

**Imperial Community College District
Imperial Valley College
RNEW 152 Course Syllabus**

Jose (Joe) Roman, Instructor

Course Title: Solar Heating

Course Number: RNEW 152

Credit Units: 3

Class Time	Sat. 8:00 - 10:05 a.m. (Lec)	Bldg 3100, Room 3119
And Location:	Sat. 10:15 - 1:25 a.m. (Lab)	Bldg 3100, Room 3119

Prerequisites: Recommended preparation– RNEW 118 (Alternative Energies) or EWIR 150 (Solar Energy Systems PV1)

Course Description:

This course is an introductory study in solar thermal concepts that meets NABCEP guidelines, and qualifies the student to take the NABCEP Solar Heating (SH) Entry Level Test. Identifying SH safety practices, standards, codes and certification. Instruction will be based on solar thermal collector for water, space heating, installation and operation, water treatment, saving devices and equipment. Conducting a site analysis, water and space heating systems design, identifying systems components, materials, balance, installation, maintenance and troubleshooting. Learning opportunities will be enhanced through a combination of lecture and laboratory activities.

Course Objectives:

- A. Demonstrate and practice OSHA safety & Lab procedures.
- B. Explain History of Solar Heating.
- C. Explain Introduction of Solar Heating.
- D. Describe Solar Principals and Knowledge.
- E. Describe, explain and identify the difference Collectors, Systems and Application.
- F. Identify and describe how to prepare for Project, and how to Evaluate the Site.
- G. Describe the fundamental of Solar Heating Plan System Installation.
- H. Identify and describe Install System.
- I. Define and explain what Commission the Solar Heating System.
- J. Identify and describe Service and Maintain the Solar Heating System.

Core Content:

A. OSHA safety.	10%
B. Prepare for projects	12%
C. Evaluate the site	12%
D. Plan system installation	15%
E. Laboratory, Presentation, and Testing the Solar Heating system	31%
F. Commission the system	10%
G. <u>Service and maintain the system</u>	10%
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Total	100%

Required Material:

- A. RNEW 152 Textbook: **None-Download Handouts through Canvas**
NABCEP-Solar Heating Installer Resource Guide, **Florida**
Solar Energy Center-Solar Water and Pool Heating Manual,
Other Handouts will be distribute by Instructor.

Recommended references and materials:

- A. Pens, pencils, highlighters, post-it notes, supplies as necessary.

Instructor Information:

- A. Email: jose.roman@imperial.edu.
B. Phone: (760) 355-5719 or 355-6361 (**Frances Arce**)
C. Office Hours: By appointment at my new Office-Hours Posted

Attendance Policy:

Class attendance policy follows the regulations in the IVC catalog. Students who receive three absences will be dropped from the course unless prior arrangement has been made with the instructor. Three tardies shall constitute one absence. Students who fail to return from breaks shall be marked absent for that session. ***Participation- This course will only have *one days per week of classroom and lab*. Therefore, class participation and lab will be part of your grade for this semester.**

Disabled Student Programs and Services (DSPS):

IVC catalog policy follows the regulation of Section 504 of the Rehabilitation Act and the (ADA) Americans with Disabilities Act. Services are provided to students with reasonable accommodations to students with mobility, hearing, speech, and orthopedic

impairments, learning disabilities, psychological disabilities, and other health impairments. Services are provided on an individual basis and may include reader services, note taking, tutoring, counseling, sign language interpreting, priority registration, learning disabilities assessment, and adapted computer instruction.

Classroom and Laboratory Rules:

No food is allowed in the classroom. Bottled water is authorized during lectures. Food and drinks may be consumed outside the classroom before class and at breaks only. Cell phones must be placed in “manner mode” or turned off.

Grading criteria and procedure:

Exams	500 points
Assignments	250 points
Lab activities	250 points
Participation	*200 points
Total Points	1200

Homework will be turned in (same day test date &/or Lab projects due) at the beginning of class to ensure maximum credit. Late work will be accepted with a “one-letter grade deduction” for each classroom day that it is late.

Quizzes will be given at the end of each section or chapter covered. The student will be responsible for information contained in all lectures, handouts, textbook assignments, and all lab presentations.

Midterm and final exams will be given at the pre-arranged times as discussed by your instructor. Make up exams will be given only with prior approval of the instructor.

Grading Scale:

Advanced	1200-1080	=	A
Proficient	1079-960	=	B
Basic	959-840	=	C
Below Basic	839-720	=	D
Far Below Basic	719	=	F

Dear Student,

This is my Seventh year as an Instructor at Imperial Valley College & I will teach (Temporarily) Full-time for the Fall 16' & Spring 17' semester. This will be my first time teaching Renewable Energy course at IVC & I'm looking forward teaching Renewable Energy course with you! I'm Alumni at IVC & I hold a Bachelor's Degree in Landscape Architecture & Construction from the California State Polytechnic, Pomona, University and I have been teaching since 1995. I recently retired from teaching in Correction for 18 state service years. I taught Photovoltaic Solar Entry-level & Thermal Solar at Correction for 5 years. I am certified with NCCER & NABCEP. I am also certified Electrician & hold a Professional Clear Single Subject Teaching credential for 18 years. I have been in the Electrical trade since 1988 & I was teaching last year part-time at Arizona Western College at Yuma, Arizona.

My wife (of 25 years) and I are parents of two grown children. 1 preteen younger son. For pleasure, I enjoy, exercise, bicycling, electrical work and reading.

This course will give you a wide spectrum of the Solar Heating field that you'll learn Heat Energy & you will install a Solar Heating Thermal system. Please remember that Heat Energy is different than Electric Energy (PV Solar)! I will work very hard to make your learning experience a success. I expect all of the students who take my courses to also work very hard. Together, we will accomplish the goals before us which is **PASS THIS CLASS!**

It is your responsibility to learn the material. It is my responsibility to make the learning process as productive and interesting as possible. If you miss a class, check with other class members to determine what work you must do. Tests are like job interviews, scheduled in advance; treat them as such. Do not miss a test! If you must miss a test, be sure that I know about your need **as soon as practical**.

Being a student is not easy! It is hard work, especially with families and jobs. Plan time to be in class, as well as time to work on the out of class assignments. If I can be of assistance, please contact me.

My IVC e-mail address is: jose.roman@imperial.edu. I check my e-mail continually during the day. Call Frances & leave message if you have computer problems at (760) 355-5719.

Have a successful class.

Joe Roman

