELDING PRE-REQUISITE FLOW CHART

Start by talking with your assigned advisor to determine which courses to take first based on your placement scores.



- Program Courses WITHOUT PRE-requisites**
- CMST 100 – Human Communications
 - FAD 150 – Industrial First Aid & CPR
 - WLD 110 – Welding Theory I
 - WLD 111 – Welding Process I
 - WLD 112 – Thermal Cutting and Welding

NAME: _____

WELDING QUARTERLY PROGRAM PLAN (YEAR ONE)		
FIRST (20-22 Credits)	SECOND (20-22 Credits)	THIRD (20-22 Credits)
Related Instruction (3-5) BUS/CMST/ENGL/MAP WLD 110 (5) WLD 111 (6) WLD112 (3) WLD 151 (3)	Related Instruction (3-5) BUS/CMST/ENGL/MAP WLD 120 (5) WLD 121 (6) WLD 122 (3) WLD 152 (3)	Related instruction (3-5) BUS/CMST/ENGL/MAP WLD 130 (5) WLD 131 (6) WLD 132 (3) WLD 153 (3)
ADVISING		
FALL	WINTER	SPRING
<input type="checkbox"/> BBCC Foundation scholarship app. <input type="checkbox"/> Fill out FAFSA or WAFSA for next year <input type="checkbox"/> Meet with your advisor	<input type="checkbox"/> Assess program plan with advisor <input type="checkbox"/> Related instruction should be completed during the first year to second year time, time conflicts with WLD courses. Some substitutions available Requirement → Substitution Courses CMST 100 → CMST& 210, CMST& 220 BUS 120 → PSYC& 100, SOC& 101 ENGL 109 → ENGL& 101 MAP 101 → MAP 100+ or equivalent	<input type="checkbox"/> Assess program plan with advisor <input type="checkbox"/> Determine need for summer classes

SID: _____

WELDING QUARTERLY PROGRAM PLAN (Year TWO)		
FOURTH (15+ Credits)	FIFTH (15+ Credits)	SIXTH (15 + Credits)
FAD 150 and/or Remaining Related Instruction WLD 205 (4) WLD 212 (3) <u>Structural Welding Option</u> WLD 241 (6) <u>Production Welding option</u> WLD 261 (6) <u>Pipe Welding Option</u> WLD 281 (6)	FAD 150 and/or Remaining Related Instruction WLD 206 (4) <u>Structural Welding Option</u> WLD 242 (3) WLD 243 (6) <u>Production Welding Option</u> WLD 262 (3) WLD 263 (6) <u>Pipe Welding Option</u> WLD 282 (3) WLD 283 (6)	FAD 150 and/or Remaining Related Instruction WLD 207 (4) <u>Structural Welding Option</u> WLD 244 (3) WLD 245 (6) <u>Production Welding Option</u> WLD 264 (3) WLD 265 (6) <u>Pipe Welding Option</u> WLD 284 (3) WLD 285 (6)
ADVISING		
FALL	WINTER	SPRING
<input type="checkbox"/> Meet with your advisor <input type="checkbox"/> Determine need for any approved WLD electives	<input type="checkbox"/> Assess program plan with advisor <input type="checkbox"/> Apply for BBCC graduation <input type="checkbox"/> Explore BBCC Career services	<input type="checkbox"/> Prepare for employment interviews (resume, cover letter, etc.) <input type="checkbox"/> Finalize/sign program plan with advisor

WELDING TECHNOLOGY CERTIFICATES

CERTIFICATE OF ACHIEVEMENT (52 CREDITS)

- BUS 120 – Human Relations on the Job (4)
- CMST 100 – Human Communication (4)
- ENGL 109 – Applied Technical Writing (3)
- FAD 150 – Industrial First Aid & CPR (2)
- MAP 101 – Applied Mathematics (AUT/WLD) (5)
- WLD 110 – Welding Theory I (5)
- WLD 111 – Welding Process I (6)
- WLD 112 – Thermal Cutting & Welding (3)
- WLD 120 – Welding Theory II (5)
- WLD 121 – Welding Process II (6)
- WLD 122 – Gas Metal Arc Welding I (3)
- WLD 151 – Technical Drawing Interpretation (3)
- WLD 152 – Welding Layout I (3)

CERTIFICATE OF ACCOMPLISHMENT (37 CREDITS)

- WLD 110 – Welding Theory I (5)
- WLD 111 – Welding Process I (6)
- WLD 112 – Thermal Cutting & Welding (3)
- WLD 120 – Welding Theory II (5)
- WLD 121 – Welding Process II (6)
- WLD 122 – Gas Metal Arc Welding I (3)
- WLD 132 – Gas Tungsten Arc Welding I (TIG) (3)
- WLD 151 – Technical Drawing Interpretation (3)
- WLD 152 – Welding Layout I (3)

