National Solar Energy Education Directory

First Edition

In cooperation with the office of
U.S. Congressman George E. Brown, Jr.,
John Kimball, Staff Assistant, and
the Congressional Solar Coalition

Prepared by
George Corcoleotes
Katherine Kramer
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Jo Ann Silversmith

Solar Energy Research Institute
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Golden, Colorado 80401

A Division of Midwest Research Institute
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ACKNOWLEDGEMENTS

The preparation of this report was accomplished by a combined effort of many people. In the Academic Programs Branch, Kevin O'Connor had overall project management responsibility and served as the contact person with John Kimball who coordinated the survey effort from U.S. Congressman Brown's Office. George Corcoleotes, Academic Programs, had overall responsibility for data collection. He was responsible for receiving, reviewing and editing the survey returns.

Jo Ann Silversmith, Katherine Kramer, SPIRES consultants, and the staff of the Database Systems Branch designed and built the computerized database, supervised the data input, and provided technical assistance.
The production of the "1978-79 National Solar Energy Education Directory" (NSEED) represents the culmination of a project initiated in June of 1978. At the Solar Energy Research Institute (SERI), a need for an Educational Data Base (EDB) has been established. The created EDB becomes part of the Congressionally-mandated Solar Energy Information Data Bank (SEIDB).

SERI, having learned from John Kimball of the Office of U.S. Congressman George E. Brown, Jr., that they were planning a National survey of post-secondary educational institutions, agreed to become the survey information processing agent for the sponsoring organizations - Congressman Brown's Office and the Congressional Solar Coalition. Approximately 8,000 surveys were mailed to some 3,200 educational institutions in July of 1978. This Directory, along with information from other noted sources, represents information placed in the data base as of December, 1978.

We hope you find the Directory useful. We will appreciate your brief evaluation of the Directory by returning the User Evaluation Sheet on page xviii of the Directory.
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IMPORTANT NOTICE: Several important points need to be understood by the user of this Directory. The information contained in the Directory is derived from responses to a national survey of all post-secondary educational institutions. Its completeness is based on those responses and the secondary sources utilized as noted on page ix. The accuracy and reliability of the information is based on those responses and, in some cases, our best judgment on data interpretation. This is a first effort. While we feel the information should be useful to many, we know the next Directory will be more complete and accurate. Should individuals desire additional information relative to activities of particular institutions, they should call or write the institutions.

DIRECTORY ORGANIZATION: The organization of the directory lists institutions alphabetically by institution type within state. A complete alphabetical index of institutions is found in the back of the Directory along with a cross reference to program and curriculum titles. Within each institution, programs and curricula offered, if any, are listed following the institution name, ID number (found in parentheses to the right of the institution name), address and phone number. All solar-related courses are then listed alphabetically by course title. If a course is offered within a program or curriculum, the program or curriculum name with which it is associated is printed.

Institution names and addresses for mailing labels and for creating the initial computerized data base were obtained from the National Center for Education Statistics. Approximately 8,000 surveys were mailed to some 3,200 educational institutions. Of these, some 2,100 institutions responded. Over 600 institutions indicated offering at least one solar-related course. Over 125 educational institutions indicated offering a program or curriculum. By combining the survey responses with secondary sources of information (courses, programs or curricula marked by an "**") the Directory contains entries for nearly 700 institutions.

EDITING NOTES: In the compilation of the directory of post-secondary educational institutions offering solar-related courses, programs and curricula, every reasonable effort
was made to obtain accurate and reliable information. Both phone calls and follow-up mail requests were used to gather additional information where necessary. Where information was difficult to interpret, and contact was not made with the respondent, a best judgement of the data submitted was entered into the file. Every survey instrument was read, coded and edited. In order to conform with character limitations in certain fields, some responses were abbreviated.

Specific data element responses were examined for consistency with other data elements, e.g. Did the total contact hour field represent the sum of the subfields of contact hours? In some cases, interpretations were made relative to the program/curriculum classification (page xii defines program and curriculum). The most common judgements which were made concerned the question of solar-related courses. With a slight stretch of interpretation, an institution could develop a long list of "solar-related" courses. Hence, some courses submitted which appeared only remotely related to solar were not included in the directory. In future updates, a solar-related course is defined as one in which at least one-third of the contact hours are spent teaching direct solar-related topics.

Probably the most difficult question to interpret on the survey was question 11 on the first page of the survey (see page xiii). The question reads: "Students completing the Program/Curriculum would generally be classified as...". While the attempt of this question was to elicit responses relative to the expertise obtained by the students as a result of completing the program or curriculum, the responses very often reflected the kinds of students involved in the program or curriculum. Therefore, in the Directory we have named the responses to the question with the heading "Students Taking or Completing Offering".

Institutions which only had planned courses, programs, or curricula were not included in the Directory. Relative to course topic information, only those topics taught extensively were listed in the course details.

DIRECTORY UPDATE: As the Directory is used, data errors and omissions will be noted. If errors in the reported records are found, the pages may be copied and returned to SERI with corrections noted. If additional
programs, courses, and/or curricula should be included, the survey form on pages xiii - xv may be copied and completed. Return changes, additions, or deletions to:

Solar Energy Education Data Base
Attn: George Corcoleotes
Solar Energy Research Institute
1536 Cole Boulevard
Golden, Colorado 80401

For questions concerning updates call SERI at (303) 231-1831.
SECONDARY SOURCES UTILIZED

In addition to the responses received from the initial survey, several sources of information were utilized to make the database more complete. Each entry derived from secondary sources has been "starred" (*) to call attention to the user that the information provided for that institution has been derived from a source other than the primary survey.

Institutions and organizations which appear in the Directory as having information supplied from secondary sources are encouraged to submit complete information on their educational offerings by completing a copy of the Survey Response Form found on pages xiii - xv.

Following is a list of secondary sources utilized in the compilation of the Directory:


3. Colleges and Universities with Solar-Related Courses, Mid-American Solar Energy Complex, 1256 Trapp Road, Eagan, MN 55121.


6. National Solar Heating and Cooling Information Center, P.O. Box 1607, Rockville, MD 20850.

7. Report from California, California Community Colleges, November 2, 1978, Barbara S. Pratt, California Community Colleges, 1238 "S" Street, Sacramento, CA 95814.
8. Solar Action Office, One Ashburton Place, Boston, MA 02108.

July, 1978

TO: Presidents of Educational Institutions, Institute Heads, Deans and Department Directors offering Educational Programs in Solar Energy


The Congressional Solar Coalition is interested in your participation in a cooperative effort to create a data base of all solar energy-related programs and courses currently being offered by our nation's post-secondary educational institutions.

Two organizations have agreed to work with the collected information. The Solar Energy Research Institute (SERI) in Golden, Colorado will have responsibility for the creation of a computerized data base which will become part of the legislatively mandated Solar Energy Information Data Bank (SEIDB). SERI's Information Systems Branch will receive the survey returns, edit and process the data into a computerized data base, and create the appropriate retrieval, reporting, updating, and analysis mechanisms. The compilation of collected material will be made available in a published Solar Energy Educational Directory. As an interim measure, before the computerized data base at SERI is fully operational, the National Solar Heating and Cooling Information Center (NSHIC) will have the capability of providing a listing of solar educational offerings on a state-by-state basis free of charge to anyone by calling their toll-free number: (800) 523-2929.

The suggested deadline for returning the survey is September 15, 1978. For the purpose of this survey, wind, biomass conversion, and ocean thermal energy conversion should also be considered as solar technologies. New courses, curricula, and updates will be accepted any time following the September 15th date. However, this is not preferred. Even if you do not offer solar courses, please complete and return the first page of the form.

We appreciate your participation and, for your help, the Solar Energy Research Institute will be sending you a listing of the programs in your state. We hope you will be able to use the compiled information for your own course and/or curriculum development.

We would also like to use this opportunity to make sure that you are aware of the Higher Education Act Amendments of 1976. Of particular importance is an amendment introduced by Sen. Thomas J. McIntyre, (N.H.), that allows Federal Funds to be used for solar education programs in post-secondary vocational education schools. You might want to investigate your own possible uses of federal funds for the development of new or additional solar energy curricula.
Solar Energy Educational Survey Instructions

If your institution is not offering any solar related programs, please complete only the first page of the survey, so indicating. If solar offerings are made by your institution, we would be happy to receive any additional information which you feel would be helpful.

The two-page survey form is designed to elicit information on solar-related programs, courses, and/or curricula currently being offered or planned to be offered by educational institutions. Your assistance in making the form entries as complete as possible will be greatly appreciated. There are two sections to be completed: (1) Educational Institutions and (2) Course Information (2 pages). Some detailed instructions may help in answering certain questions. Note that for the purpose of this survey wind, biomass conversion, and ocean thermal energy conversion should also be considered as solar technologies.

I. Educational Institutions

Q. 4. If your institution offers or plans to offer a solar curriculum or program, answer "yes" to question 4 and complete questions 5 through 12 for each curriculum or program offered or planned. Duplicate the form if necessary.

Q. 5-12. In questions 5 through 12, information relative to solar curricula and programs is requested, as distinguished from single course offerings. A curriculum is a set of integrated courses leading toward a degree or certificate. A program is loosely defined as a formal academic experience usually combining course-work and research in applied solar technology, but not necessarily leading to a degree in solar expertise. Specialized summer programs and research institutes are examples. The answer to Q. 8, Head of Prog./Curr., should be the main contact person for someone desiring more information about the program or curriculum. Question 12 estimates the proportion of students successfully placed in solar-related jobs.

Q. 13-14. Please answer question 14, regardless of the answer given in question 13. If your institution is presently offering solar courses ("Yes" to question 13), it may also be developing additional courses.

II. Course Information

Please complete the Course Information Section (2 pages) for each separate, solar-related course, either presently offered or planned to be offered. Duplicate the Course Information Section if necessary to cover all solar courses offered. Any questions you may have concerning the survey form may be answered by George Corcoleotes at SERI (303) 231-1831 or Kevin O'Connell 231-1825.

SERI, Academic Programs
Attn: George Corcoleotes
1536 Cole Boulevard
Golden, Colorado 80401

Thank you very much for your participation.
I. Educational Data Base — Educational Institutions

1. Institution Name: ________________________________

2. Address: _______________________________________
   Street: __________________ City: __________________ State: ______ ZIP: _______

3. Institution Type:
   □ 4 Yr. Coll./ Univ./ Grad. School
   □ Community/ Junior College
   □ Vocational/ Technical School
   □ Other (describe) ________________________________

4. Does your institution offer/plan a Solar Curriculum or Program? [ ] Yes [ ] No
   If "No", go to Question 13.

Please complete Questions 5-12 for each solar energy Curriculum or Program offered or planned. If more than one Program/ Curriculum is offered/planned please make copies of this section and attach.

5. Is the offering a Program? [ ] Yes [ ] No
   or Curriculum? [ ] Yes [ ] No
   Currently Offered? [ ] Yes [ ] No
   or Planned? [ ] Yes [ ] No

6. Program/ Curriculum Name: ____________________________

7. College/Dept. offering Program/ Curriculum: ____________

8. Head of Prog./Curr.: __________________________ Phone: (_____) ______

9. What Degree/Title/Certificate, if any, does graduating student receive?
   □ Ph.D. □ MA □ MS □ BA □ BS □ Associate Degree □ None
   □ Other (specify) __________________________

10. Name of Degree/Title/Certificate: _______________________

11. Students completing Program/ Curriculum would generally be classified as (check as many as apply):
   □ Architect □ Educator □ Researcher □ Solar Engineer
   □ Solar System Installer: □ Residential □ Industrial/ Commercial
   □ Solar Technician — one trained in instrumentation, controls, design, maintenance, etc.
   □ Mech./ Elec. Contractor □ Person specializing in solar from one of the following trades/ skills:
   □ General Contractor — Specializing in solar design/ installation □ Electrical □ Plumbing
   □ Do- it-yourselfer/ Homeowner □ Sheet Metal □ Other (specify) __________________________
   □ Other (specify) __________________________

12. Estimate what percentage of graduates of the above Prog./Curr. enters the job market in the field for which they are specifically trained: _______

13. Is your institution presently offering solar courses? [ ] Yes [ ] No

14. Are any (additional) solar courses being developed? [ ] Yes [ ] No

For all courses, existing or planned, please complete the 2-page Course Information Section. Make extra copies of the section if needed. If no solar-related courses are offered or planned, complete this page only and return.

Thank you very much.
II. Educational Data Base — Course Information

1. Name of Institution: _______________________________________________________

2. Course Title: _____________________________________________________________

3. Course Number: __________ 4. Is Course Currently Offered? □ Yes □ No □ Planned?

5. Course Instructor/Contact: _____________________________________________ Phone: (____) __________

6. College/Dept. Offering Course: __________________________________________

7. Is Course also taught in conjunction with other Colleges/Depts.? Yes □ No □

8. Most of the students in course are from what Colleges/Depts.? (Please List)
   a. ___________________________ b. ___________________________ c. ___________________________
   d. ___________________________ e. ___________________________ f. Don't Know □

9. Number of Times Course Taught to Date: ________ 10. Average Enrollment ________

11. Number of Students Completing Course:
   1973 or earlier ________ 1974 ________ 1975 ________ 1976 ________
   1977 ________ 1978 (est.) ________ 1979 (est.) ________

12. Is Course Offered for Academic Credit? Yes □ No □ 13. # Credit Hours ________

14. Typical Academic Level of Student Taking Course: All Levels □
    High School Grad. □ Fresh/Soph □ Jr/Sr □ College Grad. □ Postdoctoral □

15. Duration of Course: (# of Weeks ________ Hrs./Week ________ OR (# of Days ________ Hrs./Day ________)

16. Contact Hours: Total ________ Classroom/Lecture ________ Laboratory ________
    On-the-job-training ________ Other ________ (Specify) ________

17. To what extent are the following topics covered in your course? Check only those that apply. Please specify topics not listed, but included in the course.

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<th>Course Topics</th>
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<td>16. Solar System Components</td>
<td>35. Other (specify)</td>
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<td>18. Solar Home Construction</td>
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Please complete back of form for this course. Thank you.
II. Educational Data Base — Course Information (Continued)

Materials Used or Proposed for Use in this Course

18. Is a text used in this course?  Yes ☐  No ☐

19. Name of text ____________________________  20. Author ____________________________

The following are used in this course:

21. Slides:  Yes ☐  No ☐  22. Films:  Yes ☐  No ☐  23. Demonstrations:  Yes ☐  No ☐

24. List sources of above materials or describe demonstrations.

25. Course Prerequisites (May be copied from catalog, etc.):

26. Course Description (May be copied from catalog, etc.):

Thank you very much for your participation.

X V
SELECTED SOURCES OF INFORMATION

An abundance of reference materials and other sources of information exists in the field of solar energy. The sources of information cited here will only be highlights of some of the information which can be obtained.


For information about SERI publications contact the SERI Public Information Office, 1536 Cole Boulevard, Golden, Colorado 80401, (303) 231-1000. Ask to be placed on the mailing list for the SERI Publications and Presentations Bulletin, a quarterly publication. The first issue, Volume I-1, was published in November, 1978.

b. US Department of Energy.

1) "Guide to Solar Energy Programs" (Latest Edition) DOE/ET-0036/1, US Department of Energy Assistant Secretary of Energy Technology Division of Solar Technology Washington, DC 20545

Also available from:

US Government Printing Office
Washington, DC 20402 Price: $2.40
S/N 061-000-00042-9


Available from:

Education Programs Division
US Department of Energy
Forrestal Building, 1000 Independence Ave., SW
Washington, DC 20585 (202) 376-9211
Also available from:

SERI, Public Information Office
1536 Cole Boulevard
Golden, CO 80401

In DOE also ask for other documents available from the Education Programs Division of Inter-governmental and Institutional Relations and the Technology Transfer Division of Conservation and Solar Applications.

3) Education materials also available from:
   US Department of Energy
   Technical Information Center
   PO Box 62
   Oak Ridge, TN 37830


   Bibliographies and reference lists are available along with films and many other resources. Call
toll free (800) 523-2929. In Pennsylvania call (800) 462-4983. Or write:

   National Solar Heating and Cooling Information Center
   PO Box 1607
   Rockville, MD 20850

d. US Office of Education.

   For Possible funding sources obtain:

   "A Selected Guide to Federal Energy and Education Assistance"
   Energy and Education Action Center
   US Office of Education, Room 514
   Reporters Building, 300 7th Street, SW
   Washington, DC 20202 (202) 472-7777
USER EVALUATION SHEET
NATIONAL SOLAR ENERGY EDUCATION DIRECTORY

Please take a few minutes to complete the following form. Your comments will be valuable to us.

