

**Student Competency Record**  
**Welding I**  
**8672 - 36 weeks**

<hr/> <b>Student</b>	<hr/> <b>School Year</b>
<hr/> <b>School</b>	<hr/> <b>Teacher Signature</b>

Traditional letter or numerical grades do not provide adequate documentation of student achievement in competency-based education; therefore, the Virginia Standards for CBE require a recording system to provide information about competencies achieved to employer, student-employee, and teacher. The Student Competency Record provides a means for keeping track of student progress. Ratings are assigned by the teacher for classroom competency achievement and by the teacher-coordinator in conjunction with the training sponsor when competence is evaluated on the job.

Tasks/competencies designated "Required" are considered essential statewide and are required of all students. In some courses, all tasks/competencies have been identified as required. Tasks/competencies marked "Optional" are considered optional; they and/or additional tasks/competencies may be taught at the discretion of the school division. Tasks/competencies marked with an asterisk (\*) are considered sensitive, and teachers should obtain approval by the school division before teaching them. Student competency records should be kept as long as the student is enrolled in the school and for five years after the student graduates/leaves the school.

**Note: Students with an Individualized Education Program (IEP) or an Individualized Student Alternative Education Plan (ISAEP) will be rated, using the following scale, only on the competencies identified in their IEP or ISAEP.**

Students will be expected to achieve a **satisfactory rating** (one of the three highest marks) on the Student Competency Record (SCR) rating scale on at least 80 percent of the required (essential) competencies in a CTE course.

**...RATING SCALE...**

- 1 - Can teach others**
- 2 - Can perform without supervision**
- 3 - Can perform with limited supervision**
- 4 - Can perform with supervision**
- 5 - Cannot perform**

<b>8672 36 weeks</b>	<b>Welding I TASKS/COMPETENCIES</b>		<b>Date</b>	<b>Rating</b>
	<b>Demonstrating Personal Qualities and Abilities</b>			
Required	1	Demonstrate creativity and innovation.		
Required	2	Demonstrate critical thinking and problem solving.		
Required	3	Demonstrate initiative and self-direction.		
Required	4	Demonstrate integrity.		

Required	5	Demonstrate work ethic.		
<b>Demonstrating Interpersonal Skills</b>				
Required	6	Demonstrate conflict-resolution skills.		
Required	7	Demonstrate listening and speaking skills.		
Required	8	Demonstrate respect for diversity.		
Required	9	Demonstrate customer service skills.		
Required	10	Collaborate with team members.		
<b>Demonstrating Professional Competencies</b>				
Required	11	Demonstrate big-picture thinking.		
Required	12	Demonstrate career- and life-management skills.		
Required	13	Demonstrate continuous learning and adaptability.		
Required	14	Manage time and resources.		
Required	15	Demonstrate information-literacy skills.		
Required	16	Demonstrate an understanding of information security.		
Required	17	Maintain working knowledge of current information-technology systems.		
Required	18	Demonstrate proficiency with technologies, tools, and machines common to a specific occupation.		
Required	19	Apply mathematical skills to job-specific tasks.		
Required	20	Demonstrate professionalism.		
Required	21	Demonstrate reading and writing skills		
Required	22	Demonstrate workplace safety.		
<b>Examining All Aspects of an Industry</b>				
Required	23	Examine aspects of planning within an industry/organization.		
Required	24	Examine aspects of management within an industry/organization.		
Required	25	Examine aspects of financial responsibility within an industry/organization.		
Required	26	Examine technical and production skills required of workers within an industry/organization.		
Required	27	Examine principles of technology that underlie an industry/organization.		
Required	28	Examine labor issues related to an industry/organization.		
Required	29	Examine community issues related to an industry/organization.		
Required	30	Examine health, safety, and environmental issues related to an industry/organization.		
<b>Addressing Elements of Student Life</b>				
Required	31	Identify the purposes and goals of the student organization.		
Required	32	Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.		
Required	33	Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.		

