

Wyoming Department of Education Required Virtual Education Course Syllabus

Sheridan County School District # 1

Program Name	Sheridan County School District #1 Virtual School	Content Area	VE
Course ID	AC17056	Grade Level	10 - 12
Course Name	HVAC-R II	# of Credits	1
SCED Code	17057G1.0022	Curriculum Type	Acellus

COURSE DESCRIPTION

This Heating-Ventilation-Air Conditioning-and Refrigeration 3-D course builds on the knowledge and skills taught in HVAC-R I to provide students the preparation they need for their career and for the HVAC-R certification exam. Acellus HVAC-R II is A-G Approved through the University of California.

WYOMING CONTENT AND PERFORMANCE STANDARDS

STANDARD#	BENCHMARK (Standard/Indicator) Use the Standards and Benchmarks as Spreadsheets
CV12.1.1	College and career-ready students evaluate current knowledge and interests in order to set career goals
CV12.1.2	College and career-ready students explore careers including outlook, salary, needed training, duties and lifestyle utilizing all available resources including mentors and industry experts.
CV12.1.4	College and career-ready students demonstrate employability skills that enable them to be responsible and contributing citizens and employees.
CV12.2.1	College and career-ready students communicate clearly, effectively, and with reason
CV12.2.2	College and career-ready students identify and model integrity, ethical leadership and effective management skills
CV12.2.4	College and career-ready students apply safe, legal, and responsible use of information and technology as appropriate to the task.
CV12.3.2	College and career-ready students identify trends, forecast possibilities, and explore complex systems and issues
CV12.3.3	College and career-ready students employ valid and reliable research strategies and apply prior knowledge to solve a problem or complete a project.
CV12.3.4	College and career-ready students demonstrate creativity and innovation while considering the environmental, social, and economic impacts of decisions.
CV12.4.1	College and career-ready students produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (*CCSS W.11.4)
CV12.4.2	College and career-ready students determine the meaning of symbols, key terms, and other content-specific words and phrases as they are used in technical context. (*Adapted from CCSS RL.9.11)
CV12.4.3	College and career-ready students acquire, manipulate, analyze, diagnose, and/or report information, using the appropriate technology.
CV12.5.1	College and career-ready students manage resources to develop, analyze, and implement systems and applications
CV12.5.2	College and career-ready students productively complete tasks taking constraints, priorities and resources into account
CV12.5.3	College and career-ready students safely and ethically use current industry-standard tools and emerging technologies
CV12.5.4	College and career-ready students utilize technology to develop innovative solutions or products

SCOPE AND SEQUENCE

UNIT OUTLINE	STANDARD#	OUTCOMES OBJECTIVES/STUDENT CENTERED GOALS
Unit 1	CV12.1.1; CV12.1.2; CV12.2.4; CV12.4.2; CV12.4.3; CV12.5.4;	In this unit, students will learn about alternating current generation and circuits.
Unit 2	CV12.1.4; CV12.2.1; CV12.2.4; CV12.4.2; CV12.4.3;	Students will study various types of compressors and learn how they are used.
Unit 3	CV12.1.4; CV12.2.1; CV12.2.2; CV12.2.4; CV12.4.2; CV12.4.3;	Students will extend their knowledge about compressors in this unit and learn about operating voltages.
Unit 4	CV12.1.4; CV12.2.1; CV12.2.4; CV12.4.2; CV12.4.3; CV12.5.1; CV12.5.2;	Students will find out how to perform an operating analysis.
Unit 5	CV12.1.4; CV12.2.1; CV12.2.4; CV12.3.2; CV12.4.2; CV12.4.3;	In this unit, students will conduct an extensive study into the refrigerant cycle.
Unit 6	CV12.1.4; CV12.2.1; CV12.2.4; CV12.4.1; CV12.4.2; CV12.4.3; CV12.5.1; CV12.5.2;	Students will learn about safe handling of refrigerants and the associated laws.
Unit 7	CV12.1.4; CV12.2.1; CV12.2.4; CV12.3.2; CV12.4.2; CV12.4.3;	Students will study direct expansion systems and learn to troubleshoot fixed metered devices.
Unit 8	CV12.1.4; CV12.2.1; CV12.2.4; CV12.4.2; CV12.4.3;	In this unit, students will learn about various types of heat pumps along with their proper use.
Unit 9	CV12.1.4; CV12.2.1; CV12.2.4; CV12.4.2; CV12.4.3; CV12.5.3;	In this unit, students will learn about different bearing types, belt types, and maintenance operations.
Unit 10	CV12.1.4; CV12.2.1; CV12.2.4; CV12.4.2; CV12.4.3;	In this unit, students will learn about heat anticipators, how to size a furnace, and how to size venting.
Unit 11	CV12.1.4; CV12.2.1; CV12.2.2; CV12.2.4; CV12.4.2; CV12.4.3;	Students will be exposed to various types of ducting along with the best practices for proper installation.
Unit 12	CV12.1.4; CV12.2.1; CV12.2.4; CV12.4.2; CV12.4.3;	Students will learn about economizers and the operating characteristics of commercial systems.
Unit 13	CV12.1.4; CV12.2.1; CV12.2.4; CV12.3.4; CV12.4.2; CV12.4.3;	Students will learn about humidity control along with the air purification systems.
Unit 14	CV12.1.4; CV12.2.1; CV12.2.4; CV12.3.3; CV12.4.2; CV12.4.3; CV12.5.3; CV12.5.4;	In this unit, students will learn about hydronic heat systems and safety.