1. I found the 1978-79 NSEED:
   ____ Extremely useful  ____ Useful
   ____ Not very useful, but worth having  ____ Not worth printing
   Comments:_________________________________________________________________

2. I found the information to be:
   ____ Sufficiently detailed  ____ Not detailed sufficiently
   Comments:_________________________________________________________________

3. I would like to see the following cross references in future directories:
   a._____________________________________________________________________
   b._____________________________________________________________________

4. I found the printing quality to be:
   ____ Satisfactory  ____ Unsatisfactory

5. I recommend the continuation of an annual publication of the Solar Energy Education Directory:
   ____ Yes  ____ No

6. I recommend the following additions, deletions, changes to be made in future directories:
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

7. I would like to see the following special reports from the data base on solar energy education:
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

Please return form to:                                      (Optional) Respondent's Name and Address
Academic Programs Branch
Attn: Kevin O'Connor
Solar Energy Research Institute
1536 Cole Boulevard
Golden, Colorado 80401

Name: ______________________  Phone: ______________________
Organization: ______________________
Address: ______________________
Colleges/Universities

ALABAMA A & M UNIVERSITY
Patton Hall
NORMAL, Alabama 35762
(205) 859-7011

SOLAR RELATED COURSES

An Introduction to Practical Energy Systems
Instructor: Jenkins, Joseph
(705) 859-7320
Course Number: IDS 501
Department: Technology/Engineering Technology
Credits: 3
Student Level: College Graduate
Duration: 10 Weeks, 8.0 hrs per week
Contact Hours: 80
Classroom: 60
Laboratory: 20
Number of Times Taught: 2
Average Enrollment: 30

Heat Transfer
Instructor: Jenkins, Joseph
(205) 859-7320
Course Number: MET 408
Department: Technology/Engineering Technology
Credits: 3
Student Level: Junior or Senior
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 54
Number of Times Taught: 4
Average Enrollment: 10

Therodynamics
Instructor: Jenkins, Joseph
(205) 859-7320
Course Number: MET 306
Department: Technology/Engineering Technology
Credits: 3
Student Level: Junior or Senior
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 54
Number of Times Taught: 15
Average Enrollment: 15

ALABAMA IN BIRMINGHAM, U
BIRMINGHAM, Alabama 35294
(205) 934-4011

SOLAR RELATED COURSES

Energy Crisis, Homeowners Alternatives
Instructor: Garrison, Aubrey
(205) 871-7336
Department: Special Studies
Student Level: All levels
Duration: 6 Weeks, 2.0 hrs per week
Contact Hours: 12

Topics Covered Extensively: Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Solar Home Construction
Number of Times Taught: 2
Average Enrollment: 15

Energy Crisis and the Environment
Instructor: Young, John
(204) 934-3375
Course Number: ENV 2
Department: Physics
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Number of Times Taught: 10
Average Enrollment: 100

ALABAMA IN HUNTSVILLE, U
HUNTSVILLE, Alabama 35807
(205) 895-6120

SOLAR RELATED COURSES

Solar Systems Analysis - Part I
Instructor: Humphries/ Nash
(205) 453-3629
Course Number: CE-T67
Department: Continuing Education
Student Level: College Graduate
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Topics Covered Extensively: Heat and Energy Transfer; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling
Number of Times Taught: 2
Average Enrollment: 15

Solar Systems Analysis - Part II
Instructor: Humphries, William R.
(205) 453-3629
Course Number: CE-T74
Department: Continuing Education
Student Level: College Graduate
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling
Number of Times Taught: 2
Average Enrollment: 15

Survey of Solar Heating and Cooling
Instructor: Humphries, William R.
(205) 453-3629
Course Number: CE-T49
Department: Continuing Education
Student Level: College Graduate
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar
SOLAR RELATED COURSES

AUBURN U AT MONTGOMERY
MONTGOMERY, Alabama 36117
(205) 279-9110

School Facility Planning
Instructor: Harrison, Barker
Course Number: 691
Department: Education/Administrator
Credits: 4
Student Level: College Graduate
Duration: 12 Weeks, 4.0 hrs per week
Contact Hours: 48
Classroom: 36
Laboratory: 8
Number of Times Taught: 10
Average Enrollment: 16

AUBURN U MAIN CAMPUS
AUBURN, Alabama 36830
(205) 826-4000

SOLAR RELATED COURSES

Energy Conscious Design
Instructor: Pavlov, Harry
Course Number: AR 495
Department: Architecture
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Number of Times Taught: 5
Average Enrollment: 15

Solar Energy Utilization
Instructor: Goodling, J. S.
Course Number: 683
Department: Mechanical Engineering
Credits: 3
Student Level: College Graduate
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating
Number of Times Taught: 2
Average Enrollment: 15

Special Problems and Terminal Project
Instructor: Lechner, Norbert
Course Number: 460C490
Department: Architecture & Fine Arts
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Number of Times Taught: 2
Average Enrollment: 15

MONTGOMERY, UNIVERSITY OF
MONTGOMERY, Alabama 36115
(205) 279-9110

SOLAR RELATED COURSES

Energy and Civilization
Instructor: Kwon, Y.H.
Course Number: 120
Department: Physics
Credits: 4
Student Level: Freshman or Sophomore
Duration: 14 Weeks, 3.5 hrs per week
Contact Hours: 50
Classroom: 36
Laboratory: 14
Number of Times Taught: 2
Average Enrollment: 22
Colleges/Universities

ALASKA METH UNIVERSITY (1061)
ANCHORAGE, Alaska 99504
(907) 276-8181

SOLAR RELATED COURSES

Alaska's Energy Resources
Instructor: Rutledge, Eugene
Course Number: PHYS 492
Department: Arts and Sciences
Credits: 3
Student Level: Junior or Senior
Duration: 14 weeks, 2.5 hrs per week
Contact Hours: 35
Classroom: 35
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Law/Legislation; Elec't Generation, Central; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 1
Average Enrollment: 10

Community/Junior Colleges

ALASKA ANCHORAGE CC, U OF (1064)
ANCHORAGE, Alaska 99504
(907) 279-6602

SOLAR RELATED COURSES

Topics on Solar and Wind Power
Instructor: Wise, James L.
Course Number: ENVS 194
Department: Natural Sciences/Mathematics
Credits: 3
Student Level: All levels
Duration: 5 weeks, 3.0 hrs per week
Contact Hours: 15
Classroom: 15
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Law/Legislation; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 1
Average Enrollment: 25

U OF ALASKA KENAI CC (1066)
SOLDOTNA, Alaska 99669
(907) 262-5801

SOLAR RELATED COURSES

Alternative Sources I
Instructor: Steffy, D.
Course Number: ET 211
Department: Applied Science
Credits: 3
Student Level: All levels
Duration: 15 weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 30
Laboratory: 30
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conversion; Energy Storage; Heat and Energy Transfer; Plumbing Techniques; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Process Heat, Agricultural; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems

U OF ALASKA NORTHWEST CC (13169)
NOME, Alaska 99762
(907) 443-2201

SOLAR RELATED COURSES

Environment Society
Instructor: McGuire, Nancy
Course Number: BIOL103
Department: Arts and Science
Credits: 3
Student Level: All levels
Duration: 14 weeks, 3.0 hrs per week
Contact Hours: 42

U OF ALASKA TANANA VLY CC (29093)
FAIRBANKS, Alaska 99701
(907) 479-7035

SOLAR RELATED COURSES

Const. and Analysis Ener. Eff. Homes
Instructor: Paggasch, Robert
Course Number: P.D. 133
Department: Community Interest Programs
Credits: 2
Student Level: All levels
Duration: 10 weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Alternate Energy Sources

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ARIZONA STATE UNIVERSITY
TEMPE, Arizona 85281
(602) 965-9011

PROGRAMS AND CURRICULA

Energy Conversion and Power Systems
Degree: PhD, MS, BS, Mechanical Engineering
Contact: Metzger, D. E.
(602) 965-3291

Students Taking or Completing Offering:
Trade Specialty

SOLAR RELATED COURSES

Direct Energy Conversion 497
Course Number: MEE 497
Department: Mechanical Engineering
Program or Curriculum: Energy Conversion and Power Systems
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Energy Conversion
Average Enrollment: 25

Direct Energy Conversion 593
Course Number: MEE 593
Department: Mechanical Engineering
Program or Curriculum: Energy Conversion and Power Systems
Credits: 3
Student Level: College Graduate
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Energy Conversion
Number of Times Taught: 2
Average Enrollment: 5

Direct Energy Conversion 598
Instructor: Backus, C. E.
(602) 954-3857
Course Number: MEE 598
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Laboratory: 0
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Photovoltaics; Electric Generation;
Central; Electric Generation, Small Scale
Number of Times Taught: 11
Average Enrollment: 22

Heat Transfer (Convection)
Course Number: MEE 556
Department: Mechanical Engineering
Program or Curriculum: Energy Conversion and Power Systems
Credits: 3
Student Level: College Graduate
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector
Number of Times Taught: 1
Average Enrollment: 10

P-S: Energy Technology
Course Number: MEE 498
Department: Mechanical Engineering
Program or Curriculum: Energy Conversion and Power Systems
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Number of Times Taught: 1
Average Enrollment: 15

P-S: Solar Energy Fundamentals
Course Number: MEE 498
Department: Mechanical Engineering
Program or Curriculum: Energy Conversion and Power Systems
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Number of Times Taught: 1
Average Enrollment: 15

S: Photovoltaics
Course Number: MEE 591
Department: Mechanical Engineering
Program or Curriculum: Energy Conversion and Power Systems
Credits: 3
Student Level: College Graduate
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Photovoltaics
Number of Times Taught: 1
Average Enrollment: 5

Solar Energy
Instructor: Wood, Byard D.
(602) 965-7298
Course Number: MEE 556
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector
Number of Times Taught: 1
Average Enrollment: 5

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Arizona Solar Energy Research Institute

Evaluation/Design; Solar Systems Design
Number of Times Taught: 1
Average Enrollment: 15

ARIZONA, UNIVERSITY OF
TUCSON, Arizona 85721
(602) 884-2751

PROGRAMS AND CURRICULA

Energy Systems Engineering
Degree: MS, Engineering
Contact: Carlile, R.N.
(602) 626-1672

Students Taking or Completing Offering: Researcher, Solar Engineer

SOLAR RELATED COURSES

Advanced Solar Engineering
Instructor: Fazzolare, Rocco
(602) 626-2407
Course Number: 301
Department: Engineering
Program or Curriculum: Energy Systems Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling
Number of Times Taught: 3
Average Enrollment: 7

Solar Energy Engineering
Instructor: Rogers, W.L.
(602) 626-2159
Course Number: AME 267
Department: Engineering, Mines
Program or Curriculum: Energy Systems Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Number of Times Taught: 3
Average Enrollment: 70

Instructor: Larson, D.L./ William, D.W.
(602) 626-3463
Course Number: 198
Department: Soils, Water & Engineering
Credits: 2
Student Level: All levels
Duration: 17 Weeks, 4.0 hrs per week
Contact Hours: 68
Classroom: 17

Laboratory: 51
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Intro. to Solar Energy; Solar System Components

NORTHERN ARIZ UNIVERSITY
FLAGSTAFF, Arizona 86001
(602) 523-9011

PROGRAMS AND CURRICULA

Mechanical Engineering Technology
Degree: BS, Engineering Technology
Contact: Hepworth, H. Kent
(602) 523-5251

Students Taking or Completing Offering: Solar Engineer

SOLAR RELATED COURSES

Direct Energy Conversion
Instructor: Hepworth, H. Kent
(602) 523-5251
Course Number: EGR 402
Department: Engineering and Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conversion; Materials Research; Photovoltaics
Number of Times Taught: 3
Average Enrollment: 70

Solar Energy Technology
Instructor: Kuzma, Dennis C.
(602) 523-5251
Course Number: EGR 451
Department: Engineering and Technology
Program or Curriculum: Mechanical Engineering Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 20

Solar Engineering Analysis and Design
Instructor: Kuzma, Dennis C.
(602) 523-5251
Course Number: EGR 451
Department: Engineering and Technology
Program or Curriculum: Mechanical Engineering Technology
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Collector Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating
Number of Times Taught: 4
Average Enrollment: 33

COCHISE COLLEGE
DOUGLAS, Arizona 85607
(602) 364-7943

SOLAR RELATED COURSES
Solar Energy Systems
Instructor: Elkins, Bob
Course Number: TI025
Department: Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 5.0 hrs per week
Contact Hours: 60
Classroom: 32
Laboratory: 48
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design
Number of Times Taught: 4
Average Enrollment: 33

GLENDALE CITY COLLEGE
GLENDALE, Arizona 85302
(602) 934-2211

SOLAR RELATED COURSES
Bld.-It-Yourself-Sol. Water Heating
Instructor: Pitterenger
Course Number: G 220-226
Department: Continuing Education

Student Level: All levels
Duration: 1 Weeks, 8.0 hrs per week
Contact Hours: 8
Classroom: 1
Laboratory: 7
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Systems Installation; Domestic Hot Water
Number of Times Taught: 1

SOLAR ENERGY: A Consumer Guide
Instructor: Pitterenger
Course Number: 6172
Department: Continuing Education
Student Level: All levels
Duration: 13 Weeks, 2.0 hrs per week
Contact Hours: 26
Classroom: 26
Laboratory: 6
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Systems Installation; Domestic Hot Water
Number of Times Taught: 1

MOHAVE COMMUNITY COLLEGE
KINGMAN, Arizona 86401
(602) 757-4331

SOLAR RELATED COURSES
Intro. Solar Energy
Instructor: Byfield, Hal
Course Number: PHY091
Department: Physics
Credits: 3
Student Level: Freshman or Sophomore
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 54
Laboratory: 6
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components
Number of Times Taught: 3
Average Enrollment: 15

Solar Energy and Survival
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Home Construction;
Solar Collector Evaluation/Design;
Solar Systems Design; Solar Systems Testing and Evaluation; Space Heating;
Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

Special Project: Tech. of Solar Systems
Instructor: Byfield, Hal
(602) 757-4331
Course Number: PHY290
Department: Physics
Credits: 3
Student Level: Freshman or Sophomore
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 54
Topics Covered Extensively: Alternate Energy Sources
Number of Times Taught: 3
Average Enrollment: 15

NORTHLAND PIONEER COLLEGE
HOLBROOK, Arizona 86025
(602) 524-6111

SOLAR RELATED COURSES

Solar and Alternate Energy Sources
Instructor: Plucker, Frank
(602) 289-5062
Course Number: PHY180
Department: Physics
Credits: 3
Student Level: Freshman or Sophomore
Duration: 17 Weeks, 3.0 hrs per week
Contact Hours: 51
Classroom: 40
Laboratory: 11
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy
Number of Times Taught: 6
Average Enrollment: 14

SOLAR RELATED COURSES

Solar Energy
Instructor: Pleaser, Wm. J.
(602) 977-7615
Course Number: PH 101-0863
Department: Physics
Credits: 1
Student Level: All levels
Duration: 6 Weeks, 2.0 hrs per week
Contact Hours: 16
Topics Covered Extensively: Intro. to Solar Energy; Plumbing Techniques; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water
Number of Times Taught: 2
Average Enrollment: 25

YAVARAIR COLLEGE
PRESCOTT, Arizona 86301
(602) 445-7300

PROGRAMS AND CURRICULUMS

Solar Energy Technology
Contact: Minkler, L./ Beverly, G./ Strom, L.
(602) 445-7300
Students Taking or Completing Offering: Do-it-yourself Homeowner, Installer-Residential (Solar System)

SOLAR RELATED COURSES

Here Comes the Sun
Instructor: Minkler, Lyle
(602) 445-5264
Course Number: PAS100
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 3
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Classroom: 15
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design
Number of Times Taught: 3
Average Enrollment: 25

Instructor: Beverly, Gary
(602) 445-7300
Course Number: PHS109
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Elec’l Generation, Small Scale
Number of Times Taught: 4
Average Enrollment: 14

SOLAR RELATED COURSES

Solar Collectors
Instructor: Minkler, Lyle
(602) 445-5264
Course Number: PHS109
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Topics Covered Extensively: Solar Collector Evaluation/Design

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Solar Greenhouse
Instructor: Beverly, Gary
(602) 445-7300
Course Number: PHS107
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Systems Design; Space Heating
Number of Times Taught: 5
Average Enrollment: 16

Solar Heating, Air and Water Systems
Instructor: Minkler, Lyle
(602) 445-5264
Course Number: PHS101
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Topics Covered Extensively: Appropriate Technology; Energy Storage; Solar System Components; Solar Systems Design
Number of Times Taught: 1
Average Enrollment: 15

Solar Heating, Passive and Hybrid Systems
Instructor: Freving, Mike
Course Number: PHS102
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Space Heating
Number of Times Taught: 1
Average Enrollment: 9

Solar Heating, Retrofit Systems
Instructor: Minkler, Lyle
(602) 445-7300
Course Number: PHS104
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Economics; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating

Solar Hot Water
Instructor: Beverly, Gary
(602) 445-7300
Course Number: PHS103
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Plumbing Techniques; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water
Number of Times Taught: 1
Average Enrollment: 4

Solar Laboratory 121
Instructor: Minkler, Lyle
Course Number: PHS121
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Duration: 6 Weeks, 4.5 hrs per week
Contact Hours: 27
Classroom: 6
Laboratory: 21
Topics Covered Extensively: Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 25

Solar Laboratory 122
Instructor: Minkler, Lyle
(602) 445-7300
Course Number: PHS122
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Duration: 6 Weeks, 4.5 hrs per week
Contact Hours: 27
Classroom: 6
Laboratory: 21
Topics Covered Extensively: Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 25

Solar Laboratory 123
Instructor: Minkler, Lyle
(602) 445-7300
Course Number: PHS123
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Duration: 6 Weeks, 4.5 hrs per week
Arizona Solar Energy Research Institute

Contact Hours: 27
Classroom: 6
Laboratory: 21
Topics Covered Extensively: Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 25

Solar Laboratory 124
Instructor: Minkler, Lyle
(602) 445-7300
Course Number: PHS 124
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Duration: 6 Weeks, 4.5 hrs per week
Contact Hours: 27
Classroom: 6
Laboratory: 21
Topics Covered Extensively: Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 25

Solar Laboratory 125
Instructor: Minkler, Lyle
(602) 445-7300
Course Number: PHS 125
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Duration: 6 Weeks, 4.5 hrs per week
Contact Hours: 27
Classroom: 6
Laboratory: 21
Topics Covered Extensively: Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 25

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### Colleges/Universities

**ARKANSAS MAIN CAMPUS, U OF**

FAYETTEVILLE, Arkansas 72701

(501) 575-2000

**SOLAR RELATED COURSES**

**Introduction to Solar Energy**

Instructor: Gilbrech, Donald A.  
(501) 575-3054

Course Number: 4303  
Department: Engineering Science  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 48  
Classroom: 48

Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating; Space Cooling  
Number of Times Taught: 3  
Average Enrollment: 25

**CENTRAL ARKANSAS, U OF**

CONWAY, Arkansas 72032  
(501) 329-2931

**PROGRAMS AND CURRICULA**

**Solar Energy Workshop**

Degree: Certificate of Completion  
Contact: Feck, Vincent J./ Jordan, Ken  
(501) 329-2931

Students Taking or Completing Offering: Contractor, Plumber, Sheet Metal Worker

**SOLAR RELATED COURSES**

**Workshop in Solar Energy**

Instructor: Jordan, Ken/ Pray, Dr.  
(501) 329-2931

Department: Voc. Educ./Indus Educ./Physics

Program or Curriculum: Solar Energy Workshop  
Student Level: High School Graduate  
Duration: 1 Weeks, 12.0 hrs per week  
Contact Hours: 12  
Classroom: 6  
Laboratory: 4

Topics Covered Extensively: Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating  
Number of Times Taught: 1  
Average Enrollment: 93

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**Community/Junior Colleges**

**MISS CO CNTY COLLEGE**

BLYTHEVILLE, Arkansas 72315  
(501) 762-1020

**PROGRAMS AND CURRICULA**

**Solar Energy Technology**

Contact: Hughes, G. Edward/ Benson, Chris  
(501) 762-1020

Students Taking or Completing Offering: Solar technician

**SOLAR RELATED COURSES**

**Solar Technology Cooperative Education**

Instructor: Benson, C.M.  
(501) 762-1020

Course Number: 58003  
Department: Applied Science

Program or Curriculum: Solar Energy Technology  
Credits: 3

Student Level: Freshman or Sophomore  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45

Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating; Space Cooling  
Number of Times Taught: 1  
Average Enrollment: 20
Arkansas Solar Energy Research Institute

**Solar Technology I Lab.**

- **Instructor:** Benson, C.M.
- **Course Number:** 58001
- **Department:** Applied Science
- **Program or Curriculum:** Solar Energy Technology
- **Credits:** 1
- **Student Level:** Freshman or Sophomore
- **Duration:** 15 Weeks, 2.0 hrs per week
- **Contact Hours:** 45
- **Laboratory:** 30
- **Topics Covered Extensively:** Energy Storage; Photovoltaics; Plumbing Techniques; Solar System Components; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
- **Number of Times Taught:** 1
- **Average Enrollment:** 10

**Solar Technology II**

- **Instructor:** Benson, C.M.
- **Course Number:** 58203
- **Department:** Applied Science
- **Program or Curriculum:** Solar Energy Technology
- **Credits:** 3
- **Student Level:** Freshman or Sophomore
- **Duration:** 15 Weeks, 3.0 hrs per week
- **Contact Hours:** 45
- **Classroom:** 45
- **Topics Covered Extensively:** Energy Storage; Heat and Energy Transfer; Photovoltaics; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Electric Generation, Central; Electric Generation, Small Scale; Space Heating; Space Cooling
- **Number of Times Taught:** 1
- **Average Enrollment:** 20

**Solar Technology II Lab.**

- **Instructor:** Benson, C.M.
- **Course Number:** 58021
- **Department:** Applied Science
- **Program or Curriculum:** Solar Energy Technology
- **Credits:** 1
- **Student Level:** Freshman or Sophomore
- **Duration:** 15 Weeks, 2.0 hrs per week
- **Contact Hours:** 30
- **Laboratory:** 30
- **Topics Covered Extensively:** Materials Research; Photovoltaics; Plumbing Techniques; Solar System Components; Solar Systems Testing and Evaluation; Electric Generation, Central; Electric Generation, Small Scale; Space Cooling
- **Number of Times Taught:** 1
- **Average Enrollment:** 20

**Solar Technology III**

- **Instructor:** Benson, C.M.
- **Course Number:** 58403
- **Department:** Applied Science
- **Program or Curriculum:** Solar Energy Technology
- **Credits:** 1
- **Student Level:** Freshman or Sophomore
- **Duration:** 15 Weeks, 3.0 hrs per week
- **Contact Hours:** 45
- **Classroom:** 45
- **Topics Covered Extensively:** Energy Storage; Photovoltaics; Plumbing Techniques; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation
- **Number of Times Taught:** 1
- **Average Enrollment:** 5
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**PROGRAMS AND CURRICULA**

*Research in Heating and Photovoltaics*

Contact: Cannon, R.H.

**SOLAR RELATED COURSES**

*Adv. Thermodynamics & Energy Trans.*

Instructor: Acosta, A.J.
Course Number: ME 118ABC
Department: Eng'g & Appl. Sci., Mech. Eng'

Program or Curriculum: *Research in Heating and Photovoltaics*

Topics Covered Extensively: Heat and Energy Transfer

*Heat & Energy Transfer*

Instructor: Sabersky, R.H.
Course Number: ME 19C
Department: Eng'g & Appl. Sci., Mech. Eng'

Program or Curriculum: *Research in Heating and Photovoltaics*

Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy

*Prin. of Energy Conversion and Distrib.*

Instructor: Rannie, W.D.
Course Number: ME10CABC
Department: Eng'g & Appl. Sci., Mech. Eng'

Program or Curriculum: *Research in Heating and Photovoltaics*

*Solid-State Electronics Lab.*

Instructor: McCaldin, J.O.
Course Number: APH 9

Program or Curriculum: *Research in Heating and Photovoltaics*

Topics Covered Extensively: Photovoltaics; Elec'1 Generation, Central; Elec'1 Generation, Small Scale

*Turbomachines*

Instructor: Rannie, W.D.
Course Number: JP250ABC
Department: Eng'g & Appl. Sci., Jet Prop.

Program or Curriculum: *Research in Heating and Photovoltaics*

* * * * * * * * * * * * * * * * * * * * *

**SOLAR RELATED COURSES**

Intro to Environmental Design Sci

Instructor: Pohl, Jens G.
Course Number: EDES 221
Department: Architecture
Credits: 3
Duration: 10 weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 20
Laboratory: 10

Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar Home Construction; Domestic Hot Water; Space Heating

Number of Times Taught: 18
Average Enrollment: 120

Solar Energy Engineering

Instructor: Clark, W.E.
Course Number: ENVE 322
Department: Environmental Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 50
Classroom: 20
Laboratory: 30

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer;
SOLAR SYSTEM COMPONENTS; SOLAR COLLECTOR EVALUATION/DESIGN; SOLAR SYSTEM DESIGN; DOMESTIC HOT WATER; SPACE HEATING

Number of Times Taught: 3
Average Enrollment: 25

SOLAR ENERGY SYSTEMS ANALYSIS
Instructor: Niles, P.W.
(805) 546-2643
Course Number: ENVE 366
Department: Environmental Engineering
Credits: 5
Student Level: Junior or Senior
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 50
Classroom: 50
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Economics; Domestic Hot Water; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling

SOLAR ENERGY SYSTEMS DESIGN
Instructor: Niles, P.W.
(805) 546-2643
Course Number: ENVE 367
Department: Environmental Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 7.0 hrs per week
Contact Hours: 70
Classroom: 10
Laboratory: 60
Topics Covered Extensively: Energy Storage; Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling

SOLAR RELATED COURSES

*Energy and Man: Their Future Together
Instructor: Gash, Ken/ Rogers, Richard
Course Number: ED X403
Department: Grad. School of Education
Topics Covered Extensively: Energy Conversion; Solar Economics

** ** ** ** **

CAL STATE C- SAN BERNARDINO
SAN BERNARDINO, California 92407
(714) 887-7201

SOLAR RELATED COURSES

Energy and Its Utilization by Man
Instructor: Mantel, K.
(714) 887-7344
Course Number: NS432
Department: Natural Sciences
Credits: 5
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion
Number of Times Taught: 8

** ** ** ** **

CAL STATE COLLEGE- SONOMA
ROHIERT PARK, California 94928
(707) 664-2800

PROGRAMS AND CURRICULA

Contact: Mote, Gayla
(707) 664-2577
Students Taking or Completing Offering: Solar Technician

SOLAR RELATED COURSES

*Solar Technician Train. Classes
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

** ** ** ** **
SOLAR RELATED COURSES

Solar Energy Systems
Instructor: Biddle, John R. (714) 598-0239
Course Number: EGR590
Department: Mechanical Engineering
Credits: 4
Student Level: College Graduate
Duration: 12 Weeks, 4.0 hrs per week
Contact Hours: 48
Topics Covered Extensively: Appropriate Technology; Energy Storage; Photovoltaics; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation
Number of Times Taught: 1
Average Enrollment: 32

Solar Thermal Engineering
Instructor: Biddle, John R. (714) 598-0239
Course Number: ME407
Department: Mechanical Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 12 Weeks, 4.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water
Number of Times Taught: 1
Average Enrollment: 32

Alternate Energy Systems
Instructor: O'Bannon, James E. (916) 343-2975
Course Number: 109
Department: Industry and Technology
Credits: 3
Student Level: All levels
Duration: 3 Weeks, 17.0 hrs per week
Contact Hours: 51
Classroom: 36
Laboratory: 15
Topics Covered Extensively: Alternate Energy Sources; Intro. to Solar Energy
Number of Times Taught: 3
Average Enrollment: 40

Energy and Environment
Instructor: Goud, R. M. (415) 881-3401
Course Number: PHY350
Department: Physics
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Instructor</th>
<th>Course Number</th>
<th>Department</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
<th>Classroom</th>
<th>Laboratory</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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<tbody>
<tr>
<td>Environ. Ed. using Sch. and Comm. Res.</td>
<td>Railton, Esther</td>
<td>TED 6415</td>
<td>Teacher Education</td>
<td>4</td>
<td>Junior or Senior</td>
<td>10 Weeks, 5.0 hrs per week</td>
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<td>Environmental Law</td>
<td>Smith, J. Malcolm</td>
<td>ME411</td>
<td>Mechanical Engineering</td>
<td>3</td>
<td>All levels</td>
<td>15 Weeks, 3.0 hrs per week</td>
<td>45</td>
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<td>Geography Of Energy Resources</td>
<td>Posenhart, Thomas H.</td>
<td>ME405</td>
<td>Mechanical Engineering</td>
<td>3</td>
<td>Junior or Senior</td>
<td>14 Weeks, 3.0 hrs per week</td>
<td>42</td>
<td>40</td>
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<td>Public Policy and the Environment</td>
<td>Lewis, Sherman</td>
<td>ME4171</td>
<td>Political Science</td>
<td>4</td>
<td>Junior or Senior</td>
<td>10 Weeks, 4.0 hrs per week</td>
<td>40</td>
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Average Enrollment: 15

**CAL STATE U- LONG BEACH**

LONG BEACH, California 90840
(213) 498-4121

PROGRAMS AND CURRICULA

<table>
<thead>
<tr>
<th>Energy Selection and Conversion</th>
<th>Dyer, J.L.</th>
<th>ME411</th>
<th>Mechanical Engineering</th>
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<td>Degree</td>
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<td>Contact</td>
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<td>(213) 498-4407</td>
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Students Taking or Completing Offering: Trade Specialty

SOLAR RELATED COURSES

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Students Taking or Completing Offering: Trade Specialty

Special Topics in Mech. Engin.

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Students Taking or Completing Offering: Trade Specialty

- 17 -

**CAL STATE U- LONG BEACH**

LONG BEACH, California 90840
(213) 498-4121

PROGRAMS AND CURRICULA

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SOLAR RELATED COURSES

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Students Taking or Completing Offering: Trade Specialty

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Students Taking or Completing Offering: Trade Specialty

- 17 -
SOLAR RELATED COURSES

Design of Solar Systems
Instructor: Mann, George
Department: Engineering, Mechanical Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 66
Classroom: 33
Laboratory: 33
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Electric Generation; Central; Space Heating; Space Cooling

Introduction to Solar Engineering
Instructor: Mann, George
Department: Engineering, Mechanical Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 66
Classroom: 33
Laboratory: 33
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design

Solar Energy Applications
Instructor: Manvi, Ram/ Turner, R.
Department: Mechanical Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 30
Laboratory: 10
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Electric Generation; Central; Electric Generation, Small Scale
Number of Times Taught: 2
Average Enrollment: 10

SOLAR RELATED COURSES

Solar Energy for Homeowners
Instructor: Dixon, Gregg W.
Department: Mechanical and Chemical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 6 Weeks, 3.0 hrs per week
Contact Hours: 18
Classroom: 18
Number of Times Taught: 3
Average Enrollment: 32

Solar Energy Engineering
Instructor: Dixon, Gregg W.
Course Number: 494S
Department: Mechanical and Chemical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Topics Covered Extensively: Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating
Number of Times Taught: 1
Average Enrollment: 12

Approaching a Solar Society
Instructor: Berner, S./ Birdsall, C.K.
Course Number: E298-4
Department: Engineering
Program or Curriculum: Solar Engineering
Credits: 4
Student Level: College Graduate
Duration: 20 Weeks, 3.0 hrs per week
Contact Hours: 60
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Intro. to Solar Energy; Solar Energy Policy Development
Number of Times Taught: 1
Average Enrollment: 15

Direct Energy Conversion
Instructor: Hu, Chenming
(415) 642-3393
Course Number: EEC 290 G
Department: Elec. Eng. and Computer Sciences
Program or Curriculum: Solar Engineering
Credits: 4
Student Level: College Graduate
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 35
Classroom: 30
Topics Covered Extensively: Energy Conversion; Intro. to Solar Energy; Photovoltaics; Elec'1 Generation, Small Scale
Number of Times Taught: 1
Average Enrollment: 8

Elementary Solar Electric Systems
Instructor: Smith, O.J.M.
(415) 642-7591
Course Number: EECS165
Program or Curriculum: Solar Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Systems Design; Solar Systems Installation; Elec'1 Generation, Central; Wind Power, Small Systems

Energy and Power
Instructor: Lieberman, M.A.
(415) 642-1030
Course Number: E160
Department: Engineering
Program or Curriculum: Solar Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Energy Conversion: Heat and Energy Transfer; Intro. to Solar Energy
Number of Times Taught: 7
Average Enrollment: 100

Energy Conversion Principles
Instructor: Daily, John W.
(415) 642-0238
Course Number: ME 145
Department: Mechanical Engineering
Program or Curriculum: Solar Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Energy Conversion: Heat and Energy Transfer; Intro. to Solar Energy
Number of Times Taught: 7
Average Enrollment: 100

Physics of Solar Radiation
Instructor: Portis, Alan M.
(415) 642-3697
Course Number: 180B
Department: Physics
Program or Curriculum: Solar Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Photovoltaics; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating

Solar Ener. for Bldgs., Homes, Pools
Instructor: Pike, Nanette
(415) 642-1030
Department: Continuing Education in Engineering
Student Level: College Graduate
Duration: 1 Week, 16.0 hrs per week
Contact Hours: 16
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 9
Average Enrollment: 90

Solar Cells-Basic to Advanced Systems
Instructor: Barry, Helen
(415) 642-4151
Department: Continuing Education in Engineering
Student Level: College Graduate
<table>
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<th>Course Title</th>
<th>Instructor</th>
<th>Department</th>
<th>Program or Curriculum</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
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<th>Topics Covered Extensively:</th>
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<tr>
<td>Solar Electric Systems</td>
<td>Smith, O.J.M.</td>
<td>EECS166</td>
<td>Solar Engineering</td>
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<td>Junior or Senior</td>
<td>10 Weeks, 3.0 hrs per week</td>
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<td>Photovoltaics; Solar Collector; Solar Economics; Solar Systems Design; Elect'1 Generation, Central</td>
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<td>Solar Electric Systems A</td>
<td>Smith, O.J.M.</td>
<td>EECS215A</td>
<td>Solar Engineering</td>
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<td>College Graduate</td>
<td>10 Weeks, 3.0 hrs per week</td>
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<td>Photovoltaics; Solar Collector; Solar Economics; Solar Systems Design; Elect'1 Generation, Central</td>
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<td>Solar Electric Systems B</td>
<td>Smith, O.J.M.</td>
<td>EECS215B</td>
<td>Solar Engineering</td>
<td>3</td>
<td>College Graduate</td>
<td>10 Weeks, 3.0 hrs per week</td>
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<td>Photovoltaics; Solar Collector; Solar Economics; Solar Systems Design; Elect'1 Generation, Central</td>
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<td>Solar Energy</td>
<td>Merriam, M.F.</td>
<td>Engineering</td>
<td>Solar Engineering</td>
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<td>10 Weeks, 4.0 hrs per week</td>
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<td>40</td>
<td>Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Photovoltaics; Solar Economics; Solar Collector</td>
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<td>Solar Energy Seminar</td>
<td>Merriam, M.F.</td>
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<td>10 Weeks, 2.0 hrs per week</td>
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<td>Materials Research; Photovoltaics</td>
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<td>Thermal Enr. Aspects in Plan. and Des.</td>
<td>Parmann, John</td>
<td>Environmental Design</td>
<td>Solar Engineering</td>
<td>1</td>
<td>College Graduate</td>
<td>2.0 Days, 6.0 hrs per day</td>
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<td>12</td>
<td>Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar</td>
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Technology; Solar System Components; Domestic Hot Water; Space Heating; Space Cooling; Wind Power, Small Systems

Number of Times Taught: 1
Average Enrollment: 14

Thermal Radiation ME53
Instructor: Daily, John W.
(415) 642-0238
Course Number: ME53
Department: Mechanical Engineering
Program or Curriculum: Solar Engineering
Credits: 4
Student Level: College Graduate
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Photovoltaics; Wind Power, Central Systems; Wind Power, Small Systems

Solar Energy Applications
Instructor: Flocchini, R. G.
(916) 752-7097
Course Number: 103
Department: Resource Science
Program or Curriculum: Graduate Solar Energy
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30

