



## Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: <https://catalog.uvu.edu/>

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**Semester:** Spring

**Course Prefix:** AUT

**Course Title:** HVACR Theory

**Year:** 2025

**Course and Section #:** 2240-001

**Credits:** 2

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### ***Course Description***

Upon successful completion of this course students will understand the theory, basic principles of operation, design, construction and repair of modern heating, ventilation, and air conditioning systems.

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### ***Course Attributes***

This course has the following attributes:

- General Education Requirements
- Global/Intercultural Graduation Requirements
- Writing Enriched Graduation Requirements
- Discipline Core Requirements in Program
- Elective Core Requirements in Program
- Open Elective

Other: *Click here to enter text.*

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### ***Instructor Information***

**Instructor Name:** Thomas O Moore

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### ***Student Learning Outcomes***

Upon successful completion of the course students should be able to:

1. Explain how air conditioning system function including the operations of compressors, condensers, metering systems including expansion valves and orifice tubes, and evaporators.
  2. Understand the evolution of automotive refrigerants and the current environmental laws related to automotive refrigerants.
  3. Explain the hazards and environmental impacts of automotive refrigerants.
  4. Safely store, handle and dispose of automotive refrigerants in accordance with state and federal environmental laws.
  5. Use modern automotive refrigerant evacuation and recharge equipment to correctly service modern automotive HVAC systems
  6. Diagnose and repair automotive HVAC systems including AC systems, Air Intake and Routing systems, Computerized Climate Control Systems and the associated electrical and electronic control systems.
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### ***Course Materials and Texts***

## ***Course Requirements***

### **Course Assignments, Assessments, and Grading Policy**

#### **Academic Standards**

Students are expected to adhere to the UVU academic standards, code of conduct, and act in a professional manner at all times. Students are expected to be in class, every day, on time, and prepared to learn. Student cheating or plagiarism will not be tolerated and students who are caught will receive a zero for any assignment cheated on. The use of Artificial Intelligence (AI) on any writing assignment will be considered Academic Dishonesty which is cheating. If you use AI to complete any assignment you will only receive credit for the portion of work you actually complete. For example if you complete 65% of the specific assignment you will receive 65% of the actual score after the assignment is graded.

#### **Chapter Readings and Quizzes**

The schedule lists the chapters that will be studied in class. Homework readings and homework assignments are due each week on Saturday evening as listed in the course schedule. UVU policy states that you should have two hours of independent study (homework) for every hour you spend in class. Daily quizzes will be given on the assigned readings and/or the material presented in class.

#### **Attendance**

Role will be taken each day at the beginning and/or the end of class. Students are considered late if they miss role call at the beginning of class. Every day late counts as 1/3 of an absence. Missing more than half of class is an absence. Students who fall below 70% attendance for any combination of absences or late will receive a zero for their overall attendance score and will be required to retake the course. Excused absences must be approved at least 2 school days prior to the absence. Emergencies will be considered case by case at the discretion of the instructor.

#### **Student Research Project and Final Exam**

You (not AI) will complete a research paper of interest to you during the course. The research assignment description and rubric will be posted in Canvas. A comprehensive final exam will be given on the last day of class.

#### **Student Grading**

As your instructor I only assign grades. You (the student) earn your grade and I will assign you the grade you earn. Your grade will not be padded nor will begging or whining be part your final grade. You will have opportunity to demonstrate academic competence in five areas graded: Attendance, Homework, Classwork (quizzes), Student Research, and the Final Exam. Each of these areas are weighted and no one area will kill your grade. However, poor performance (entirely up to you) in more than one area will jeopardize your overall grade.

Attend class every day on time. Complete your assignments on time. Do whatever you need to do to thoroughly understand the concepts and principles presented and you will be successful. Talk to me if there is any reason you cannot do this.