Required	34	Identify Internet safety issues and procedures for complying with acceptable use standards.		
<b>Exploring Work-Based Learning</b>				
Required	35	Identify the types of work-based learning (WBL) opportunities.		
Optional	36	Reflect on lessons learned during the WBL experience.		
Required	37	Explore career opportunities related to the WBL experience.		
Optional	38	Participate in a WBL experience, when appropriate.		
<b>Applying Basic Safety Standards</b>				
Required	39	Comply with federal, state, and local safety requirements, including the Occupational Safety and Health Administration (OSHA), Virginia Occupational Safety and Health (VOSH) Program, and Environmental Protection Agency (EPA) regulations.		
Required	40	Maintain a safe working environment.		
Required	41	Explain safe working practices around electrical hazards.		
Required	42	Identify emergency first aid procedures.		
Required	43	Identify the types of fires and the methods used to extinguish them.		
Optional	44	Demonstrate the use of a fire extinguisher.		
Required	45	Identify personal protective equipment (PPE) requirements.		
Required	46	Inspect PPE to determine whether it is safe to use.		
Required	47	Describe ventilation requirements and regulations pertaining to welding.		
Required	48	Inspect hand and power tools to ensure safety and usability.		
Required	49	Demonstrate lifting and carrying techniques.		
Required	50	Identify types of ladders.		
Optional	51	Demonstrate safe laddering techniques for various types of ladders.		
Required	52	Describe safe scaffolding techniques.		
Required	53	Report injuries.		
Required	54	Report personal, environmental, and equipment safety violations to the appropriate authority.		
Required	55	Earn the OSHA 10 card.		
Required	56	Pass the safety exam.		
<b>Exploring the Basics of Welding</b>				
Optional	57	Identify common metals used in the welding profession.		
Required	58	Identify the main regulatory bodies and regulations affecting the welding profession in the United States.		
Required	59	Identify minor external repairs to all equipment and accessories.		
<b>Working with Welding Documents, Drawings and Measurements</b>				
Optional	60	Identify basic elements of a drawing or sketch.		
Optional	61	Identify welding symbol information.		
Optional	62	Follow the instructions on a job specifications sheet.		
Optional	63	Apply basic measuring skills to welding operations.		
Optional	64	Convert basic measurements.		

Optional	65	Interpret dimensions from a drawing with incomplete dimensions.		
<b>Demonstrating Shielded Metal Arc Welding (SMAW)</b>				
Required	66	Describe the theories behind SMAW.		
Required	67	Perform safety inspections of all equipment and accessories.		
Required	68	Identify minor external repairs to all equipment and accessories.		
Required	69	Set up for SMAW operations and base metal preparation on carbon steel.		
Required	70	Operate SMAW equipment.		
Required	71	Perform single-pass fillet welds, 1F and 2F, on carbon steel.		
Optional	72	Perform groove welds, 1G and 2G, on carbon steel, limited thickness.		
<b>Demonstrating Gas Metal Arc Welding (GMAW)</b>				
Required	73	Describe the theories behind GMAW and GMAW-S.		
Required	74	Perform safety inspections of all equipment and accessories.		
Required	75	Identify minor external repairs to all equipment and accessories.		
Required	76	Set up for GMAW and GMAW-S operations and base metal preparation on carbon steel.		
Required	77	Operate GMAW and GMAW-S equipment.		
Required	78	Perform single-pass fillet welds, all positions, on carbon steel, using different modes of transfer.		
Required	79	Perform groove welds, all positions, on carbon steel, using different modes of transfer.		
<b>Demonstrating Flux-cored Arc Welding</b>				
Required	80	Describe the theories behind FCAW-G.		
Required	81	Perform safety inspections of all equipment and accessories.		
Required	82	Identify minor external repairs to all equipment and accessories.		
Required	83	Set up for FCAW-G operations and base metal preparation on carbon steel.		
Required	84	Operate FCAW-G equipment.		
Required	85	Describe the theories behind FCAW-S.		
Optional	86	Perform single-pass welds on carbon steel, using different modes of transfer.		
<b>Demonstrating Thermal Cutting</b>				
Required	87	Explain why one form of cutting is preferable to another.		
Required	88	Describe the theories behind manual thermal cutting.		
Required	89	Perform safety inspections of all equipment and accessories.		
Required	90	Identify minor external repairs to all equipment and accessories.		
Required	91	Set up for manual OFC operations and base metal preparation on carbon steel.		
Required	92	Operate manual OFC equipment.		
Required	93	Operate PAC.		
Required	94	Operate CAC.		
Required	95	Perform straight-cutting operations on carbon steel.		
Optional	96	Describe the theories behind machine OFC track burner.		