CAL-LOS ANGELES, U OF
LOS ANGELES, California 90024
(213) 825-4321

PROGRAMS AND CURRICULA

Architecture/Urban Design
Degree: MA, OTHER, Architecture and Urban Planning
Contact: Moore, Charles
(213) 825-8959
Students Taking or Completing Offering: Architect, Educator, Researcher

Ener. Conserving Des. Elective Sequence
Degree: MA, OTHER, Architecture and Urban Planning
Contact: Moore, Charles
(213) 825-8959
Students Taking or Completing Offering: Architect, Researcher

SOLAR RELATED COURSES

Solar and Related Energy Sources
Instructor: Flocchini, R. G.
(916) 752-7097
Course Number: 203
Department: Resource Science
Program or Curriculum: Graduate Solar Energy
Credits: 3
Student Level: College Graduate
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Topics Covered Extensively: Heat and Energy Transfer; Solar Systems Design;
Space Heating; Space Cooling
Number of Times Taught: 3
Average Enrollment: 40

Heat and the Thermal Environment
Instructor: Givoni, Baruch
(213) 825-2769
Course Number: 443
Department: Architecture and Urban Planning
Program or Curriculum: Enersy Conserving Des. Elective Sequence
Credits: 4
Student Level: College Graduate
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation;
Energy Storage; Heat and Energy Transfer; Passive Solar Technology;
Solar Home Construction; Solar Systems Design; Space Heating; Space Cooling
Number of Times Taught: 3
Average Enrollment: 6

Introduction to Energy Conservation Design I
Instructor: Schoen, Richard
(213) 825-1345
Course Number: 446,403
Program or Curriculum: Architecture/Urban Design
Credits: 1
Student Level: College Graduate
Duration: 10 Weeks, 1.0 hrs per week
Contact Hours: 10
Classroom: 5
Laboratory: 5
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation;
Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy;
Marketing/Market Analysis; Passive Solar Technology; Plumbing Techniques; Solar Energy Policy
Development; Solar System Components; Solar Economics; Solar Home Construction;
Solar Law/Legislation; Solar Systems Design; Solar Systems Installation; Solar Hot Water;
Swimming Pool Heating; Space Heating; Space Cooling
Number of Times Taught: 4
Average Enrollment: 10

Introduction to Energy Conservation Design II
Instructor: Schoen, Richard
(213) 825-1345
Course Number: 446,403
Program or Curriculum: Architecture/Urban Design
Credits: 1
Student Level: College Graduate
Number of Times Taught: 10
Average Enrollment: 40

Introduction to Energy Conservation Design III
Instructor: Schoen, Richard
(213) 825-1345
Course Number: 446,403
Program or Curriculum: Architecture/Urban Design
Credits: 1
Student Level: College Graduate
Duration: 10 Weeks, 1.0 hrs per week
Contact Hours: 10
Classroom: 5
Laboratory: 5
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation;
Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy;
Marketing/Market Analysis; Passive Solar Technology; Plumbing Techniques; Solar Energy Policy
Development; Solar System Components; Solar Economics; Solar Home Construction;
Solar Law/Legislation; Solar Systems Design; Solar Systems Installation; Domestic Hot Water;
Swimming Pool Heating; Space Heating; Space Cooling
Number of Times Taught: 4
Average Enrollment: 10

New Eners. Tech.-Res. Conv. Constraints
Instructor: Buchberg, H.
Course Number: 134A
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation;
Energy Conversion
Number of Times Taught: 5
Average Enrollment: 20

Intro. in Arch.: Computer Aided Design
Instructor: Milne, Murray
(213) 825-7370

- 22 -
Course Number: 403G
Department: Architecture and Urban Planning
Course or Curriculum: Ener. Conserving Des. Elective Sequence
Credits: 4
Student Level: College Graduate
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 10
Laboratory: 30
Topics Covered Extensively: Solar Systems Design; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 4

Solar Energy Use and Control
Instructor: Buchberg, H.
Course Number: 134B
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Number of Times Taught: 4
Average Enrollment: 17

Topics in Thermal Design
Instructor: Buchberg, H./Mills, A.
Course Number: 234A
Credits: 4
Student Level: College Graduate
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Heat and Energy Transfer
Number of Times Taught: 8
Average Enrollment: 8

CAL- RIVERSIDE, U OF
RIVERSIDE, California 92521
(714) 787-1012

SOLAR RELATED COURSES

Calif. Solar Energy Tax Credit
Instructor: Thiebaux, Brian
Course Number: 888.31
Department: University Extension
Student Level: All levels
Duration: 1 Weeks, 5.0 hrs per week
Contact Hours: 5

**SOLAR RELATED COURSES**

Ener. Cons. Through Arch. Design
Instructor: Quigley, Rob
Course Number: 805.6
Department: Professional Programs
Student Level: College Graduate
Duration: 5 Weeks, 2.5 hrs per week
Contact Hours: 13
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling
Solar Energy For Your Home

Instructor: Mayer, Greg
Course Number: BOS5.5
Department: Professional Programs
Student Level: College Graduate
Duration: 5 Weeks, 2.5 hrs per week
Contact Hours: 13

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

Number of Times Taught: 3

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CAL- SANTA BARBARA, U OF
SANTA BARBARA, California 93106
(805) 961-2311

SOLAR RELATED COURSES

Solar Energy
Instructor: Monalis, Mel
Course Number: ES105
Department: Environmental Studies
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40


Number of Times Taught: 5
Average Enrollment: 75

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CAL- SANTA CRUZ, U OF
SANTA CRUZ, California 95064
(408) 429-0111

SOLAR RELATED COURSES

#Alternate Energy Sources
Instructor: Scott, Peter
Course Number: ES428
Department: Environmental Studies

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy

Number of Times Taught: 3

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COUGHELL COLLEGE
SAN FRANCISCO, California 94108
(415) 433-1994

SOLAR RELATED COURSES

Solar Energy Appl. for Bldg.
Instructor: Sartor, Dale
Course Number: CT 431
Department: Civil Engineering Technology
Credits: 3
Student Level: Junior or Senior
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

Number of Times Taught: 3
Average Enrollment: 20

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HARVEY MIDD COLLEGE
CLAREMONT, California 91711
(714) 626-8511

SOLAR RELATED COURSES

Freshman Projects
Instructor: Wolf, Robert
Course Number: FY 4
Department: Freshman Division
Credits: 1
Student Level: Freshman or Sophomore
Duration: 7 Weeks, 3.0 hrs per week
Contact Hours: 21
Classroom: 21

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology;
Solar Economics; Solar Collector 
Evaluation/Design; Solar Systems 
Design; Solar Systems Installation; Solar 
Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool 
Heating; Space Heating 
Number of Times Taught: 2 
Average Enrollment: 30

HUMBOLDT STATE U 
ARCATA, California 95521 
(707) 826-3011

SOLAR RELATED COURSES

Solar Energy: Thermal Processes 
Instructor: Borgers, Tom R. 
(707) 826-3255 
Course Number: ENGR 104 
Department: Engr./Chem. 
Credits: 3 
Student Level: Junior or Senior 
Duration: 10 Weeks, 3.0 hrs per week 
Contact Hours: 30 
Topics Covered Extensively: Heat and 
Energy Transfer; Intro. to Solar 
Energy 
Number of Times Taught: 2 
Average Enrollment: 7

LA VERNE COLLEGE 
LA VERNE, California 91750 
(714) 593-3511

SOLAR RELATED COURSES

Energy Colloquium 
Instructor: Green, Richard H. 
(714) 593-3511 
Credits: 4 
Student Level: All levels 
Duration: 14 Weeks, 3.0 hrs per week 
Topics Covered Extensively: Alternate 
Energy Sources; Appropriate Technology; 
Biomass Conversion; Passive Solar 
Technology; Photovoltaics; Solar Energy 
Policy Development; Solar Economics; 
Solar Law/Legislation; Wind Power, 
Small Systems

Energy Options 
Instructor: Arnold, Geo. 
(714) 593-7792 
Course Number: PHYSICS 
Department: Physics 
Credits: 4 
Student Level: Junior or Senior 
Duration: 14 Weeks, 4.0 hrs per week 
Contact Hours: 56 
Topics Covered Extensively: Alternate 
Energy Sources; Intro. to Solar Energy 
Number of Times Taught: 1 
Average Enrollment: 15

LOMA LINDA UNIVERSITY 
LOMA LINDA, California 92354 
(714) 796-7311

SOLAR RELATED COURSES

Practical Solar Energy 
Instructor: Wills, Art 
(714) 796-2218 
Course Number: INDS 283 
Department: Industrial Studies 
Credits: 4 
Duration: 12 Weeks, 5.0 hrs per week 
Contact Hours: 60 
Classroom: 30 
Topics Covered Extensively: Heat and 
Energy Transfer; Intro. to Solar 
Energy 
Solar System Components; Solar 
Collector Evaluation/Design 
Number of Times Taught: 2 
Average Enrollment: 9

LOYOLA MARYMOUNT U 
LOS ANGELES, California 90045 
(213) 642-2700

SOLAR RELATED COURSES

Thermal Aspects of Design 
Instructor: Callinan, J. P. 
(213) 642-2827 
Course Number: ME 571 
Department: Mechanical Engineering 
Credits: 4 
Student Level: Junior or Senior 
Duration: 15 Weeks, 4.0 hrs per week 
Contact Hours: 60 
Classroom: 60 
Topics Covered Extensively: Energy 
Conversion; Heat and Energy Transfer; 
Intro. to Solar Energy; Solar Collector 
Evaluation/Design; Solar Systems 
Design; Space Heating 
Number of Times Taught: 2 
Average Enrollment: 10

NEW COLLEGE OF CALIFORNIA 
SAN FRANCISCO, California 94110 
(415) 626-1694

PROGRAMS AND CURRICULA

Econ.:Energy-Formation of World 
Conscious 
Degree: MA, BA, Humanities-Energy, 
Economics, Design 
Contact: Beru, Jalaleddin 
(415) 626-1694 
Students Taking or Completing Offering: 
Educator, Researcher, Trade Specialty
SOLAR RELATED COURSES

Econ., Engr. - Formation of World Conscious
Instructor: Beerje, Bryon
Department: Humanities
Program or Curriculum: Econ., Engr. - Formation of World Conscious
Credits: 3
Student Level: Junior or Senior
Duration: 18 Weeks, 6.0 hrs per week
Contact Hours: 108
Classroom: 70
Number of Times Taught: 2
Average Enrollment: 20

NORTHERN CALIFORNIA
INGLEWOOD, California 90306
(213) 847-3410

PROGRAMS AND CURRICULA

Energy Systems Engineering
Degree: BS, Science, Energy Systems Engineering
Contact: Pelka, David G.
(213) 641-3470
Students Taking or Completing Offering: Researcher, Solar Engineer

SOLAR RELATED COURSES

Energy Conservation
Instructor: Eytal, L. S.
Course Number: ES431
Department: Energy Systems Engineering
Program or Curriculum: Energy Systems Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation

Energy Control Systems
Instructor: Pelka, D. G.
Course Number: ES436
Department: Energy Systems Engineering
Program or Curriculum: Energy Systems Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Laboratory: 30
Topics Covered Extensively: Alternate Energy Sources; Solar Systems Design; Solar Systems Testing and Evaluation

Energy Policy
Instructor: Pelka, D. G.
Course Number: ES421
Department: Energy Systems Engineering
Program or Curriculum: Energy Systems Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Laboratory: 30
Topics Covered Extensively: Alternate Energy Sources; Solar Systems Design; Solar Systems Testing and Evaluation

Energy Systems Design I
Instructor: Jacowitz, Lawrence
Course Number: ES471
Department: Energy Systems Engineering
Program or Curriculum: Energy Systems Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Laboratory: 30
Topics Covered Extensively: Alternate Energy Sources; Solar Systems Design; Solar Systems Testing and Evaluation

Energy Systems Design II
Instructor: Jacowitz, Lawrence
Course Number: ES472
Department: Energy Systems Engineering
Program or Curriculum: Energy Systems Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Laboratory: 30
Topics Covered Extensively: Alternate Energy Sources; Solar Systems Design; Solar Systems Testing and Evaluation

Energy Systems Design III
Instructor: Jacowitz, Lawrence
Course Number: ES473
Department: Energy Systems Engineering
Program or Curriculum: Energy Systems Engineering


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### Environmental Systems
- **Instructor:** Pelka, D. G.  
  (213) 641-3470  
- **Course Number:** ES352  
- **Department:** Energy Systems Engineering  
- **Credits:** 3  
- **Student Level:** Junior or Senior  
- **Duration:** 10 Weeks, 5.0 hrs per week  
- **Contact Hours:** 50  
- **Classroom:** 20  
- **Laboratory:** 30  
- **Topics Covered Extensively:** Alternate Energy Sources; Solar Systems Design; Solar Systems Testing and Evaluation

### Law and Energy Applications
- **Instructor:** Pelka, D. G.  
  (213) 641-3470  
- **Course Number:** ES433  
- **Department:** Law School  
- **Program or Curriculum:** Energy Systems Engineering  
- **Credits:** 4  
- **Student Level:** Junior or Senior  
- **Duration:** 10 Weeks, 3.0 hrs per week  
- **Contact Hours:** 30  
- **Classroom:** 30  
- **Topics Covered Extensively:** Appropriate Technology

### Photovoltaic Technology
- **Instructor:** Pelka, D. G.  
  (213) 641-3470  
- **Course Number:** ES 311  
- **Department:** Energy Systems Engineering  
- **Program or Curriculum:** Energy Systems Engineering  
- **Credits:** 4  
- **Student Level:** Junior or Senior  
- **Duration:** 10 Weeks, 4.0 hrs per week  
- **Contact Hours:** 40  
- **Classroom:** 40  
- **Topics Covered Extensively:** Alternate Energy Sources; Solar Law/Legislation

### Solar Energy Systems I
- **Instructor:** Jacowitz, Lawrence  
  (213) 641-3470  
- **Course Number:** ES321  
- **Department:** Energy Systems Engineering  

### Solar Energy Systems II
- **Instructor:** Jacowitz, Lawrence  
  (213) 641-3470  
- **Course Number:** ES401  
- **Department:** Energy Systems Engineering  
- **Program or Curriculum:** Energy Systems Engineering  
- **Credits:** 4  
- **Student Level:** Junior or Senior  
- **Duration:** 10 Weeks, 6.0 hrs per week  
- **Contact Hours:** 60  
- **Classroom:** 30  
- **Laboratory:** 30  
- **Topics Covered Extensively:** Energy Conversion; Heat and Energy Transfer; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

### Wind Machine Design & Operation
- **Instructor:** Lord, Paul  
  (213) 641-3470  
- **Course Number:** ES441  
- **Department:** Energy Systems Engineering  
- **Program or Curriculum:** Energy Systems Engineering  
- **Credits:** 4  
- **Student Level:** Junior or Senior  
- **Duration:** 10 Weeks, 6.0 hrs per week  
- **Contact Hours:** 60  
- **Classroom:** 30  
- **Laboratory:** 30  
- **Topics Covered Extensively:** Energy Conversion; Photovoltaics; Elec'l Generation, Small Scale

### Solar Energy Systems I
- **Instructor:** Jacowitz, Lawrence  
  (213) 641-3470  
- **Course Number:** ES321  
- **Department:** Energy Systems Engineering  

### Solar Energy Systems II
- **Instructor:** Jacowitz, Lawrence  
  (213) 641-3470  
- **Course Number:** ES401  
- **Department:** Energy Systems Engineering  
- **Program or Curriculum:** Energy Systems Engineering  
- **Credits:** 4  
- **Student Level:** Junior or Senior  
- **Duration:** 10 Weeks, 6.0 hrs per week  
- **Contact Hours:** 60  
- **Classroom:** 30  
- **Laboratory:** 30  
- **Topics Covered Extensively:** Energy Conversion; Heat and Energy Transfer; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

### Wind Machine Design & Operation
- **Instructor:** Lord, Paul  
  (213) 641-3470  
- **Course Number:** ES441  
- **Department:** Energy Systems Engineering  
- **Program or Curriculum:** Energy Systems Engineering  
- **Credits:** 4  
- **Student Level:** Junior or Senior  
- **Duration:** 10 Weeks, 6.0 hrs per week  
- **Contact Hours:** 60  
- **Classroom:** 30  
- **Laboratory:** 30  
- **Topics Covered Extensively:** Energy Conversion; Heat and Energy Transfer; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

### Solar Energy Systems I
- **Instructor:** Jacowitz, Lawrence  
  (213) 641-3470  
- **Course Number:** ES321  
- **Department:** Energy Systems Engineering  

### Solar Energy Systems II
- **Instructor:** Jacowitz, Lawrence  
  (213) 641-3470  
- **Course Number:** ES401  
- **Department:** Energy Systems Engineering  
- **Program or Curriculum:** Energy Systems Engineering  
- **Credits:** 4  
- **Student Level:** Junior or Senior  
- **Duration:** 10 Weeks, 6.0 hrs per week  
- **Contact Hours:** 60  
- **Classroom:** 30  
- **Laboratory:** 30  
- **Topics Covered Extensively:** Energy Conversion; Heat and Energy Transfer; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating
SOLAR RELATED COURSES

*Energy Alf. - Priorities, Policies
Instructor: Krantz, Reinhold J.
Course Number: 25
Department: Arts & Sci. - Eng'r
Topics Covered Extensively: Alternate Energy Sources; Solar Economics

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SAN DIEGO STATE U
SAN DIEGO, California 92182
(714) 266-5000

SOLAR RELATED COURSES

Energy Issues and Ideas
Instructor: Craig, George T.
Course Number: E-360
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 42
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conversion; Intro. to Solar Energy; Passive Solar Technology; Solar Economics
Number of Times Taught: 1
Average Enrollment: 20

Solar Energy
Instructor: Thompson, Willis H.
Course Number: NS 496
Department: Natural Science
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 34