#### **Grade Breakdown**

Attendance\* = 15%   Homework = 25%   Classwork = 20%   Research = 20%   Final Exam = 20%

A 100.0% -	B+ 89.9% -	C+ 79.9% -	D+ 69.9% -	E 59.9% -
94.0%	87.0%	77.0%	67.0%	0.0%
A- 93.9% -	B 86.9% -	C 76.9% -	D 66.9% -	
90.0%	84.0%	74.0%	64.0%	

B- 83.9% - 80.0%    C- 73.9% - 0.0%    D- 63.9% - 60.0%

\*See the attendance policy above.

**Make-up Work / Late Work**

Make up work will be allowed only for extenuating circumstances as per instructor discretion. Assignments missed because of unexcused absences cannot be made up. Do not ask to make up missed class quizzes for unexcused absences. Homework assignments are due on the date listed in canvas. 10% will be deducted from the assignment score for each day late to a minimum 40% score.

**Extra Credit**

Students should complete all assigned tasks prior to working on any other projects. Additional work or personal projects must directly correlate to the course of study and current topic. Extra credit is limited to an increase of one grade step after all assigned work is completed.

**Required or Recommended Reading Assignments**

Specific course assignments and due dates will be listed in Canvas. It is your responsibility to check the calendar in Canvas regularly. Be careful not to miss assignment due dates. Most weekly assignments will be due each Saturday at 11:59 PM, however, you should not wait until the last minute to complete your assignments. Makeup work because you simply miss a deadline will not be accepted. It is your responsibility to complete all your assignments on time. If you are unable to do so please contact me directly to discuss options.

Intended Calendar\* Textbook Chapters Reading & Homework Assignments

Date	Day	Ch	Topic	Due Date
2/27	Tue			
2/29	Thu		1st Day of Theory Syllabus	3/2
3/5	Tue	1	Heating and Air Conditioning Principles	3/9
3/7	Thu	7	Engine Coolant	3/9
3/12	Tue		Spring Break - No School	3/16
3/14	Thu		Spring Break - No School	3/16
3/19	Tue	8	Cooling System Operation	3/23
3/21	Thu	9	Heating System Operation	3/23
3/26	Tue	2	Refridgeration Cycle	3/30
3/28	Thu	3	AC Compressors	3/30
4/2	Tue	4	Refridgerants and Oils	4/6
4/4	Thu	5	AC Components and Operation	4/6

4/9	Tue	6	Air Management Systems	4/13
4/11	Thu	14	Recovery, Recycling, and Recharging	4/13
4/16	Tue	15	AC Diagnosis	4/18
4/18	Thu		Final Exam	4/18

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### General Description of the Subject Matter of Each Lecture or Discussion

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## ***Required Course Syllabus Statements***

### **Generative AI**

The use of Artificial Intelligence or AI, though not plagiarism, is considered by UVU to be academic dishonesty and cheating. Any papers written entirely by AI will receive a zero score. Any papers partially written by AI will receive points based on the percentage of actual student writing as determined by UVU CopyLeaks plagiarism and AI detection software. You are free to use AI in research but any writing assignments/papers must be your own original work.

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### **Using Remote Testing Software**

This course does not use remote testing software.

This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

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## ***Required University Syllabus Statements***

### **Accommodations/Students with Disabilities**

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU [Accessibility Services](#) at [accessibilityservices@uvu.edu](mailto:accessibilityservices@uvu.edu) or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at [DHHservices@uvu.edu](mailto:DHHservices@uvu.edu)

DHH is located on the Orem Campus in BA 112.

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### **Academic Integrity**

At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by

not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their [rights and responsibilities](#). In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in [UVU Policy 541: Student Code of Conduct](#).

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### **Equity and Title IX**

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – [TitleIX@uvu.edu](mailto:TitleIX@uvu.edu) – 800 W University Pkwy, Orem, 84058, Suite BA 203.

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### **Religious Accommodation**

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at [accessibilityservices@uvu.edu](mailto:accessibilityservices@uvu.edu). If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a [specially dedicated space](#) for meditation, prayer, reflection, or other forms of religious expression.