

Student Competency Record
Aerospace Technology I
8487 - 36 weeks

<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> Student	<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> School Year
<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> School	<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> Teacher Signature

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% 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**

8487 36 weeks	Aerospace Technology I TASKS/COMPETENCIES		Date	Rating
	Demonstrating Personal Qualities and Abilities			
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.		
	Demonstrating Interpersonal Skills			
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.		
	Demonstrating Professional Competencies			
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 (IT) 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.		
	Examining All Aspects of an Industry			
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.		
Addressing Elements of Student Life				
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.		
Exploring Work-Based Learning				
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.		
Exploring the History of Aviation				
Required	39	Identify the contributions of the pioneers of aviation.		
Required	40	Create a flying device.		
Required	41	Describe the construction and initial flight of the first powered aircraft.		
Required	42	Construct helicopters.		
Required	43	List major milestones in the development of aviation.		
Required	44	Describe the effects of war on aviation technology and the growth of civil aviation.		
Required	45	Describe how aviation has influenced the development of civilization since the advent of powered flight.		
Required	46	Research industry trends in aviation.		
Applying Aerodynamics				

Required	47	Describe the four forces of flight and how each affects an aircraft in flight.		
Required	48	Apply Bernoulli's principle to flight.		
Required	49	Apply Newton's laws to aerodynamics.		
Required	50	Create virtual airfoils.		
Required	51	Define common aerodynamics terms.		
Required	52	Describe the concept of angle of attack and airfoil stall.		
Required	53	Create a model airfoil.		
Required	54	Design a model aircraft.		
Required	55	Construct a model aircraft without an electric or gas engine.		
Exploring Aircraft Components				
Required	56	Demonstrate an airplane moving about the center of gravity through each of the three axes of flight by operating the rudder, aileron, winglets, and elevator deflection.		
Required	57	Categorize aircraft instrumentation.		
Required	58	Summarize the operation of a turboprop and turbojet engine.		
Required	59	Use flight instruments to simulate flight.		
Required	60	Construct an aircraft powered by an electric or gas engine(s).		
Required	61	Operate an aircraft.		
Required	62	Describe the functions of, and the relationships among, the parts of an aircraft.		
Required	63	Demonstrate the functions of the four major control surfaces of an airplane.		
Exploring Flight Conditions				
Required	64	Identify atmospheric conditions and their effect on aircraft performance.		
Required	65	Describe how heat, pressure, and the Earth's rotation interact to affect global wind patterns.		
Required	66	Describe how temperature and moisture affect the stability of the atmosphere.		
Required	67	Identify the characteristics of clouds and their effects on flight.		
Optional	68	Describe the characteristics of air mass boundaries.		
Optional	69	Analyze flight hazards caused by various atmospheric conditions.		
Required	70	Chart atmospheric data.		
Examining Airport and Flight Operations				

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