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SAN FRANCISCO STATE U
SAN FRANCISCO, California 94132
(415) 469-2141

SOLAR RELATED COURSES

*Design of Solar Energy Systems
Instructor: Warren, M.
Course Number: ENGR 584
Department: Science, Eng'r
Credits: 3
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

*Intro. to Solar Energy Systems
Instructor: Warren, M.
Course Number: E-362
Department: Science, Eng'r
Credits: 3
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design

*Seminar in Science and Society
Instructor: Shapiro, C.
Course Number: PHYS 560
Department: Science, Physics
Credits: 3
Student Level: Freshman or Sophomore

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SAN FRANCISCO, U OF
SAN FRANCISCO, California 94117
(415) 666-6440

PROGRAMS AND CURRICULA

Environmental Planning & Management
Degree: MS, Environm. Plan. and Management
Contact: Petulla, Joseph M.
(415) 666-6254

SOLAR RELATED COURSES

Ecology
Instructor: Gruhn, Thomas
Course Number: IDS 250
Department: Continuing Education
Program or Curriculum: Environmental Planning & Management
Credits: 4
Student Level: College Graduate
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 56

**Energy For The Future**

**Instructor:** Albergotti, J. C.
**Course Number:** 121
**Department:** Science/Nat. Sci.
**Credits:** 3
**Student Level:** All levels
**Duration:** 4 Weeks, 12.0 hrs per week
**Contact Hours:** 48
**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling; Wind Power, Small Systems

**Programs and Curricula**

**Solar Design/Engineering**

**Degree:** BA, BS, Environ. Studies - Solar Emphasis
**Contact:** Aitken, Donald
**Course Number:** ES116
**Department:** Environmental Studies
**Program or Curriculum:** Solar Design/Engineering
**Credits:** 3
**Student Level:** All levels
**Duration:** 15 Weeks, 3.0 hrs per week
**Contact Hours:** 45
**Classroom:** 45
**Topics Covered Extensively:** Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Space Heating

**Solar Energy Workshop**

**Instructor:** Aitken, Donald
**Course Number:** 166
**Department:** Environmental Studies
**Program or Curriculum:** Solar Design/Engineering
**Credits:** 3

**Solar Energy for Heating and Cooling I**

**Instructor:** Wedel, Roger
**Course Number:** ME 244
**Department:** Mech. Eng'r
**Credits:** 2
**Student Level:** College Graduate
**Duration:** 10 Weeks, 2.0 hrs per week
**Contact Hours:** 20
**Topics Covered Extensively:** Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

**Solar Energy for Heating and Cooling II**

**Instructor:** Wedel, Roger
**Course Number:** ME 247
**Department:** Mech. Eng'r
**Credits:** 2
**Student Level:** College Graduate
**Duration:** 10 Weeks, 2.0 hrs per week
**Contact Hours:** 20
**Topics Covered Extensively:** Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

**Special Probs. in Solar Energy**

**Degree:** PhD, MS
**Programs and Curricula**

**Student Taking or Completing Offering:** Solar Engineer, Researcher

**Student Level:** Junior or Senior
**Duration:** 15 Weeks, 9.0 hrs per week
**Contact Hours:** 135
**Classroom:** 45
**Number of Times Taught:** 3
**Average Enrollment:** 25

**SANTA CLARA, UNIVERSITY OF**

**Instructor:** Wedel, Roger
**Course Number:** ME 244
**Department:** Mech. Eng'r
**Credits:** 2
**Student Level:** College Graduate
**Duration:** 10 Weeks, 2.0 hrs per week
**Contact Hours:** 20
**Topics Covered Extensively:** Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

**Number of Times Taught:** 5
**Average Enrollment:** 25

**SOUTHERN CALIFORNIA, U OF**

**Instructor:** Wedel, Roger
**Course Number:** ME 247
**Department:** Mech. Eng'r
**Credits:** 2
**Student Level:** College Graduate
**Duration:** 10 Weeks, 2.0 hrs per week
**Contact Hours:** 20
**Topics Covered Extensively:** Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

**Number of Times Taught:** 5
**Average Enrollment:** 25

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SOLAR RELATED COURSES

**Solar, Ener. Conversion Sys. Des.**
Instructor: Lampert, Seymour  
(213) 741-2944
Course Number: ME 499
Department: Mechanical Engineering
Program or Curriculum: Special Probs. in Solar Energy
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Topics Covered Extensively: Energy Conservation; Energy Conversion; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 18

**Stanford University**
Stanford, California 94305  
(415) 497-2300

SOLAR RELATED COURSES

**Solar Energy**
Instructor: Fierziger  
(415) 497-3148
Course Number: ME 255
Department: Mech. Engineering
Student Level: College Graduate
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 4
Average Enrollment: 30

**Community/Junior Colleges**

**American River College**
Sacramento, California 95841  
(916) 484-8011

SOLAR RELATED COURSES

#Alternative Energy Courses

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### BUTTE COLLEGE

**Oroville, California 95965**

(916) 895-2511

#### SOLAR RELATED COURSES

**Solar Energy Systems**

- **Instructor:** Peters, Mary
- **Course Number:** TEC 280
- **Department:** Technology
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 12 Weeks, 3.0 hrs per week
- **Contact Hours:** 36
- **Topics Covered Extensively:** Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Process Heat, Agricultural

#### CABRILLO COLLEGE

**Aptos, California 95003**

(408) 425-6000

#### PROGRAMS AND CURRICULA

**Solar Technology**

- **Degree:** AD. Science
- **Contact:** Burton, Dave
- **Program or Curriculum:** Solar Technology
- **Student Level:** All levels
- **Duration:** 16 Weeks, 5.0 hrs per week
- **Contact Hours:** 80
- **Classroom:** 32
- **Laboratory:** 48
- **Topics Covered Extensively:** Energy Conservation; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Process Heat, Agricultural

#### SOLAR RELATED COURSES

**Alt. Energy Systems (Sol. Tech.)**

- **Course Number:** CET60ABCD
- **Department:** Indus. - Elect. Tech.
- **Program or Curriculum:** Solar Technology
- **Credits:** 8
- **Student Level:** All levels
- **Duration:** 16 Weeks, 15.0 hrs per week
- **Contact Hours:** 240
- **Classroom:** 60
- **Laboratory:** 160
- **Topics Covered Extensively:** Alternate Energy Sources; Materials Research; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation

**Appl. of Solar Ener. in Agric.**

- **Course Number:** CET 61
- **Program or Curriculum:** Solar Technology
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 16 Weeks, 5.0 hrs per week
- **Contact Hours:** 80
- **Classroom:** 32
- **Laboratory:** 48
- **Topics Covered Extensively:** Biomass Conversion; Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Process Heat, Agricultural; Space Heating
Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Collector

Evaluation/Design; Solar Systems Design;

Solar Energy Tech. & Fabrication
Course Number: CET 50 AECO
Department: Industrial - Electrical Technology
Program or Curriculum: Solar Technology
Credits: 8
Student Level: All levels
Duration: 16 Weeks, 12.0 hrs per week
Contact Hours: 192
Laboratory: 192

Solar Retrofitting & Weatherizing
Course Number: CET 51
Department: Industrial - Electrical Technology
Program or Curriculum: Solar Technology
Credits: 2
Student Level: All levels
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Topics Covered Extensively: Energy Conversion; Energy Storage; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation

*CERRO COSD CITY COLLEGE
RIDGECREST, California 93555
(714) 375-5001

PROGRAMS AND CURRICULA
*Solar Engineering Technology
Degree: A.A., Appl.Sci.- Sol Eng’r Tech
Contact: Dodg, Dick (714) 375-5001
Students Taking or Completing Offering: Solar Technician

*CHAFFEY COLLEGE
ALTA LOMA, California 91701
(714) 947-1737

SOLAR RELATED COURSES

Solar Design Fundamentals
Instructor: Delrey, Arthur
Course Number: 24
Department: Physical Science
Credits: 3
Student Level: All levels
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating.

Solar Heat for You
Instructor: Delrey, Arthur
Course Number: 24
Department: Physical Science
Credits: 2
Student Level: All levels
Duration: 12 Weeks, 2.0 hrs per week
Topics Covered Extensively: Passive Solar Technology; Solar System Components; Swimming Pool Heating; Space Heating.
Number of Times Taught: 1
Average Enrollment: 40

*CERRO COSD CITY COLLEGE
RIDGECREST, California 93555
(714) 375-5001

PROGRAMS AND CURRICULA
*Solar Engineering Technology
Degree: A.A., Appl.Sci.- Sol Eng’r Tech
Contact: Dodg, Dick (714) 375-5001
Students Taking or Completing Offering: Solar Technician

*CHAFFEY COLLEGE
ALTA LOMA, California 91701
(714) 947-1737

SOLAR RELATED COURSES

Solar Energy I
Instructor: Rothwell, Robert
Course Number: 507
Department: Indus. Tech.
Duration: 12 Weeks, 6.0 hrs per week
Contact Hours: 72
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling.

Solar Energy II
Instructor: Rothwell, Robert
Course Number: 508
Department: Indus. Tech.
Duration: 12 Weeks, 6.0 hrs per week
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Photovoltaics; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation.
<table>
<thead>
<tr>
<th>College</th>
<th>Address</th>
<th>Phone</th>
<th>Program and Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLUMBIA JUNIOR COLLEGE</td>
<td>COLUMBIA, California 95310</td>
<td>(209) 532-3141</td>
<td>Solar Related Courses: Course on Alternate Energy.</td>
</tr>
</tbody>
</table>

**COSUMNES RIVER COLLEGE**

SACRAMENTO, California 95823

(916) 421-1000

Programs and Curricula:


Degree: AD, Environmental Design
Instructor: Pappou, Connie
Contact: RPM

Credits: 2
Duration: 8 Weeks, 3.0 hrs per week
Contact Hours: 24
Classroom: 24
Topics Covered Extensively: Alternate Energy Sources, Appropriate Technology, Intro to Solar Energy, Photovoltaics
Number of Times Taught: 1
Average Enrollment: 15

**Intro. to Solar Energy Systems**

Instructor: House, Harold
Course Number: ED 31
Department: Environmental Design
Credits: 2
Duration: 4 Weeks, 16.0 hrs per week
Contact Hours: 64
Classroom: 24
Laboratory: 16

**Residential Energy Conservation**

Instructor: House, Harold
Course Number: 3105-01
Department: Environmental Design
Credits: 2
Duration: 3 Weeks, 8.0 hrs per week
Contact Hours: 24
Classroom: 24
Solar Technology; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 3
Average Enrollment: 15

CUESTA COLLEGE
(1192)
SAN LUIS OBISPO, California 93406
(805) 544-2943

SOLAR RELATED COURSES

App. of Solar Energy Systems
Instructor: Lagomarsino, Peter
Course Number: CT60
Department: Construction Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 18 Weeks, 6.0 hrs per week
Contact Hours: 108
Classroom: 54
Laboratory: 54
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 2
Average Enrollment: 18

DE ANZA COLLEGE
(4480)
CUPERTINO, California 95014
(408) 996-4567

SOLAR RELATED COURSES

Instructor: Wedel, R.
Course Number: 379A
Department: Engineering
Credits: 2
Student Level: All levels
Duration: 12 Weeks, 2.0 hrs per week
Contact Hours: 24
Classroom: 24
Number of Times Taught: 4
Average Enrollment: 20

Instructor: Wedell, R.
Course Number: 379B
Department: Engineering
Credits: 2
Student Level: All levels
Duration: 12 Weeks, 2.0 hrs per week
Contact Hours: 24
Classroom: 24
Topics Covered Extensively: Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 3
Average Enrollment: 22

DESERT, COLLEGE OF THE PALM (1182)
PALM DESERT, California 92260
(714) 346-8041

SOLAR RELATED COURSES

Introduction to Solar Energy
Instructor: Marzicola, John
Course Number: ARCH 13
Department: Engineering and Technology
Credits: 3
Student Level: All levels
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 54
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Solar Home Construction; Solar Law/Legislation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling
Number of Times Taught: 3
Average Enrollment: 42

DIABLO VALLEY COLLEGE
(1191)
PLEASANT HILL, California 94523
(415) 685-1230

SOLAR RELATED COURSES

Energy and Buildings
Course Number: 150
Department: Arch/Engineering
Credits: 3
Duration: 16 Weeks, 6.0 hrs per week
Contact Hours: 96
Classroom: 48
Laboratory: 48

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EVERGREEN VALLEY COLLEGE  (12452)
SAN JOSE, California 95121  
(408) 274-7900

PROGRAMS AND CURRICULA

*Solar Technician
Students Taking or Completing Offering:
Solar Technician

SOLAR RELATED COURSES

*Solar and Energy Seminar

*Solar House

*Two Courses on Solar
Program or Curriculum: *Solar Technician

FEATHER RIVER COLLEGE  (8597)
GUINCY, California 95971
(916) 283-0202

SOLAR RELATED COURSES

Solar Utilization and Energy--Wise Construction
Instructor: Martin, Bill  
(916) 283-1197
Course Number: PHYS. SCI.75
Department: Physical Science
Credits: 2
Student Level: All levels
Duration: 18 Weeks, 2.0 hrs per week
Contact Hours: 36
Classroom: 36
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 15

FRESNO CITY COLLEGE  (1307)
FRESNO, California 93704
(209) 442-4600

SOLAR RELATED COURSES

Solar Energy
Instructor: Mortensen, David  
(209) 442-8215
Course Number: S.S. 47
Department: Earth/Physical Science
Credits: 2
Student Level: All levels
Duration: 6 Weeks, 6.0 hrs per week
Contact Hours: 36
Classroom: 36
Topics Covered Extensively: Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water
Number of Times Taught: 2
Average Enrollment: 40

SOLAR SYSTEMS
Instructor: Wash, Dennis C.  
(209) 442-4600
Course Number: AC-55
Department: Technical-Industrial
Credits: 3
Student Level: All levels
Duration: 18 Weeks, 4.0 hrs per week
Contact Hours: 72
Classroom: 36
Laboratory: 36
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Photovoltaics; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

FOOTHILL COLLEGE  (1199)
LOS ALTOS HILLS, California 94022
(415) 948-8590

SOLAR RELATED COURSES

Solar Energy
Instructor: Blanchard/Heinemann/Schiavo
Course Number: EIV STUD
Department: Engineering & Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Topics Covered Extensively: Intro. to Solar Energy

FULLERTON COLLEGE  (1201)
FULLERTON, California 92634
(714) 871-8000

SOLAR RELATED COURSES

*Solar Heating
Topics Covered Extensively: Space Heating
GAVILAN COLLEGE
GILROY, California 95020
(408) 847-1400

SOLAR RELATED COURSES

Instructor: Hansen, John
(403) 847-1400
Course Number: 66A
Department: Occupational Education
Credits: 3
Student Level: All levels
Duration: 12 Weeks, 5.0 hrs per week
Contact Hours: 60
Classroom: 24
Laboratory: 76
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating
Number of Times Taught: 2
Average Enrollment: 25

GLENDALE CITY COLLEGE
GLENDALE, California 91208
(213) 240-1000

SOLAR RELATED COURSES

*Energy Alternatives

LONG BEACH CITY COLLEGE
LONG BEACH, California 90808
(213) 420-4111

PROGRAMS AND CURRICULA

*Air Cond. & Refrig.

SOLAR RELATED COURSES

*Solar Segment
Department: Air Cond. & Refrig.
Program or Curriculum: *Air Cond. & Refrig.

