

ESSENTIAL REQUIREMENTS FOR THE WELDING CERTIFICATE PROGRAM

The Welding program at Santa Fe College provides the graduate with a Post-secondary Adult Vocational certificate upon completion. Graduates are prepared to enter the workforce with a wide variety of welding skills and certifications. The program varies in complexity beginning with basic welding practices and goes through the more complex application of pipe welding. Students are trained on the latest equipment used by industry and taught by highly qualified instructors who are dedicated to seeing their students succeed.

Santa Fe College is an accredited American Welding Society testing facility that offers 20 different welder certification tests to students and industry workers. Students have the opportunity not only to prepare for the welding industry, but also to enter the workforce with certification that affords them the opportunity to receive higher wages.

The program is a 1,170 contact hour program consisting of 13 classes. A full time student can complete the entire program in four semesters. The program uses the most current curriculum materials approved by the American Welding Society and the National Center for Construction Education and Research.

Section 1. Essential Observational Requirements for Welding Students.

The Welding student must be able to:

- observe laboratory demonstrations in which welding techniques are discussed.
- describe the condition of welding materials, base metals and welds.
- read and comprehend text, numbers and graphs displayed in print and on a video monitor or screen.

Section 2. Essential Movement Requirements for Welding Students.

The Welding student must be able to:

- be in the welding classroom as well as the welding shop at the designated times as described in the course syllabus for educational experiences.
- demonstrate sufficient tolerance to work in confined spaces and reach various areas around materials that need welding including getting into tight, hard to reach places for moderate periods of time.
- move safely around the classroom and welding shop.
- use welding and cutting equipment effectively (e.g. correctly adjusting and setting up a track torch).
- demonstrate sufficient endurance to perform moderately taxing continuous physical work, often requiring prolonged standing over several hours and overhead arm use for extended times.
- demonstrate sufficient strength, balance, and mobility in order to frequently handle hot, dirty and greasy parts, e.g. placing a large pipe in place for a weld.
- demonstrate sufficient chemical tolerance to withstand contact with moderately hazardous materials.
- demonstrate proper use and control of power tools and power equipment.
- demonstrate the ability to operate welding and cutting equipment safely.

Section 3. Essential Communication Requirements for Welding Students.

The Welding student must consistently demonstrate the ability to:

- read and comprehend technical and professional materials (e.g. textbooks, shop drawings, handbooks, welding procedures, and instruction/equipment manuals, etc.).
- comprehend verbal communications, including lectures, discussions, and conversations with welding professionals and customers .

- follow verbal and written instructions in order to correctly and independently perform shop duties.
- effectively communicate with industry personnel about welding requirements.
- independently prepare papers and homework, and take paper, computer, and laboratory practical examinations.

Section 4. Essential Cognitive Requirements for Welding students.

The Welding student must:

- independently possess the following cognitive and problem-solving skills: comprehension, measurement, mathematical calculation, reasoning, integration, analysis, self-expression, and patience. The student must also be able to demonstrate these skills by achieving the state mandated TABE test scores (9.0 Reading; 9.0 Language: 9.0 Math) by the end of the program. TABE scores are required upon entry into the program with minimum scores (7.0 Reading; 6.5 Language: 6.5 Math)
- be able to demonstrate the skills listed above by passing a American Welding Society industry certification.
- be able to use a diagnostic approach to thoroughly examine his/her work environment and welds to determine not only any current problems but also to determine if there will be problems in the future.

Section 5. Essential Behavioral Requirements for Welding students.

The Welding student must consistently demonstrate the ability to:

- manage the use of time and organize work in order to complete multiple tasks and responsibilities within realistic constraints.
- independently exercise appropriate judgment and apply cognitive skills in the classroom, welding lab, and industrial settings.
- provide professional and technical services while experiencing the stresses of task-related uncertainty (e.g. impatient supervisors, the occasional cut and bruise), emergent demands (emergency repairs) and a distracting environment (e.g. high noise levels, hot and drafty conditions).
- be flexible and creative and adapt to professional and technical change.
- recognize potentially hazardous materials, equipment, and situations and work safely in order to minimize risk of injury to co-workers, self and nearby individuals.
- adapt to working with unpleasant substances (e.g. smoke, heat, dust, etc.).
- foster a team approach by supporting and promoting the activities of fellow students and welding professionals in learning, task completion, problem solving, and customer service.
- admit when an error has been made, when uncertain about a diagnostic result, or when unsure about the appropriate response in professional situations.
- critically evaluate his or her own performance, accept constructive feedback, and seek ways for improvement (e.g. participate in enriching educational activities).
- evaluate the performance of fellow students, faculty, advisors, and the program as well as tactfully offer constructive feedback.
- adhere to all course policies and procedures as outlined in the course syllabus.
- adhere to all college policies and procedures as outlined in the student handbook.