QUARTERLY REGISTRATION PLANNING

QUARTER <input type="checkbox"/> FALL <input type="checkbox"/> WINTER <input type="checkbox"/> SPRING <input type="checkbox"/> SUMMER			REGISTRATION ACCESS CODE _____		
CLASS	TITLE	CREDITS	DAYS	TIME	ITEM #

QUARTERLY REGISTRATION PLANNING

QUARTER <input type="checkbox"/> FALL <input type="checkbox"/> WINTER <input type="checkbox"/> SPRING <input type="checkbox"/> SUMMER			REGISTRATION ACCESS CODE _____		
CLASS	TITLE	CREDITS	DAYS	TIME	ITEM #

QUARTERLY REGISTRATION PLANNING

QUARTER <input type="checkbox"/> FALL <input type="checkbox"/> WINTER <input type="checkbox"/> SPRING <input type="checkbox"/> SUMMER			REGISTRATION ACCESS CODE _____		
CLASS	TITLE	CREDITS	DAYS	TIME	ITEM #

NAME: _____

SID: _____

Big Bend Community College
WORKFORCE EDUCATION PROGRAM REQUIREMENTS

NAME:

Certificate of Achievement

Students working toward a Certificate of Achievement need to develop a program plan with the faculty advisor in their Workforce Education area of interest. The plan must include all related instruction components. The Certificate of Achievement is designed to provide recognition for the student who has not completed an Associate in Applied Science degree program.

Certificate of Accomplishment

Students working toward a Certificate of Accomplishment need to develop a program plan with the faculty advisor in their Workforce Education area of interest. The Certificate of Achievement is designed to provide recognition for the student who does not complete a Certificate of Achievement or an Associate in Applied Science degree program.

Changes or substitutions for course work in the college catalog must be listed and approved by the advisor. It is essential that students meet quarterly with their advisor before registration to review progress and plan their program.

Each program plan must be approved by the Workforce Education program advisor and Dean of Workforce Education. Certificates will be issued out of the Dean of Workforce Education Instructional Services office.

- Certificate of Achievement** **QTR & YR Completed:** _____
- Certificate of Achievement** **QTR & YR Completed:** _____

Title of Certificate:

Advisor Approval:

Advisor

Date

Program Completion Approval:

Dean of Workforce Education

Date

Instructional Services Office Assistant

Date

SID:

NAME: _____

SID: _____

**Big Bend Community College
WORKFORCE EDUCATION PROGRAM REQUIREMENTS
Associate in Applied Science Degree**

Credit Requirement: Completion of the total credit requirements of the approved Workforce Education Program Plan. Minimum of 90 quarter hours. It is the student's responsibility to insure that he/she meets all of the technical and general education degree requirements.

MATHEMATICS REQUIREMENT: 3-5 credits* in mathematics courses as stated in the approved Professional/Technical Program Plan.

BUS 102	Business Mathematics
MAP 100	Applied Mathematics (AMT)*
MAP 101	Applied Mathematics (AUT/WLD)
MAP 103	Applied Mathematics (MMT/ET)
MAP 117	Applied Mathematics for Workforce I
MAP 119	Applied Mathematics for Workforce II
MATH& 107	Math in Society
MATH& 141	Pre-calculus I
MATH& 146	Intro to Statistics
MATH 147	Finite Mathematics
*AMT program requires two MAP 100 credits	

WRITTEN COMMUNICATIONS REQUIREMENT: 3-5 credits in written communications courses as stated in the approved Professional/Technical Program Plan.

BUS 121	Business English
ENGL& 101	English Composition I
ENGL 109	Applied Technical Writing

ORAL COMMUNICATIONS REQUIREMENT: 3-5 credits in oral communications courses as stated in the approved Professional/Technical Program Plan.

AVF 225	Effective Communications in Flight Instruction
CMST 100	Human communications
CMST& 210	Interpersonal Communications
CMST& 220	Public Speaking

HUMAN RELATIONS REQUIREMENT: 3-5 credits in human relations courses as stated in the approved Professional/Technical Program Plan.

BUS 120	Human Relations on the Job
EDUC& 115	Child Development
PSYC& 100	General Psychology
SOC& 101	Intro to Sociology

INDUSTRIAL FIRST AID REQUIREMENT: 2 credits in Industrial First Aid or equivalent or higher certification as stated in the approved Professional/Technical Program Plan.

FAD 150	Industrial First Aid and CPR plus Bloodborne Pathogens
Current First Aid/CPR, First Responder, or EMT card	

Student Name _____ SID # _____

Approval: _____

Advisor _____ Date _____

Program Completion Approval: _____

Dean of Workforce Education _____ Date _____

Each program must be approved by the Workforce Education program advisor. Program changes and substitutions must be approved by the program advisor prior to application for degree.