LOS ANGELES FIERCE COLLEGE
WOODLAND HILLS, California 91371
(213) 347-0551

SOLAR RELATED COURSES

*Energy & Power
Instructor: Duxler, William M.
Course Number: PHY SC 13
Department: Physics, Engineering
Duration: 18 Weeks
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy

*Man & His Environ: Phys. Processes
Instructor: Meyer, W. Craig
(213) 347-0551
Course Number: EN ST 1
Department: Life & Earth Science
Topics Covered Extensively: Alternate Energy Sources; Solar Systems Design

LOS ANGELES TRADE TECH COLLEGE
LOS ANGELES, California 90015
(213) 746-0800

SOLAR RELATED COURSES

Energy Management in Buildings
Instructor: Adams, N.
(213) 746-0800
Course Number: EM 189
Department: Electrical-Mechanical
Credits: 3
Student Level: High School Graduate
Duration: 20 Weeks, 3.0 hrs per week
Contact Hours: 60
Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer

Solar Energy
Instructor: Adams, N.
(213) 746-0800
Course Number: EMT 188
Department: Electrical-Mechanical Dept.
Credits: 3
Student Level: High School Graduate
Duration: 60 Weeks, 3.0 hrs per week
Contact Hours: 60
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 30

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HARIH, COLLEGE OF KENTFIELD, California 94904 (415) 457-881

SOLAR RELATED COURSES

Energy Efficient Design
Instructor: Sartor, Dale
Department: Adult Education
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 28
Classroom: 20
Laboratory: 8

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Process Heat; Small Systems

Number of Times Taught: 9
Average Enrollment: 50

HONOR PARK COLLEGE
PASO ROBLES, California 93446 (805) 529-2321

SOLAR RELATED COURSES

Solar Heating Construction Institute
Instructor: Aliso, Ken
Course Number: ET 85B
Department: Technology
Credits: 2
Student Level: All levels
Duration: 4 Weeks, 3.0 hrs per week
Contact Hours: 27
Classroom: 27

Topics Covered Extensively: Appropriate Technology; Domestic Hot Water

Number of Times Taught: 1
Average Enrollment: 15

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PROGRAMS AND CURRICULA

Air Cond., Heat., and Vent.
Degree: AD, Air Cond., Heat. and Refrig.
Contact: Dillon, Clifford
(714) 594-5611

Students Taking or Completing Offering:
Electrician, Solar Technician,
Installer-Residential (Solar System),
Installer-Commercial (Solar System),
Plumber

SOLAR RELATED COURSES

Solar and Alternate Energy Sources
Instructor: Bormann, Jay
(714) 594-5611
Course Number: 70
Department: Electronics
Program or Curriculum: Air Cond., Heat., and Vent.
Credits: 3
Student Level: Freshman or Sophomore
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 54
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology;
Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy;
Plumbing Techniques: Solar System Components; Solar Economics; Solar Systems Installation;
Solar Systems Maintenance; Solar Systems Testing and Evaluation; Space Heating

Solar Energy Systems Installation
Instructor: Bormann, Jay
(714) 594-5611
Course Number: 71/71L
Department: Electronics
Program or Curriculum: Air Cond., Heat., and Vent.
Credits: 3
Student Level: Freshman or Sophomore
Duration: 18 Weeks, 6.0 hrs per week
Contact Hours: 108
Classroom: 54
Laboatory: 54
Topics Covered Extensively: Solar Systems Design; Solar Systems Installation;
Solar Systems Maintenance; Solar Systems Testing and Evaluation

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Solar Collector Design
Instructor: Caldwell, B.
(714) 654-7321
Course Number: ENGR 6
Department: Vocational Education
Credits: 3
Student Level: Freshman or Sophomore
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 45
Laboratory: 9
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design
Number of Times Taught: 1
Average Enrollment: 54

Solar Energy Applications
Instructor: Caldwell, Benton
(714) 654-7321
Course Number: ENGR 4
Department: Vocational Education
Credits: 3
Student Level: College Graduate
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 49
Laboratory: 5
Topics Covered Extensively: Intro. to Solar Energy
Number of Times Taught: 2
Average Enrollment: 33

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Solar Energy Workshop
Instructor: Dean, Anson R.
(916) 750-4606
Department: Continuing Education
Student Level: All levels
Duration: 6 Weeks, 3.0 hrs per week
Contact Hours: 18
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy;
Solar System Components; Solar Home Construction; Solar Systems Design;
Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating
Number of Times Taught: 2
Average Enrollment: 50

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OHLOIIE COLLEGE
FREMONT, California 94537
(415) 657-2100

SOLAR RELATED COURSES

**Two Courses on Solar**

ORANGE COAST COLLEGE
COSTA MESA, California 92626
(714) 556-5651

SOLAR RELATED COURSES

Solar
Instructor: Abernathy, Bill J.
(714) 556-5812
Course Number: 115
Department: Technology
Credits: 3
Student Level: Junior or Senior
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Economics; Space Heating
Number of Times Taught: 2
Average Enrollment: 30

PASADENA CITY COLLEGE
PASADENA, California 91106
(213) 578-7123

SOLAR RELATED COURSES

*Energy Sources, Resources & Uses*
Instructor: Ball, D.A.
Course Number: EN100
Department: Eng'r & Tech
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Wind Power, Small Systems

*Solar Energy for the Consumer*
Instructor: Yanow, Gilbert
(213) 578-7301
Department: Eng'r & Tech.
Duration: 9 Weeks, 3.0 hrs per week
Contact Hours: 27
Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Electrical Generation, Small Scale; Space Heating

REDWOODS, COLLEGE OF THE
EUREKA, California 95501
(707) 443-8411

SOLAR RELATED COURSES

Solar Heating A
Instructor: Mills, David
(707) 443-8411
Course Number: ENSC 20A
Department: Env. Sci.
Credits: 1
Student Level: All levels
Duration: 12 Weeks, 1.0 hrs per week
Contact Hours: 12
Classroom: 12
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating
Number of Times Taught: 1
Average Enrollment: 50

Solar Heating B
Instructor: Mills, David
(707) 443-8411
Course Number: ENSC 20B
Department: Env. Sci.
Credits: 1
Student Level: All levels
Duration: 12 Weeks, 1.0 hrs per week
Contact Hours: 12
Classroom: 12
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating
Number of Times Taught: 1
Average Enrollment: 50

Solar Heating C
Instructor: Mills, David
(707) 443-8411
Course Number: ENSC 20C
Department: Env. Sci.
Credits: 1
Student Level: All levels
Duration: 12 Weeks, 1.0 hrs per week
Contact Hours: 12
Classroom: 12
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating
Number of Times Taught: 1
Average Enrollment: 50
Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

Number of Times Taught: 1
Average Enrollment: 50

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RIVERSIDE CITY COLLEGE
RIVERSIDE, California 92506
(714) 684-3240

SOLAR RELATED COURSES

Solar Energy Applications
Instructor: Budd, Frank W.
(714) 684-3240
Course Number: AC 52A
Department: Air Conditioning
Credits: 5
Student Level: All levels
Duration: 18 Weeks, 7.0 hrs per week
Contact Hours: 126
Classroom: 72
Laboratory: 54
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

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SACRAMENTO CITY COLLEGE
SACRAMENTO, California 95822
(916) 449-7531

SOLAR RELATED COURSES

Basic Solar Heating and Cooling Systems
Instructor: Stockwell, Richard/Goff, Don
(916) 449-7278
Course Number: MET 141
Department: Occupational Technology/Technical, Electrical Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 54
Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Material Research; Photovoltaics; Plumbing Techniques; Solar System Components; Solar Economics; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Maintenance; Domestic Hot Water; Process Heat, Industrial; Space Heating; Space Cooling

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SAN BERNARDINO VLY COLLEGE
SAN BERNARDINO, California 92403
(714) 865-0231

SOLAR RELATED COURSES

*Two Solar Courses

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SAN DIEGO CC- CITY COLLEGE
SAN DIEGO, California 92101
(714) 238-1181

PROGRAMS AND CURRICULA

*Solar Ener. Main. and Tech
Degree: AD, Advanced Degree

SOLAR RELATED COURSES

*Two Courses on Solar Energy Main. and Tech.
Program or Curriculum: *Solar Ener. Main. and Tech.

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SAN DIEGO CC- EVENING COLLEGE
SAN DIEGO, California 92101
(714) 238-1181

PROGRAMS AND CURRICULA

Contact: Belker, Loren
(714) 238-1181
Students Taking or Completing Offering: Solar Technician, Trade Specialty

SOLAR RELATED COURSES

Instructor: Faris, Theodore
(714) 238-1181
Course Number: 226
Department: City Campus
Program or Curriculum: Air Cond., Heat., Refrig. and Solar Tech.
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 54
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating; Space Heating
Number of Times Taught: 3
Average Enrollment: 35

Air Cond., Heat., Refrig. and Solar Ener.
Instructor: Fairis, Theodore
(714) 238-1181
Course Number: 201
Department: City Campus
Program or Curriculum: Air Cond., Heat., Refrig. and Solar Tech.
Credits: 3
Student Level: All levels
Duration: 18 Weeks, 6.0 hrs per week
Contact Hours: 108
Classroom: 54
Laboratory: 54
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating; Space Heating
Number of Times Taught: 3
Average Enrollment: 35

Instructor: Fairis, Theodore
(714) 238-1181
Course Number: 225
Department: City Campus
Program or Curriculum: Air Cond., Heat., Refrig. and Solar Tech.
Credits: 3
Student Level: All levels
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating; Space Heating
Number of Times Taught: 3
Average Enrollment: 35

San Diego CC- Mesa College
SAN DIEGO, California 92111 (714) 279-2300
SOLAR RELATED COURSES

Utilization of Solar Energy
Instructor: Reeder, M.M.
(714) 279-2300
Course Number: 215
Department: Building Construction Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 18 Weeks, 6.0 hrs per week
Contact Hours: 108
Classroom: 54
Laboratory: 54
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating
Number of Times Taught: 4
Average Enrollment: 25

San Joaquin Delta College
STOCKTON, California 95207 (209) 478-2011
SOLAR RELATED COURSES

*Energy Conservation and Alternatives
Instructor: Oliver, James E.
Course Number: NR750
Department: Physics
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy

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**San Jose City College**

**Programs and Curricula**

*Solar Technician*
- Degree: AD, Science
- Contact: Herrick, Clyde / Upton, Si
- Students Taking or Completing Offering: Solar Technician

*Solar Technician*
- Degree: OTHER, Certificate of Achievement
- Contact: Herrick, Clyde / Upton, Si
- Students Taking or Completing Offering: Solar Technician

**Solar Related Courses**

*Solar Energy - Industrial Application*
- Instructor: Upton, Si
- Course Number: SOL114
- Department: Solar Technology
- Program or Curriculum: Solar Technician
- Credits: 3

*Solar Energy - Residential Application*
- Instructor: Upton, Si
- Course Number: SOL113
- Department: Solar Technology
- Program or Curriculum: Solar Technician
- Credits: 3

*Solar Photoelectric Conversion*
- Instructor: Upton, Si
- Course Number: SOL11b
- Department: Solar Technology
- Program or Curriculum: Solar Technician
- Credits: 2

*Solar Theory*
- Instructor: Upton, Si
- Course Number: PHYSIC21
- Program or Curriculum: Solar Technician
- Credits: 3

**Santa Ana College**

**Solar Related Courses**

*Three Solar Courses*

**Sequoias, College of the Pacific**

**Solar Related Courses**

*Solar Applications*
- Instructor: Cottrell, Richard S.
- Course Number: PS 14
- Department: Architecture/Science
- Credits: 3
- Student Level: Freshman or Sophomore
- Duration: 16 Weeks, 3.0 hrs per week
- Contact Hours: 48
- Classroom: 48
- Number of Times Taught: 1
- Average Enrollment: 25

**Sierra College**

**Solar Related Courses**

*Solar Energy Housing*
- Course Number: WT6
- Department: Wood Technology
- Credits: 3
- Student Level: All Levels
- Duration: 18 Weeks, 3.0 hrs per week
- Contact Hours: 54
- Topics Covered Extensively: Energy Conservation
- Number of Times Taught: 4
- Average Enrollment: 50

**Siskiyou College**

**Solar Related Courses**

*Frontiers of Science - Energy for Consumers*
- Instructor: Crist, Friend, Dawson
- Course Number: SCI 10
- Department: Natural Science
- Topics Covered Extensively: Alternate Energy Sources, Solar Economics

* * * * * * * *
SOUTHWESTERN COLLEGE
CHULA VISTA, California 92010
(714) 420-1080

SOLAR RELATED COURSES

#One Solar Course

WEST VALLEY COLLEGE
SARATOSA, California 95070
(408) 867-2200

SOLAR RELATED COURSES

Introduction of Solar Energy
Instructor: Feemster, John
Department: Engineering
Credits: 3
Student Level: All levels
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 54
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling
Number of Times Taught: 8
Average Enrollment: 40

Other Educational Institutions

ANTIOCH COLLEGE/WEST
1161 Mission St.
San Francisco, California 94103

PROGRAMS AND CURRICULA

#Solar Energy & Design
Degree: BA, MS, Envir. Studs. & Approp. Tech.
Contact: Nelson, Lynn
(415) 864-2570

SOLAR RELATED COURSES

#Courses in Des., Const. of Sol. Systems
Instructor: Olkowski, Helga
Department: Farallon Institute
Program or Curriculum: #Solar Energy & Design
Topics Covered Extensively: Passive

Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling

CENTER FOR EMPLOYMENT TRAINING
425 So. Market St.
San Jose, California 95113

SOLAR RELATED COURSES

#Building Maintenance
Instructor: Rodriguez, Rudolph
Duration: 6 Weeks
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation

OFFICE OF APPROPRIATE TECHNOLOGY
PO Box 1677
Sacramento, California 95808

PROGRAMS AND CURRICULA

#Training Program for Installers
(916) 445-1803
Students Taking or Completing Offering:
Installer-Residential (Solar System), Installer-Commercial (Solar System)

OFFICE OF APPROPRIATE TECHNOLOGY
1322 "O" Street
Sacramento, California 95814

PROGRAMS AND CURRICULA

#Solar Technician Training Program
Contact: Trujillo, JoAnn
(916) 322-7190
Students Taking or Completing Offering:
Solar Technician

SOLARCON
PO Box 14875
San Francisco, California 94114

SOLAR RELATED COURSES

#Installers Workshop
(415) 648-2159
Department: Karellen Educational Services
Topics Covered Extensively: Solar Systems Installation
ADAMS STATE COLLEGE (1345)
ALAMOSA, Colorado 81102
(303) 589-7346

SOLAR RELATED COURSES

Special Projects: Solar Heating
Instructor: Spannagel, Larry
Course Number: 1A 303
Department: Industrial Arts
Credits: 2
Student Level: All levels
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 15
Laboratory: 45
Topics Covered Extensively: Appropriate Technology; Energy Storage; Passive Solar Technology; Solar Heaters;
Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 13

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COLO TECHNICAL COLLEGE (10148)
COLORADO SPRINGS, Colorado 80907
(303) 598-0200

PROGRAMS AND CURRICULA

Solar Engineering Technology
Degree: BS, AD, Applied Science
Contact: Christensen, Edward
(303) 598-0200
Students Taking or Completing Offering:
Solar Engineer, Solar Technician

SOLAR RELATED COURSES

Associate Seminar
Instructor: Christensen, Edward
Course Number: SOL 250
Department: Solar Engineering Technology
Program or Curriculum: Solar Engineering Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 66
Classroom: 22
Laboratory: 44
Topics Covered Extensively: Alternate Energy Sources
Number of Times Taught: 9
Average Enrollment: 8

Solar Design I
Instructor: Christensen, Edward
Course Number: SOL 220
Department: Solar Engineering Technology
Program or Curriculum: Solar Engineering Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 66
Classroom: 22
Laboratory: 44
Topics Covered Extensively: Alternate Energy Sources
Number of Times Taught: 9
Average Enrollment: 8

Solar Design II
Instructor: Christensen, Edward
Course Number: SOL 221
Department: Solar Engineering Technology
Program or Curriculum: Solar Engineering Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 66
Classroom: 22
Laboratory: 44
Topics Covered Extensively: Solar System Components; Solar Collector; Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 9

Average Enrollment: 8

**Solar Science**
Instructor: Decker, Tom
(303) 598-0200
Course Number: SOL 200
Department: Solar Engineering Technology
Program or Curriculum: Solar Engineering Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33
Topics Covered Extensively: Intro. to Solar Energy
Number of Times Taught: 12
Average Enrollment: 10

**Solar Science II**
Instructor: Christensen, Edward
(303) 598-0200
Course Number: SOL 404
Department: Solar Engineering Technology
Program or Curriculum: Solar Engineering Technology
Credits: 3
Student Level: Junior or Senior
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33
Topics Covered Extensively: Heat and Energy Transfer; Solar Collector Evaluation/Design; Solar Systems Testing and Evaluation
Number of Times Taught: 2
Average Enrollment: 5

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**SOLAR RELATED COURSES**

**Introduction to Energy Sciences 150**
Instructor: Grogger, Scott P./ Blade, R.
(303) 598-3737
Course Number: 150
Department: Physics and Energy Sciences
Program or Curriculum: Distributed Studies in Energy Science
Credits: 3
Student Level: All levels
Duration: 2 Weeks, 40.0 hrs per week
Contact Hours: 60
Classroom: 64
Laboratory: 16
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Space Heating
Number of Times Taught: 2
Average Enrollment: 30

**Introduction to Energy Sciences 151**
Instructor: Scott, M./ Grogger, P./ Blade, R.
(303) 598-3737
Course Number: 151
Department: Physics and Energy Sciences
Program or Curriculum: Distributed Studies in Energy Science
Credits: 3
Student Level: All levels
Duration: 2 Weeks, 40.0 hrs per week
Contact Hours: 60
Classroom: 64
Laboratory: 16
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Space Heating
Number of Times Taught: 2
Average Enrollment: 30

**Methods of Energy Sciences 350**
Instructor: Grogger, P./ Blade, R.
(303) 598-3737
Course Number: 350
Department: Physics and Energy Sciences
Program or Curriculum: Distributed Studies in Energy Science
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 6.0 hrs per week
Contact Hours: 96
Classroom: 96
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer

---

**PROGRAMS AND CURRICULA**

**Distributed Studies in Energy Science**
Degree: BA, Distributed Studies
Contact: Blade, Richard A.
(303) 598-3737
Students Taking or Completing Offering: Researcher, Solar Engineer, Other, Solar Technician

**Solar Energy and Energy Sciences**
Degree: BS, Resource Systems Engineering
Contact: Winer, R.
Students Taking or Completing Offering: Solar Engineer
Number of Times Taught: 1
Average Enrollment: 15

Methods of Energy Sciences 351
Instructor: Groszer, P./ Blade, R.
Course Number: 351
Department: Physics and Energy Sciences
Program or Curriculum: Distributed Studies in Energy Science
Credits: 3
Student Level: Junior or Senior
Duration: 16 weeks, 6.0 hrs per week
Contact Hours: 96

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer
Number of Times Taught: 1
Average Enrollment: 15

Solar Energy I
Instructor: Scott, M.
Course Number: 195
Department: Physics and Energy Science
Program or Curriculum: Solar Energy and Energy Sciences
Credits: 3
Student Level: All levels
Duration: 15 weeks, 4.0 hrs per week
Contact Hours: 40
Laboratory: 20

Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating
Number of Times Taught: 7
Average Enrollment: 30

Solar Energy II
Instructor: Scott, M.
Course Number: 207
Department: Physics and Energy Science
Program or Curriculum: Solar Energy and Energy Sciences
Credits: 3
Student Level: Junior or Senior
Duration: 16 weeks, 3.0 hrs per week
Contact Hours: 48

Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Materials Research; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 7
Average Enrollment: 24

COLORADO AT BOULDER, U OF
BOULDER, COLORADO 80309
(303) 492-0111

PROGRAMS AND CURRICULA

Joint Inst. for Lab. Astrophysics
Contact: Hummer, David

Students Taking or Completing Offering:
Educator, Researcher, Solar Engineer

Lab for Atmospheric and Space Phys
Contact: Barth, Charles A.

