

**IMPERIAL VALLEY COLLEGE
COURSE SYLLABUS
FALL 2012**

PROFESSOR JESUS F. HERNANDEZ

Division: Industrial Technology Division

Course Title: Solar Energy Systems

Course Number: EWIR 150

Class Code: 10549

Class Date & Time T: 8:35-10:25 AM TH: 8:35-11:45 AM

Location: 1400-1402

Course Description:

This course provides students with instruction in the principles of Photovoltaic Technology. It includes an overview of electric principles, the solar resource, electric load analysis, photovoltaic modules, batteries, inverters and charge controllers.

Course Objective:

1. Safety Installation of PV (CH 16)
2. Overview of PV (CH 1)
3. Electrical Principles (CH 2)
4. Solar Resource (CH 3)
5. Electrical Load Analysis (CH 4)
6. PV Modules (CH 5)
7. Batteries (CH 6)
8. PV Controllers (CH 7)
9. Inverters (CH 8)

Classroom Rules:

- No food is allowed in class, bottled water is ok during lectures, but not during lab.
- Cell phones must be turned off during class, unless there is an emergency.

Exams and Grading Procedures:

1. Homework Assignments	10%
2. Quizzes	10%
3. Attendance and Participation (Lab)	10%
4. Midterm Exam	20%
5. Final Exam	20%
6. Final Group Project	30%

- Homework assignments: To receive possible full credit, homework must be turned in on time at the beginning of class. 5 points will be deducted if turned in late.
- Quizzes might be given at the end of each chapter covered.
- Final exam is not cumulative. Make up exam will be given ONLY with prior approval of the instructor. Exams will include material from the readings and from the lecture.
- Group Project: Solar mounted project.

Grading Scale:

A:	Above 90%
B:	80-89%
C:	70-79%
D:	60-69%
F:	below 60%

Core Content

1. Safety	5%
2. Overview	15%
3. Electrical Principles	20%
4. Solar Resource	20%
5. Load Analysis	20%
6. PV Modules	5%
7. Batteries	5%
8. Controllers	5%
9. Inverters	5%

Required Material:

- **PHOTOVOLTAICS**, (Design and Installation Manual, Solar Energy International. Revised and Updated Edition) paperback ISBN 978-0-86571-520-2.
- **Red pen, black pen, and green pen.**

Recommended References:

- **GUIDE TO THE NATIONAL ELECTRICAL CODE 2008**. Thomas L. Harman.
- **Modern Residential Wiring**, 8th Edition. Harvey N. Holzman
- **Workbook**, Modern Residential Wiring, 8th Edition. Harvey N. Holzman, Nancy Henke-Konopasek.

Instructor's Information:

Email: ucaco@hotmail.com

Attendance Policy:

Class attendance and tardy policy follows the regulations in the IVC catalog. Students whose continuous unexcused absences exceed 8 hours per week may be considered inactive and may be dropped unless a written petition to justify absences is approved. It is your responsibility to drop before any deadline. Three tardies shall constitute one absence. Students who fail to return from breaks shall be marked absent for that session.

