

## Course Syllabus

### Air Conditioning and Refrigeration 25

#### Energy Efficient Residential, Commercial, and Industrial Air Conditioning

Course 7114 Fall 2015 August 24<sup>th</sup> – December 9<sup>th</sup>

Monday & Wednesday 6:00pm to 9:35pm 4 units

**Course Description:** The course focuses on green technologies, industry standards, measurement, verification, and proper practices for installation, service, and retrofit of HVAC systems in residential, commercial, and industrial systems. Troubleshooting of systems to determine airside or mechanical issues will be discussed.

**Instructor:** Ken Robinson

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**Office Hours:** by appointment

**Text:** Modern Refrigeration, 19<sup>th</sup> edition – ISBN 978-1-61960-199-4

**By:** Althouse, Turnquist, Bracciano, Bracciano, and Bracciano

**Supplemental materials** will also be utilized and provided by the college.

**Lab:** 6-9:35 PM Mondays Room: CAT 120

**Lecture:** 6-9:35 PM Wednesdays Room: CAT 102

**Materials Required:** Pen, Pencil, Paper, Basic calculator, Z-87 rated safety glasses, gloves. A minimum 1.5" binder is recommended.

**SLO Statement 1:** After reading the textbook and participating in class discussions, students will apply their knowledge of appropriate lab practices, concepts and theories by measuring and testing operational systems to determine their limitations and corrective action needed.

**SLO Statement 2:** After completion of this course, students will have the basic skills necessary to install or modify systems in a manner which allows maximum possible system performance.

**SLO Statement 3:** Upon completion of this course students will apply knowledge gained by the program and likely will be able to train others at their place of employment on the knowledge they have received. Students will practice what they have learned on a daily basis in the field.

#### Grading:

Attendance & Participation	25%
Test & Quizzes	30%
Lab Assignments	25%
Final Project	20%

**\*Notes:** *If a student has missed an exam, one opportunity to make up the exam on*

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***the next night the class meets will be offered only. No exceptions.***

**Attendance & Participation:** The participation portion of the grade is based upon instructor perception of a students' level of participation in lab and lecture classes as well as actual attendance. Attendance is critical to the student's ability to learn and utilize the objectives of this class. Students with absences exceeding 10% or four nights, may be dropped.

**Homework** is to be done by the student and not copied from others.

**Lecture notes:** Lecture notes are an integral part of class and will be necessary to complete exams with passing grades. Due diligence in note taking, especially during lectures will serve students well upon exam dates.

**Testing:** Talking or making comments during any exam **WILL** result in the immediate removal of the student from the room and result in zero points for that exam. Photocopies of notes are not allowed. Only a student's original notes are acceptable. Notes may be used when taking quizzes and exams unless otherwise noted in advance. It will be your responsibility to take notes during lab and lecture which will help during exams!

**Text:** Each student **MUST** have their own copy of the current version of the text as stated on the previous page. Failure to obtain this texts in a swift manner **WILL** negatively affect student grades.

Questions at the end of chapters do not have to be written out and handed in. Just the answers are the minimum information required to be accepted.

**Final exam:** There will be no final exam.

#### ***Scheduled holidays:***

September 9<sup>th</sup> and November 11<sup>th</sup> are holidays. The class will not be meeting on those evenings.

#### ***Assignment due dates:***

Assignments are due on the date the instructor states. Late assignments will be accepted, and will receive 10 points less for each night the class meets since the assignment is due. For example. If an assignment is one week late (two meeting nights), a perfect paper is only eligible for 80% of full credit. (100-20=80). If a student has missed a night when an assignment is due, or if assignment was forgotten by the student, the instructor will accept the assignment as "on-time" provided it is emailed to instructor by midnight of the date it was originally due.

There will be one final project paper due near the end of the semester. It will be assigned in early October.

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**Note:** *If a student chooses to drop out of class, it will be their responsibility to drop the class. Failure to do so and the student will be given an "F" grade at the end of the semester.*

#### Course Outline

The course will be comprised of portions of the text, supplemental material, and lecture. The course may be modified throughout the semester as new information and technologies emerge.

#### Student Orientation

Participate in orientation with the Online Orientation through MyECC or in the Matriculation Group academic counseling sessions for students, new to the college. Students will meet with a counselor in the Matriculation Groups to prepare an educational plan for the semester. Students who complete Online Orientation must bring in the confirmation page to make a 30 minute counseling appointment for an educational plan.

#### ECC STUDENT SERVICES CENTER BUILDING

(Please see the Activities Center and Special Resource Center ECC webpage for hours of operation and services offered)

#### Class Policies

- a) Students are expected to attend classes regularly. Students who have absences exceeding 10% of scheduled class meeting time or four nights may be dropped by the instructor.
- b) El Camino College places a high value on the integrity of its student scholars. When an instructor determines that there is evidence of dishonesty in any academic work (including, but not limited to cheating, plagiarism, or theft of exam material), disciplinary action appropriate to the misconduct as defined in BP 5500 may be taken. A failing grade on an assignment in which academic dishonesty has occurred and suspension from class are among the disciplinary actions for academic dishonesty (AP 5520). Students with any questions about the Academic Honesty or discipline policies are encouraged to speak with their instructors in advance.
- c) **Accommodations:** It is the policy of the El Camino Community College District to encourage full inclusion of people with disabilities in all programs and services. Students with disabilities who believe they may need accommodations in this class should contact the campus Special Resource Center at 310-660-3295 as soon as possible as well as the instructor. This will ensure that students are able to fully participate.

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#### **d) Academic Honesty**

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#### **Safety & Housekeeping**

No food is allowed within the classroom or lab areas.

Safety glasses with a Z-87 rating are required within the lab whenever working on any equipment or lab assignments. They are also required even for those who wear standard glasses for vision correction.

Gloves must be worn when moving equipment or when soldering, brazing, or welding.

Students must be aware of the location of Health Services. If a student is injured, tell the instructor immediately. If a student needs the attention of Health Services, the instructor will appoint another student to escort them there.

Students are responsible to pick up ALL debris left in classroom after lectures and in the lab after working on lab exercises. The goal is to leave the space cleaner than you had found it.

#### **Semester Schedule**

Classes are scheduled each Monday and Wednesday beginning August 24<sup>th</sup> and ending December 9<sup>th</sup>. Class starts at 6:00pm.