



Introduction to Renewable Energy Workforce

In conjunction with UNM Taos and the Taos Education and Career Center (TECC).

Course Title: *Intro to Renewable Energy*

Course Number: CNST 293

Course Credits: 4 Credit Hours

Term / Semester: Spring Semester

Instructor: John Kaeck

Office Location: TECC

Office Hours *TBD*

UNM Email*: Kaeckster@unm.edu

Phone: 575-770-5233

Class Meeting Day(s): Monday and Wednesday

Class Time: 5:30 - 7:30

Class Location / Room: Biology Lab, Rio Grande Hall

Course Description:

Learn about the world of renewable energy. This course includes a 10 hour Occupational and Health Safety Administration (OSHA) training that helps you be job-site ready. Explore the many types of careers within the renewable energy workforce. Guest speakers who are working in or are knowledgeable about the industry will be featured weekly.

Course Goals:

Students will attend class and be active participants. Students will complete and pass Solar Energy International RE 100: Intro to Renewable Energy and the OSHA certification training. Students will be introduced to career opportunities in the field of Renewable Energy.

Student Learning Outcomes (aka Objectives):

Students will be able to list and describe the primary renewable energy resources. Upon completion students will obtain an OSHA 10 Construction certification. Students will gain an understanding of the professionalism skills necessary to work in the renewable energy industry.

Textbooks/Supplies/Materials/Equipment/ Technology or Technical Requirements:

Students are required to bring pencil or pen and paper to each class. Books, handouts, computers and other materials will be provided in the classroom.

been resolved after this, please contact the appropriate Area Coordinator (at the above link). The Dean of Instruction is the last step if all matters remain unresolved.

Course Outline

| <u>WEEK/ DATE</u> | <u>Assignments</u> | <u>Description</u> | <u>Assessments</u> | <u>Lab/Practicum</u> |
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| 1. 1/22/18 1/24/18 | Complete Course overview in SEI online class RE100. Take precourse quiz. | Course description. Ice Breaker. Introductions. Intro to Energy. Intro to Renewable Energy. Guest Speaker. (Patrick) Intro to Solar Energy International(SEI). Begin RE100 with SEI | Score on Quizzes. (Pretest doesn't count!) Extra Reading Response. Exit Quiz. | Solar Energy International RE100 |
| 2. 1/29/18 1/31/18 | Complete RE100 topics 1-4. Complete extra reading assignments. | Topic 1: Why Renewable Energy? Extra Reading: Benefits of Renewable Energy Use. Topic 2: Energy Conservation and Energy Efficiency. Extra Reading: High Efficiency Appliances. Topic 3: Basics of Electricity. Extra Reading: All! Topic 4: Solar Thermal. Extra Reading: Solar Hot Water or Flat Plate and Evacuated Tube. | Score on Quizzes. Extra Reading Response. Exit Quiz. | Solar Energy International RE100 |
| 3. 2/5/18 2/7/18 | Complete RE100 topics 5-8. Complete extra reading assignments. | Topic 5: Solar Electricity. Extra Reading: On or Off the Grid or Solar Electric Systems simplified. Topic 6: Wind Power. Extra Reading: Wind Matters. Topic 7: Micro-hydro. Extra Reading: Intro to Hydro Power or Myths and Misconceptions Topic 8: Other Renewable Energy Technologies. Extra Reading: Choose one! | Score on Quizzes. Extra Reading Response. Exit Quiz. | Solar Energy International RE100 |
| 4. 2/12/18 2/14/18 | Complete RE100 topics 9, 10, and topic 11: Course Wrap up! Complete extra reading | Topic 9: Appropriate Technology for the Developing World. Extra Reading: Choose one! Topic 10: Economics of Renewable Energy Extra Reading: Choose one! | Score on Quizzes. Extra Reading Response. Exit Quiz. | Solar Energy International RE100 |

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| | assignments. Take the Post course Quiz. Fill out the course evaluation. Print out Certificate! | Topic 11: Course Wrap-Up! | | |
| 5. 2/19/18 2/21/18 | Solar Lab: Introduction, Chapter 1: Energy Sources. Quiz! Chapter 2: Constructing Your Solar House. Chapters 3 thru 6. Activities 2 - 5. | Solar Kit: 54 in 1 Solar House Green Energy Lab. Read the Introduction. Read and complete Chapter 1. Take the Quiz together as a group. Complete chapter 2. Work together as a team! Complete chapters 3 thru 6. Solar Systems, Solar Cells, Solar Panels, Inverters. Take all quizzes as a group. Guest Speaker. (Wil)? | Activity 1. Energy Sources Quiz. Solar House constructed. Activities 2 - 5(quizzes). | Solar Kit 54 in 1 Solar Green Energy Lab. |
| 6. 2/26/18 2/28/18 | Solar Lab. Chapters 7 - 11. Activity 6. Experiment 1. Chapter 12. Activities 7a and 7b. | Read Chapters 7 thru 11. Take the quizzes together in your groups. Complete experiment 1. Read chapter 12. Complete activities 7a and 7b. Guest Speaker. Miquel PPC Solar | Activity 6. Experiment 1. Activities 7a and 7b. | Solar Kit 54 in 1 Solar Green Energy Lab. |
| 7. 3/5/18 3/7/18 | Solar Lab. Activity 8. Experiment 2. Experiment 3. Activity 9. | Read Chapter 13. Complete experiment 2. Complete activity 8. Read Chapter 14. Complete Experiment 3 Complete activity 9. Guest Speakers - PPC Solar gang. Conferences. | Activity 8. Experiment 2. Experiment 3. Activity 9. | Solar Kit 54 in 1 Solar Green Energy Lab. |
| 8. 3/12/18 3/14/18 | | Spring Break! | | |
| 9. 3/19/18 3/21/18 | Complete OSHA 10 Training. | Guest Speaker(s). Marti PPC OSHA 10 Construction. Online training. | Completion of OSHA 10 Construction. | 360training.com |
| 10. 3/26/18 3/28/18 | Complete OSHA 10 Training. | Guest Speaker(s). Larry - Valverde Energy. OSHA 10 Construction. Online training. | Completion of OSHA 10 Construction. | 360training.com |
| 11. 4/2/18 4/4/18 | Complete OSHA 10 Training. | OSHA 10 Construction. Online training. | Completion of OSHA 10 Construction. | 360training.com |
| 12. | Complete OSHA | OSHA 10 Construction. Online | Completion of | 360training |

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| 4/9/18 4/11/18 | 10 Training. | training. Visit John's House - Solar System. | OSHA 10 Construction. | .com |
| 13. 4/16/18 4/18/18 | Be an active listener and participant when required. | Guest Speaker. Janet Kerley. Personal Protection Equipment (PPE). Professionalism Skills. | Exit Quiz | |
| 14. 4/23/18 4/25/18 | Be an active listener and participant when required. | Guest Speaker. Janet Kerley. PPE. Site Visit - PPC (Business Tour, tools of the trade). | Exit Quiz | |
| 15. 4/30/18 5/2/18 | Be an active listener and participant when required. | Site Visit - Valverde.? Solar Kit. Guest speaker - Renewable Taos | Exit Quiz | Solar Kit 54 in 1 Solar Green Energy Lab. |
| 16. 5/7/18 5/9/18 | Final Test. | Solar Kit. Final. Wrap-up Celebration. | Final Test | Solar Kit 54 in 1 Solar Green Energy Lab. |