

AGRI 105 Articulation Competencies

Agriculture Mechanics (3 Credits)

Introduction and exploration of the theory and practice of safe operation, maintenance, service and repair of most small engines for agricultural applications. Instruction will also include employment and careers in agricultural mechanics.

Upon completion of this course, successful students will score 80% or better on the following competencies to receive WVC college credits.

Student Learning Outcomes:

CATEGORIES			
1. Problem Solving:	A. Critical Thinking	3. Social Interaction:	A. Collaboration
	B. Creative Thinking		B. Ethical Conduct
	C. Quantitative Reasoning		C. Professional Conduct
	D. Qualitative Reasoning		D. Cultural Diversity
2. Communication:	A. Oral Expression	4. Inquiry:	A. Information Literacy
	B. Written Expression		B. Research
	C. Artistic Expression		C. Documentation

Course Competencies Checklist:

- Identify and describe modern agricultural mechanized systems and mechanical applications. (1A,B,C, 2A,B,C, 3A,B,C, 4A,B,C)
- Describe how advances made in agricultural technologies and mechanization have benefited consumers and improved living conditions throughout the U.S. and world. (1A,B,C,D, 2A,B, 3A,B,C,D, 4A,B,C)
- Identify and describe modern agricultural mechanized practices used to increase food production and environmental conservation locally and globally. (1A,B,C, 2A,B, 3A,B,C,D, 4A,B,C)
- Apply and describe the common precautions when working in an agricultural mechanized environment. (1A,B,C, 2A,B 3A,B,C, 4A,B,C)
- Safely use and describe the application of small gas engines in agriculture. (1A,B,C, 2A,B 3A,B,C,D, 4A,B,C)
- Perform routine inspection and maintenance of the small gasoline engine, utilizing the correct tools, procedures and safe practices. (1A,B,C, 2A,B 3A,B,C,D, 4A,B,C)
- Perform routine service, repair and safe operation of a small gasoline powered engine in a safe environment, utilizing correct tools and equipment. (1A,B,C, 2A,B 3A,B,C, 4A,B,C)
- Prepare a systemic series of flexible educational steps leading to employment or continued education in agricultural mechanization or related occupations. (1A,B,C,D, 2A,B,C 3A,B,C,D, 4A,B,C)

Program Outcomes:

Students who complete the ATS in Sustainable Agriculture and Resource Systems will be able to:

- Demonstrate skills and knowledge in the fundamentals of:
 - general agriculture production practices
 - tree fruit production practices in North Central Washington
 - general horticulture practices
 - sustainable and organic agriculture production
 - agri-business management
 - natural resources
 - viticulture principles and practices in Washington
- Demonstrate the ability to:
 - think critically (analyze, synthesize, evaluate and apply, problem solve, reason quantitatively and qualitatively) in workplace environments.
 - act responsibly as an individual and as a member of a team or group in a workplace environment.
- Acquire the training and education to seek employment or advance in current employment in agriculture related fields.
- Develop a foundation to continue their studies in agriculture or related fields.

Core Topics:

- Agriculture Agricultural Power & Delivery Systems
- Personal & Workplace Safety in Ag. Mechanics
- Engine Design & Agricultural Power Applications
- Principles of Internal Combustion; 2 & 4 Cycle Engines
- Tools, Repair Equipment & Measuring Instruments
- Internal Components; Piston, Valves, & Cylinder
- Fuel Systems, Carburetion Dynamics & Emissions
- Electrical & Electronic Ignition Systems
- Fuels, Lubrication & Cooling
- Maintenance, Service & Repair of the Small Gas Engine
- Careers & Career Pathways in Ag. Mechanics