

Arkansas State University-Newport's mission is to provide an accessible, affordable, quality education that transforms the lives of our students, enriches our communities, and strengthens the regional economy.

ECT1314: Residential Heat Pump Systems

ACTS Equivalency: N/A

Catalog Description: The course will include the study of residential heat pumps along with their application and operation. The practical application will include the electrical wiring installation, service, repair and operation of residential type heat pump systems. Dual fuel applications will also be covered.

Prerequisites: ECT1123 Basic Electrical Circuits, ECT1133 Basic Electrical Circuits Lab, ECT1144 Introduction to Air Conditioning Systems

Course Type: Lecture/Lab

Credit Hours:

Instructor Name:

Office:

Office Phone:

Email:

Office Hours:

Department Information

Course Department:

Academic Department:

Academic Coordinator:

Associate Dean/Director:

Associate Dean/Director Contact Number:

Email:

Associate Dean/Director Email:

Materials: Required and Optional

Required Text:

Modern Refrigeration and Air Conditioning 20th Edition, ALTHOUSE, ANDREW, ISBN: 9781631263545
2014 National Electrical Code. National Electric Code Committee, National Fire Protection Agency.
ISBN: 9781455906727

Optional Texts: NONE

Required Material: Pencils, Paper, Basic Scientific Calculator, ASUN Campus Email and —My ASUN Portal Username and Password (same for email and Portal)

Optional Materials: NONE

INSTITUTIONAL POLICIES

Institutional Learning Outcomes

Upon graduating from ASU-Newport with any Associate Degree, a student will be proficient in the following:

ILO1: Communication

Goal: Students will express ideas, knowledge, and concepts in a clear and concise manner.

- a) Written
- b) Verbal
- c) Interpersonal

ILO2: Reasoning

Goal: Students will apply reasoning skills in a variety of environments, which demonstrate problem-solving and applied knowledge.

- a) Explore
- b) Locate
- c) Interpret
- d) Evaluate
- e) Apply

ILO3: Responsibility

Goal: Students will participate in service activities that instill in them a sense of social responsibility.

- a) Civic
- b) Academic
- c) Financial

Institutional Grading Scale

Grading Scale:

- A: 90-100
- B: 80-89
- C: 70-79
- D: 60-69
- F: 0-59
- S: Satisfactory
- U: Unsatisfactory

Americans with Disabilities Act Compliance

In order to obtain appropriate disability related accommodations and services to which they are entitled, students with documented disabilities should voluntarily and confidentially provide the Office of Disability Services (870-512-7838 or disabilityservices@asun.edu) with appropriate medical documentation regarding the nature and extent of their disability, make their needs known to this Office and follow established procedures for acquiring needed services and accommodations in the classroom or online.

Information Technology Services

If you experience any problems or issues with Canvas, MyCampus, or other equipment, please contact ITS at 870-512-7783 or <http://its.asun.edu>. Canvas also has a 24/7 live chat. This is a valuable resource for those late-night tests or assignments that just do not seem to work properly.

ASU-Newport provides a number of different services to assist students in areas that directly impact their academic success. The following direct websites will help you get in touch with those services that may be needed during your time as an ASUN student:

Academic Support Center: <http://academicsupport.asun.edu>

Financial Aid: <http://financialaid.asun.edu>

Career Pathways: <http://pathways.asun.edu>

University Police: <http://cpd.asun.edu>

Information Technology Services: 512-7783 or its@asun.edu

Center for Educational Access: <https://www.asun.edu/cea>

Admissions: <http://admissions.asun.edu>

Academic Dishonesty *(as stated in the Student Handbook)*

ASU-Newport enthusiastically promotes academic integrity and professional ethics among all members of the ASU-Newport academic community. Violations of this policy are considered serious misconduct and may result in disciplinary action and severe penalties. Cheating in any form-including plagiarism, turning in assignments prepared by others, unauthorized possession of exams - may result in the student being dropped from the class with an “F” and/or being suspended from the College. Students who feel they have been unfairly accused of cheating may appeal to the Associate Dean of General Education.

Printing

*Each student is allowed 200 sheets of copy paper per semester for printing. Additional printing requires a \$5.00 printing fee which covers an additional ream of copy paper. The fee can be paid by either visiting or calling the Business Office.

Campus Safety Information

What to know and do to be prepared for emergencies at ASUN:

- Opt-in to receive ASUN’s School Messenger notifications regarding weather closings, emergencies, and other important notifications. All currently enrolled students will receive an email within the first two weeks of the semester prompting them to Opt-in to the messaging system.
- Know the safe evacuation route from each of your classrooms. Emergency evacuation routes are posted in on-campus classrooms.
- Listen for and follow instructions from your instructor or other designated authorities.
- For additional emergency information see the ASUN Emergency Response Guide in the Portal under “More” then select “Department of Safety”.
- Know the emergency phone number for ASUN Campus Police or dial 911.
- Report suspicious activities and objects found on campus.
- Keep your permanent address and emergency contact information current in My Campus.

Inclement Weather

In the event of inclement weather, class cancelation is left to the discretion of the Chancellor. You will be notified of class cancelation on the university website, through news media, and through our school messaging system.

Children in the Classroom:

ASUN classroom policy requires that the learning environment should be free of distraction in order to provide the highest learning opportunity for all students. In this light, students should not bring children to the classroom. If you must bring a child on campus, please have your child properly supervised in the public gathering areas.

NOTE TO STUDENTS:

All course activity open and due dates are articulated in Central Standard Time (CST) regardless of the student’s residential location. If you reside in a time zone other than CST, please ensure you utilize the appropriate conversion for all course activities.

COURSE POLICIES

Course Learning Outcomes:

Upon the successful completion of this course, students will be proficient in the following:

Learning Outcomes	Assessment
Successfully navigate the NFPA NEC 2014 Code book to locate, identify, and calculate the laws governing residential and commercial wiring	2014 National Electric Code/ Manufacturer’s Instructions <ul style="list-style-type: none"> Exams, Participation, and Safety of Lab Construction Projects See Course Policies and Procedures for grading
Install, perform, and explain routine maintenance and equipment installation for heat pump systems	Modern Refrigeration 20 th Edition Chapter 40/Manufacturers Instruction/EPA Guidelines <ul style="list-style-type: none"> Exams, Participation, and Safety of Lab Construction Projects See Course Policies and Procedures for grading
Install, maintain, test, and calculate auxiliary electric heating elements for air handlers used with heat pumps	Modern Refrigeration 20 th Edition Chapter 43/Manufacturer’s Instructions <ul style="list-style-type: none"> Exams, Participation, and Safety of Lab Construction Projects See Course Policies and Procedures for grading
Diagnose and troubleshoot system airflow and the refrigerant system components	Modern Refrigeration 20 th Edition Pages 1529-1538/ Manufacturer’s Instructions/EPA Guidelines <ul style="list-style-type: none"> Exams, Participation, and Safety of Lab Construction Projects See Course Policies and Procedures for grading
	MSA <ul style="list-style-type: none"> The MSA will contain multiple learning outcomes

***The MSA for this course will specifically measure/assess ILO 2**

Academic Calendar

<http://www.asun.edu/catalogs>

Finals Schedule

<http://www.asun.edu/catalogs>

Disclaimer

This syllabus and all documents associated with the syllabus are considered a contract between the student and the instructor. Students are expected to carefully read and review the syllabus and all associated documents in order to be familiar with course expectations and policies. This syllabus is subject to change at the discretion of the instructor, who will inform students of any changes. Students are responsible for keeping up with any changes.