Students Taking or Completing Offering:
Educator, Researcher, Solar Engineer

Solar/Appropriate Technology
Degree: BA, MA, Environmental Design Architecture
Contact: Holloway, Dennis R.

Students Taking or Completing Offering:
Architect, Researcher, Contractor, Installer-Residential (Solar System), Installer-Commercial (Solar System)

SOLAR RELATED COURSES

Appropriate Technology 333
Instructor: Holloway, Dennis R.
Course Number: 333
Department: Environmental Design
Program or Curriculum: Solar/ Appropriate Technology
Appropriate Technology 334

Instructor: Holloway, Dennis R. (303) 492-7497
Course Number: ENVD 334
Department: Environmental Design
Program or Curriculum: Solar/ Appropriate Technology
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 6.0 hrs per week
Contact Hours: 90
Classroom: 24
Laboratory: 66
Topics Covered Extensively: Alternate
Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Storage; Heat and Energy Transfer; Materials Research; Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 3
Average Enrollment: 50

Community Design

Instructor: Holloway, Dennis R. (303) 492-7497
Course Number: 300
Department: Environmental Design
Program or Curriculum: Solar/ Appropriate Technology
Credits: 6
Student Level: Junior or Senior
Duration: 15 Weeks, 8.0 hrs per week
Contact Hours: 120
Classroom: 24
Laboratory: 96

Energy Conversion

Instructor: Johnson, Herbert (303) 492-6648
Course Number: 455
Department: Engineering, Mechanical Engineering
Program or Curriculum: Lab for Atmospheric and Space Phys., Joint Inst. for Lab, Astrophysics
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Laboratory: 8
Topics Covered Extensively: Alternate
Energy Sources; Appropriate Technology; Energy Conversion; Energy Storage; Solar System Components; Solar Systems Design

Energy in a Technical Society

Instructor: Bartlett, David (303) 492-6960
Course Number: 207
Department: Arts and Sci., Phys./Astrophysics
Program or Curriculum: Joint Inst. for Lab, Astrophysics, Lab for Atmospheric and Space Phys.
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Laboratory: 12
Topics Covered Extensively: Alternate
Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 7
Average Enrollment: 50

Computer-Aided Thermal Design

Instructor: Johnson, Herbert (303) 492-6648
Course Number: 458
Department: Mechanical Engineering
Program or Curriculum: Lab for Atmospheric and Space Phys., Joint Inst. for Lab, Astrophysics
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Laboratory: 8
Topics Covered Extensively: Alternate
Energy Sources; Appropriate Technology; Energy Conversion; Energy Storage; Solar System Components; Solar Systems Design

Solar Energy Research Institute
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<tr>
<th>Course Number</th>
<th>Course Name</th>
<th>Instructor</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
<th>Classroom</th>
<th>Topics Covered Extensively</th>
<th>Number of Times Taught</th>
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<tr>
<td>496</td>
<td>Energy Utilization</td>
<td>Krenz, Jerrold</td>
<td>3</td>
<td>Junior or Senior</td>
<td>16 Weeks, 3.0 hrs per week</td>
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<td>Joint Inst. for Lab. Astronom., Lab for Atmospheric and Space Phys.</td>
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<td>405/505</td>
<td>Solar Energy Utilization</td>
<td>Kraith, Frank West, Ron</td>
<td>3</td>
<td>Junior or Senior</td>
<td>16 Weeks, 3.0 hrs per week</td>
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<td>Lab for Atmospheric and Space Phys., Joint Inst. for Lab. Astronomics</td>
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<td>405/505</td>
<td>Solar Technology</td>
<td>Holloway, Dennis R.</td>
<td>3</td>
<td>Junior or Senior</td>
<td>15 Weeks, 3.0 hrs per week</td>
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<td>Solar/ Appropriate Technology</td>
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<td>492-7925</td>
<td>Renewable Energy Sources</td>
<td>Miller, Sam</td>
<td>3</td>
<td>Junior or Senior</td>
<td>15 Weeks, 3.0 hrs per week</td>
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<td>Solar/ Appropriate Technology</td>
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**SUN AND SOLAR ENERGY**

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<th>Course Name</th>
<th>Instructor</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
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<th>Topics Covered Extensively</th>
<th>Number of Times Taught</th>
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<td>492-8913</td>
<td>Solar Energy</td>
<td>Krenz, Jerrold</td>
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<td>All levels</td>
<td>16 Weeks, 3.0 hrs per week</td>
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<td>46</td>
<td>Solar Energy; Energy Conversion; Solar Collector Evaluation/Design</td>
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**SOLAR RELATED COURSES**

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<th>Course Number</th>
<th>Course Name</th>
<th>Instructor</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
<th>Classroom</th>
<th>Topics Covered Extensively</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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<td>492-7925</td>
<td>Solar Technology</td>
<td>Kraith, Frank West, Ron</td>
<td>3</td>
<td>Junior or Senior</td>
<td>15 Weeks, 3.0 hrs per week</td>
<td>45</td>
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<td>Solar/ Appropriate Technology</td>
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**COLORADO SCHOOL OF MINES**

GOLDEN, COLORADO 80401
(303) 279-0300

**SOLAR RELATED COURSES**

<table>
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<th>Course Number</th>
<th>Course Name</th>
<th>Instructor</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
<th>Classroom</th>
<th>Topics Covered Extensively</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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<tr>
<td>492-7925</td>
<td>Solar Technology</td>
<td>Kraith, Frank West, Ron</td>
<td>3</td>
<td>Junior or Senior</td>
<td>15 Weeks, 3.0 hrs per week</td>
<td>45</td>
<td>45</td>
<td>Solar/ Appropriate Technology</td>
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</table>
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conversion; Heat and Energy Transfer; Solar Systems Testing and Evaluation

COLORADO STATE UNIVERSITY
FORT COLLINS, Colorado 80523
(303) 491-5321

PROGRAMS AND CURRICULA
Solar Energy Applications
Degree: PhD, MS, Engineering
Students Taking or Completing Offering: Educator, Researcher, Solar Engineer

SOLAR RELATED COURSES
Design of Solar Energy Systems
Course Number: CE/ME 675
Department: Engineering
Program or Curriculum: Solar Energy Applications
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Central; Space Heating; Space Cooling
Number of Times Taught: 3
Average Enrollment: 30

Principles of Solar Energy Applications
Course Number: CE/ME 676
Department: Engineering
Program or Curriculum: Solar Energy Applications
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Intro. to Solar Energy; Photovoltaics; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Central; Space Heating; Space Cooling
Number of Times Taught: 3
Average Enrollment: 30

FORT LEWIS COLLEGE
DURANGO, Colorado 81301
(303) 247-7661

SOLAR RELATED COURSES
Elements of Solar Energy
Instructor: Capp, Clifford
Course Number: GS200
Department: General Studies
Credits: 3
Student Level: All levels
Duration: 5 Weeks, 8.0 hrs per week
Contact Hours: 40
Classroom: 20
Laboratory: 10
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 20
**MESA COLLEGE** (1358)
GRAND JUNCTION, Colorado 81501
(303) 248-1020

**PROGRAMS AND CURRICULA**

**Solar Power**

Contact: Ramsey, Woodrow
(303) 248-1565

Students Taking or Completing Offering: Do-it-yourself Homeowner

**SOLAR RELATED COURSES**

**Advanced Solar**
Instructor: Ramsey, Woodrow
(303) 248-1565
Department: Continuing Education/Outreach
Program or Curriculum: Solar Power
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Systems Installation; Solar Systems Maintenance
Number of Times Taught: 3
Average Enrollment: 25

**Beginning Solar Power**
Instructor: Ramsey, Woodrow
(303) 248-1565
Department: Continuing Education/Outreach
Program or Curriculum: Solar Power
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Systems Installation; Solar Systems Maintenance
Number of Times Taught: 3
Average Enrollment: 25

**Solar Practicum**
Instructor: Ramsey, Woodrow
(303) 248-1565
Department: Continuing Education/Outreach
Program or Curriculum: Solar Power
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Systems Installation; Solar Systems Maintenance
Number of Times Taught: 3
Average Enrollment: 25

**METROPOLITAN ST COLLEGE** (1360)
DENVER, Colorado 80204
(303) 629-2400

**SOLAR RELATED COURSES**

**Alternate Energy Sources**
Instructor: Leitz, Robert
(303) 629-3143
Course Number: 160
Department: Earth Sciences
Program or Curriculum: Alternate Energy Sources
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Intro. to Solar Energy; Passive Solar Technology
Number of Times Taught: 3
Average Enrollment: 25

**Economics of Solar Heating**
Instructor: Smith, Howard S.
(303) 629-3084
Course Number: EET 390
Department: Electronics Engineering Technology
Credits: 2
Student Level: Junior or Senior
Duration: 4 Weeks, 7.5 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Solar Economics
Number of Times Taught: 3
Average Enrollment: 25

**NORTHERN COLORADO: U OF** (1349)
GREELEY, Colorado 80639
(303) 351-1890

**SOLAR RELATED COURSES**

**Applied Solar Energy**
Instructor: Fadner, Willard
(303) 351-2962
Course Number: 467
Department: Physics
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy...
Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating
Number of Times Taught: 1
Average Enrollment: 5

** Solar Energy Applications **
Instructor: Eden, Anthony
(303) 472-4036
Course Number: CE 495
Department: Civil Engr., Engr. Mechanics and Materials
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 2.5 hrs per week
Contact Hours: 42
Classroom: 42
Laboratory: 10
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating
Number of Times Taught: 5
Average Enrollment: 16

** Solar Related Courses **
Instructor: Kowal, Jerry
(303) 943-2004
Course Number: IA 233
Department: Industrial Arts
Credits: 2
Student Level: Junior or Senior
Duration: 2 Weeks, 15.0 hrs per week
Contact Hours: 30
Classroom: 20
Laboratory: 10
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Space Heating

** Community/Junior Colleges **
COLO MTH COLLEGE WESTERN
GLENWOOD SPRINGS, Colorado 81601
(303) 945-7481
SOLAR RELATED COURSES
Energy: Sources and Uses
Instructor: Trapani, I. L.
Course Number: GSC 156
Credits: 3
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 20
Laboratory: 10
Topics Covered Extensively: Appropriate Energy Sources; Energy Conservation; Intro. to Solar Energy; Central Systems; Wind Power, Solar Collector Evaluation/Design; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Space Heating; Space Cooling

** SOLAR RELATED COURSES **
Instructor: Shore, Ron
Course Number: BLO 205
Credits: 3
Student Level: All levels
Duration: 10 Weeks, 3.5 hrs per week
Contact Hours: 35
Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Space Heating; Space Cooling

** Solar and Wind Energy Symposium **
Instructor: Dutmers, Gary
Course Number: GSC 27051
Credits: 1
Student Level: All levels
### SOLAR RELATED COURSES

**Solar Energy**
- **Instructor:** Shore, Ron  
- **Department:** Cont. Ed.  
- **Student Level:** High School Graduate  
- **Duration:** 10 Weeks, 3.0 hrs per week  
- **Contact Hours:** 30  
- **Classroom:** 15  
- **Number of Times Taught:** 3  
- **Average Enrollment:** 25  

**Solar Controls**
- **Instructor:** Klima, John  
- **Course Number:** SOH 236  
- **Department:** Industrial Occupations  
- **Program or Curriculum:** Solar Energy-Inst. and Main.  
- **Credits:** 3  
- **Student Level:** All levels  
- **Duration:** 15 Weeks, 4.0 hrs per week  
- **Contact Hours:** 60  
- **Classroom:** 30  
- **Laboratory:** 30  
- **Topics Covered Extensively:** Solar System Components; Solar System Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating  
- **Number of Times Taught:** 3  
- **Average Enrollment:** 25  

**Basic Sheet Metal for Solar Energy**
- **Instructor:** DuPriest, Don  
- **Course Number:** SHM 100  
- **Department:** Industrial Occupations  
- **Program or Curriculum:** Solar Energy-Inst. and Main.  
- **Credits:** 3  
- **Student Level:** All levels  
- **Duration:** 15 Weeks, 4.0 hrs per week  
- **Contact Hours:** 60  
- **Classroom:** 15  
- **Laboratory:** 45
### Basic Solar Controls
- **Instructor:** Hitz, Frank
- **Course Number:** SOH135
- **Department:** Industrial Occupations
- **Program or Curriculum:** Solar Energy-Instal. and Main.
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 15 Weeks, 4.0 hrs per week
- **Contact Hours:** 60
- **Classroom:** 15
- **Laboratory:** 45
- **Number of Times Taught:** 3
- **Average Enrollment:** 25

### Basic Solar Systems
- **Instructor:** Hilton, Craig
- **Course Number:** S911235
- **Department:** Industrial Occupations
- **Program or Curriculum:** Solar Energy-Instal. and Main.
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 15 Weeks, 4.0 hrs per week
- **Contact Hours:** 60
- **Classroom:** 15
- **Laboratory:** 45
- **Number of Times Taught:** 2
- **Average Enrollment:** 30

### Blueprint Reading for Constr. Trades
- **Instructor:** Feister, Clarence
- **Course Number:** BTR 125
- **Department:** Industrial Div.
- **Program or Curriculum:** Solar Energy-Instal. and Main.
- **Credits:** 4
- **Student Level:** All levels
- **Duration:** 15 Weeks, 4.0 hrs per week
- **Contact Hours:** 60
- **Classroom:** 45
- **Laboratory:** 23
- **Number of Times Taught:** 20
- **Average Enrollment:** 20

### Bricklaying for Construction Trades
- **Instructor:** Gale, Bud
- **Course Number:** BR1120
- **Department:** Industrial Occupations
- **Program or Curriculum:** Solar Energy-Instal. and Main.
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 15 Weeks, 4.0 hrs per week
- **Contact Hours:** 60
- **Classroom:** 15
- **Laboratory:** 45
- **Number of Times Taught:** 20
- **Average Enrollment:** 25

### Domestic Hot Water
- **Instructor:** Hilton, Tim
- **Course Number:** SOH227
- **Department:** Industrial Occupations
- **Program or Curriculum:** Solar Energy-Instal. and Main.
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 15 Weeks, 4.0 hrs per week
- **Contact Hours:** 60
- **Classroom:** 15
- **Laboratory:** 45
- **Number of Times Taught:** 8
- **Average Enrollment:** 20

### Hot Water Heating-Instal. and Main.
- **Instructor:** Hilton, Robert
- **Course Number:** PLL120
- **Department:** Industrial Occupations
- **Program or Curriculum:** Solar Energy-Instal. and Main.
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 15 Weeks, 4.0 hrs per week
- **Contact Hours:** 60
- **Classroom:** 15
- **Laboratory:** 45
- **Number of Times Taught:** 4
- **Average Enrollment:** 25
Intro. to Photovoltaic and Wind Energy
Course Number: SOM 239
Department: Industrial Occupations
Program or Curriculum: Solar Energy-Instl. and Main.
Credits: 3
Student Level: All levels
Duration: 15 weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 30
Laboratory: 30
Topics Covered Extensively: Alternate Energy Sources; Photovoltaics; Solar Systems Installation; Electric Generation; Small Scale Wind Power, Small Systems

Orient. of Tools, Basic Plumb. and Draw.
Instructor: Hilton, Robert
Course Number: PLU 100
Department: Industrial Occupations
Program or Curriculum: Solar Energy-Instl. and Main.
Credits: 3
Student Level: All levels
Duration: 15 weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 15
Laboratory: 45
Topics Covered Extensively: Plumbing Techniques
Number of Times Taught: 25
Average Enrollment: 25

Passive Solar Systems
Instructor: Shippie, Paul
Course Number: SOM 237
Department: Industrial Occupations
Program or Curriculum: Solar Energy-Instl. and Main.
Credits: 3
Student Level: All levels
Duration: 15 weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 30
Laboratory: 30
Topics Covered Extensively: Heat and Energy Transfer; Passive Solar Technology; Solar Systems Design; Space Heating
Number of Times Taught: 1
Average Enrollment: 25

Solar Eng. Tech I
Instructor: Haugseth, Larry
Course Number: SOM 221
Department: Industrial Occupations
Program or Curriculum: Solar Energy-Instl. and Main.
Credits: 4
Student Level: All levels
Duration: 15 weeks, 4.5 hrs per week
Contact Hours: 68
Classroom: 45
Laboratory: 23
Topics Covered Extensively: Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating
Number of Times Taught: 4
Average Enrollment: 25

Solar Eng. Tech II
Instructor: Dahl, Mike
Course Number: SOM 226
Department: Industrial Occupations
Program or Curriculum: Solar Energy-Instl. and Main.
Credits: 4
Student Level: All levels
Duration: 15 weeks, 4.5 hrs per week
Contact Hours: 68
Classroom: 45
Laboratory: 23
Topics Covered Extensively: Solar Economics; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling
Number of Times Taught: 3
Average Enrollment: 25

Solar Panel Arrays
Instructor: Hilton, Craig
Course Number: SOM 229
Department: Industrial Occupations
Program or Curriculum: Solar Energy-Instl. and Main.
Credits: 3
Student Level: All levels
Duration: 15 weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 15
Laboratory: 45
Topics Covered Extensively: Solar System Components
Number of Times Taught: 6
Average Enrollment: 20

Solar Panel Installations
Instructor: Hilton, Craig
Course Number: SOM 229
Department: Industrial Occupations
Program or Curriculum: Solar Energy-Instl. and Main.
Credits: 3
Student Level: All levels
Duration: 15 weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 15
Laboratory: 45
Topics Covered Extensively: Solar Home Construction; Solar Systems Installation

Solar System Design and Layout
Instructor: Hilton, Craig
Course Number: SOM 229
Department: Industrial Occupations
Program or Curriculum: Solar Energy-Instl. and Main.
Credits: 3
Student Level: All levels
Duration: 15 weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 15
Laboratory: 45
Topics Covered Extensively: Solar Home Construction; Solar Systems Installation

- 55 -
Colorado Solar Energy Research Institute

Course Number: SOM225
Department: Industrial Occupations
Program or Curriculum: Solar Energy-Instal. and Main.
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 15
Laboratory: 45
Topics Covered Extensively: Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 6
Average Enrollment: 25

Solar System Maintenance
Instructor: Hilton, Craig
(303) 988-6161
Course Number: SOM228
Department: Industrial Occupations
Program or Curriculum: Solar Energy-Instal. and Main.
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 15
Laboratory: 45
Topics Covered Extensively: Solar System Components; Solar Systems Maintenance
Number of Times Taught: 2
Average Enrollment: 25

Water Piping Methods
Instructor: Hilton, Robert
(303) 988-6161
Course Number: PLU 107
Department: Industrial Occupations
Program or Curriculum: Solar Energy-Instal. and Main.
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 15
Laboratory: 45
Topics Covered Extensively: Plumbing Techniques
Number of Times Taught: 25
Average Enrollment: 25

OTEKO JUNIOR COLLEGE
LA JUNTA, Colorado 81050
(303) 384-4443

PROGRAMS AND CURRICULA

Arch. Tech. - Solar Heating Option
Degree: AD, Applied Science
Contact: Nilsen, E. W.
(303) 384-4443
Students Taking or Completing Offering:
Solar Technician, Trade Specialty

Other Educational Institutions

SOLAR RELATED COURSES
Arch. Tech. - Solar Heating Option
Instructor: Nilsen, E. W.
(303) 384-4443
Department: Construction & Manufacturing
Program or Curriculum: Arch. Tech. - Solar Heating Option
Student Level: Freshman or Sophomore
Duration: 30 Weeks, 12.0 hrs per week
Contact Hours: 360
Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating
Number of Times Taught: 0

TRINIDAD STATE JR COLLEGE
TRINIDAD, Colorado 81082
(303) 846-5531

SOLAR RELATED COURSES
Solar Home Construction
Instructor: Brunelli, Roger F.
(303) 846-5571
Course Number: BT 280
Department: Building Trades
Credits: 3
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 10
Average Enrollment: 8

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- 56 -
COLLEGE OF SOLAR ENERGY  (90540)
Box 397
Nederland, Colorado 80466

SOLAR RELATED COURSES

* Solar Related Courses

COLORADO OFFICE OF ENERGY CONSERVATION  (90440)
1410 Grant St., B-104
Denver, Colorado 80203

SOLAR RELATED COURSES

* Solar Energy Workshops

DOMESTIC TECHNOLOGY INSTITUTE  (90550)
Box 2043
Evergreen, Colorado 80439

SOLAR RELATED COURSES

* Solar Energy Workshops
  Instructor: Lillywhite, Malcom

THE ALTERNATE ENERGY INSTITUTE  (90310)
Box 3100
Estes Park, Colorado 80517

SOLAR RELATED COURSES

* Solar Saturday
  Topics Covered Extensively: Alternate Energy Sources

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Connecticut Solar Energy Research Institute

Colleges/Universities

CENTRAL CONN ST COLLEGE (1378)
NEW BRITAIN, Connecticut
(203) 827-7000

SOLAR RELATED COURSES

Introduction to Energy Processing
Instructor: Duffy, Joseph
(203) 827-7378
Course Number: I.E. 114
Department: Technology
Credits: 2
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 6.0 hrs per week
Contact Hours: 96
Classroom: 26
Laboratory: 70
Number of Times Taught: 12
Average Enrollment: 45

CORNHAIN CARPUS, U OF STORRS, Connecticut (203) 486-2000

SOLAR RELATED COURSES

Solar Energy
Instructor: Pitkin, Edward T.
(203) 786-2332
Course Number: 320/295
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 42
Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design: Solar Systems Design: Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 2
Average Enrollment: 30

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GRADUATE CNT. OF RP 1 & CNT.
ENVIRONMENT & MAN (90260)
275 Windsor St.
Hartford, Connecticut 06120

SOLAR RELATED COURSES

*Some Solar Energy Studies

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HARTFORD GRADUATE CENTER (2804)
HARTFORD, Connecticut
(203) 549-3600

PROGRAMS AND CURRICULA

*Environ. Sci. and Tech.
Contact: Florek, Donald B.
Students Taking or Completing Offering: Architect, Solar Engineer, Other

SOLAR RELATED COURSES

Instructor: Florek, Donald B.
Department: Special Programs
Program or Curriculum: *Environ. Sci. and Tech.

*Solar Energy
Instructor: Florek, Donald B.
Department: Special Programs
Program or Curriculum: *Environ. Sci. and Tech.
Topics Covered Extensively: Intro. to Solar Energy

*Solar Energy for Bldgs.
Instructor: Florek, Donald B.
Department: Special Programs
Program or Curriculum: *Environ. Sci. and Tech.

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WEST HAVEN, UNIVERSITY OF (1397)
WEST HAVEN, Connecticut
(203) 934-6321

SOLAR RELATED COURSES

*Solar Heating and Cooling
Department: Special Studies
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Topics Covered Extensively: Space Heating; Space Cooling

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SAINT JOSEPH COLLEGE
WEST HARTFORD, Connecticut
(203) 232-4571

SOLAR RELATED COURSES

Alt. Ener. Resources
Instructor: Murphy, S. MaryEllen
Course Number: SCI ED 607
Department: Chemistry
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 30
Laboratory: 30
Number of Times Taught: 2
Average Enrollment: 25

Field Work in Energy Planning
Instructor: Brown, Howard J.
Course Number: 412
Department: Science in Society
Credits: 3
Student Level: Junior or Senior
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Number of Times Taught: 2
Average Enrollment: 10

WESTERN CONN ST COLLEGE
DANBURY, Connecticut
(203) 792-1400

SOLAR RELATED COURSES

Alternate Energy Systems
Instructor: Tucker, Glenn T.
Course Number: 413
Department: College of Science in Society
Credits: 3
Student Level: All levels
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Classroom: 33
Topics Covered Extensively: Alternate Energy Sources; Heat and Energy Transfer; Intro. to Solar Energy
Number of Times Taught: 3
Average Enrollment: 11

Energy Conservation Seminar
Instructor: Watson, Donald
Course Number: C-24 (B)
Department: Architecture
Connecticut

Credits: 3  
Student Level: College Graduate  
Duration: 13 Weeks, 2.0 hrs per week  
Contact Hours: 26  
Classroom: 26  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar Systems Design; Space Heating; Space Cooling  
Number of Times Taught: 5  
Average Enrollment: 25  

HVAC and Energy Conservation  
Instructor: Barber, Everett M.  
(203) 436-0550  
Course Number: A-21  
Department: Architecture  
Credits: 3  
Student Level: College Graduate  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Passive Solar Technology  
Number of Times Taught: 6  
Average Enrollment: 38  

Other Educational Institutions

ENERGY ED. SERVICES OF CONNECTICUT (90280)  
PO Box 224  
Hartford, Connecticut 06103  

SOLAR RELATED COURSES  
*Solar Ener. for Homes & Bldgs  
Topics Covered Extensively: Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  

THAMES VLY STATE TECH C (1413)  
NORWICH, Connecticut  
(203) 886-0177  

SOLAR RELATED COURSES  
Solar Energy/Energy Conservation and Usage  
Department: Evening Division  
Student Level: High School Graduate  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 33  
Number of Times Taught: 1  
Average Enrollment: 30
Colleges/Universities

DELAWARE, UNIVERSITY OF
NEWARK, Delaware 1971
(302) 738-2000

SOLAR RELATED COURSES

Photovoltaic Energy Conversion
Instructor: Boer, Karl W.
(302) 738-8048
Department: Engineering
Credits: 3
Student Level: College Graduate
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Photovoltaics
Number of Times Taught: 3
Average Enrollment: 15

Solar Energy Conversion
Instructor: Boer, Karl W.
(302) 738-8048
Course Number: 467/667
Department: Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Laboratory: 3
Topics Covered Extensively: Energy Conversion; Materials Research; Photovoltaics
Number of Times Taught: 3
Average Enrollment: 20

Solar Thermal Conversion
Instructor: Gurani, Selaux
(302) 738-8160
Course Number: 667
Department: Mechanical and Aerospace Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating
Number of Times Taught: 2
Average Enrollment: 45

NEWCASTLE COUNTY VOCATIONAL TECHNICAL SCHOOL
1417 Newport Rd.
Wilmington, Delaware 19804

PROGRAMS AND CURRICULA

*Solar Heating of Buildings

SOLAR RELATED COURSES

*Solar Heating of Buildings
Program or Curriculum: *Solar Heating of Buildings
Contact Hours: 60

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Colleges/Universities

CATHERIC U OF AMERICA (1437)
WASHINGTON, District of Colombia 20064
(202) 635-5000

SOLAR RELATED COURSES

Graduate Research in Solar Energy
Department: Chemical Eng'r

Solar Energy and Thermal Radiation
Instructor: Whang, Y. C.
(202) 635-5170
Course Number: ME527
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 13 hrs per week
Contact Hours: 42
Classroom: 36
Laboratory: 6
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar Systems Design
Average Enrollment: 15

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GEORGE WASHINGTON UNIVERSITY (1444)
WASHINGTON, District of Columbia 20052
(202) 676-6000

PROGRAMS AND CURRICULA

*Energy Resources & Environ.
Degree: PhD, MS
(202) 676-6749

SOLAR RELATED COURSES

Department: Continuing Education
Topics Covered Extensively: Space Heating; Space Cooling

*Solar Heat. and Cool. Systems
Course Number: ME59
Department: Civil, Mech. & Environ. Eng'r
Program or Curriculum: *Energy Resources & Environ.
Credits: 3
Student Level: College Graduate
Topics Covered Extensively: Alternate Energy Sources; Energy Storage; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Average Enrollment: 25

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Process Engineering in Energy Systems
Instructor: Rao, M. Gopala
(202) 636-6624
Course Number: 305-413
Department: Chemical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Classroom: 39
Topics Covered Extensively: Energy Conservation; Energy Storage
Average Enrollment: 25

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HARRISON UNIVERSITY (1448)
WASHINGTON, District of Columbia 20059
(202) 636-6040

SOLAR RELATED COURSES

Energy and Power
Instructor: Walker, M. L.
(202) 636-5565
Course Number: 304-428
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Classroom: 39
Topics Covered Extensively: Materials Research; Photovoltaics; Solar Economics
Number of Times Taught: 11

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Other Educational Institutions

NATIONAL TRAINING FUND (90360)
1900 "L" Street NW, Suite 405,
Washington, District of Columbia 20036

PROGRAMS AND CURRICULA

*Sheet Metal - Apprentice, Journeyman
Contact: Harrington, Mr.
(202) 833-9543

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Florida Solar Energy Research Institute

**Colleges/Universities**

**BARRY COLLEGE**
MIAHI, Florida 33161
(305) 758-3392

**SOLAR RELATED COURSES**

**Energy Economics**

**Instructor:** Wyman, Mark  
(305) 754-7233  
**Course Number:** ECO 302  
**Department:** Continuing Education  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 3.0 hrs per week  
**Contact Hours:** 30  
**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Marketing/Market Analysis; Passive Solar Technology; Solar Energy Policy Development; Solar Economics; Solar Home Construction; Solar Law/Legislation; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems  
**Number of Times Taught:** 1  
**Average Enrollment:** 12

**FLORIDA INST TECHNOLOGY**
MELBOURNE, Florida 32901  
(305) 723-3701

**SOLAR RELATED COURSES**

**Design of Solar Conversion Systems**

**Instructor:** Alkassab, K. A.  
(305) 723-3701  
**Course Number:** ME 5037  
**Department:** Mechanical Engineering  
**Credits:** 3  
**Student Level:** College Graduate  
**Duration:** 10 Weeks, 3.0 hrs per week  
**Contact Hours:** 30  
**Classroom:** 30  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conversion; Heat and Energy Transfer; Solar System Components; Solar Systems Design; Elec'l Generation, Central; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems  
**Number of Times Taught:** 2  
**Average Enrollment:** 10

**FLORIDA INTERNATIONAL U**
MIAHI, Florida 33199  
(305) 552-2731

**PROGRAMS AND CURRICULA**

**Solar Energy Technology**

**Degree:** MS, Master of Science  
**Contact:** Leonard, Rene J.  
**Students Taking or Completing Offering:**  
**SOLAR ENGINEER**

**SOLAR RELATED COURSES**

**Advanced Solar Energy**

**Instructor:** Leonard, Rene J.  
(305) 552-2807  
**Department:** Technology  
**Program or Curriculum:** Solar Energy Technology  
**Credits:** 5  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 5.0 hrs per week  
**Contact Hours:** 50  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Solar System Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling  
**Number of Times Taught:** 10  
**Average Enrollment:** 25
**FLORIDA TECHNOLOGICAL UNIVERSITY**

**ORLANDO, Florida 32816**

**FLORIDA UNIVERSITY OF**

**GAINESVILLE, Florida 32611**

**UNIVERSITY OF**

**CORAL GABLES, Florida 33124**

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**SOLAR RELATED COURSES**

- **Fundamentals of Solar Energy Utilization**
  - **Instructor:** Poteat, L./ Olsen, T.
  - **Course Number:** ME1510
  - **Department:** Mechanical Engineering
  - **Credits:** 3
  - **Student Level:** Junior or Senior
  - **Duration:** 14 Weeks, 3.0 hrs per week
  - **Contact Hours:** 45
  - **Topics Covered Extensively:** Energy Storage; Intro. to Solar Energy; Photovoltaics; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec's Generation, Central; Elec's Generation, Small Scale; Space Heating; Space Cooling
  - **Number of Times Taught:** 2
  - **Average Enrollment:** 12

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**FLORIDA, UNIVERSITY OF**

**GAINESVILLE, Florida 32611**

**PROGRAMS AND CURRICULA**

- **Mechanical Eng'r**
  - **Degree:** ME, Mechanical Engineering

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**SOLAR RELATED COURSES**

- **Courses in Wind, Methane, Greenhouse, Solar**
  - **Department:** Mechanical Engineering
  - **Program or Curriculum:** Mechanical Eng'r
  - **Student Level:** All levels
  - **Topics Covered Extensively:** Alternate Energy Sources; Biomass Conversion; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Space Heating; Wind Power, Small Systems

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**SOLAR RELATED COURSES**

- **Fundamentals of Solar Energy Utilization**
  - **Instructor:** Poteat, L./ Olsen, T.
  - **Course Number:** ME1510
  - **Department:** Mechanical Engineering
  - **Credits:** 3
  - **Student Level:** Junior or Senior
  - **Duration:** 14 Weeks, 3.0 hrs per week
  - **Contact Hours:** 45
  - **Topics Covered Extensively:** Energy Storage; Intro. to Solar Energy; Photovoltaics; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec's Generation, Central; Elec's Generation, Small Scale; Space Heating; Space Cooling
  - **Number of Times Taught:** 2
  - **Average Enrollment:** 12
SOLAR RELATED COURSES

Energy: Past, Present and Future
Instructor: Bowman, Ray
(904) 646-2518
Course Number: BSC 9930AB
Department: Arts and Sciences/Natural Sciences
Credits: 5
Student Level: Junior or Senior
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 50
Topics Covered Extensively: Alternate Energy Sources
Number of Times Taught: 4
** *** *** *** *** ***

WEST FLORIDA, U OF
PENSACOLA, Florida 32504
(904) 476-9500

PROGRAMS AND CURRICULA

Master of Public Administration
Degree: Public Administration
Contact: Skelton, Luther
(904) 476-9500

SOLAR RELATED COURSES

Energy Systems
Instructor: Salmon, Jack D.
(904) 476-9800
Course Number: PHD 6934
Department: Political Science
Credits: 5
Student Level: College Graduate
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 50
Classroom: 50
Laboratory: 16
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy
** *** *** *** *** ***

GULF COAST CTY COLLEGE
PANAMA CITY, Florida 32401
(904) 769-1551

PROGRAMS AND CURRICULA

Solar Energy Solar Systems
Degree: AD, Science
Contact: Jones, Robert C.
(904) 769-1551

SOLAR RELATED COURSES

Solar Energy
Instructor: Stotz, Robert/ Jones, Robert
(904) 769-1551
Course Number: ETM-1101
Program or Curriculum: Solar Energy Solar Systems
Credits: 5
Student Level: All levels
Duration: 17 Weeks, 3.0 hrs per week
Contact Hours: 51
Topics Covered Extensively: Solar System
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Community/Junior Colleges

FLORIDA, U OF
JACKSONVILLE, Florida 32216
(904) 646-2666

SOLAR RELATED COURSES

Energy: Past, Present and Future
Instructor: Powman, Ray
(904) 646-2518
Course Number: BSC 993048
Department: Arts and Sciences/Natural Sciences
Credits: 5
Student Level: Junior or Senior
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 50
Topics Covered Extensively: Alternate Energy Sources
Number of Times Taught: 4
** *** *** *** *** ***

EDISON COMMUNITY COLLEGE
FORT MYERS, Florida 33901
(813) 481-2121

SOLAR RELATED COURSES

Alternate Energy Sources
Instructor: Werst, Lee
(813) 481-2121
Department: Basic Science
Credits: 4
Student Level: High School Graduate
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Classroom: 48
Laboratory: 16
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy
** *** *** *** *** ***
Components: Solar Home Construction; Solar Collector Evaluation/Design
Number of Times Taught: 1
Average Enrollment: 29

Solar Systems
Instructor: Stotz, Robert; Jones, Robert
Course Number: ETH 2102
Program or Curriculum: Solar Energy Solar Systems
Credits: 3
Student Level: All levels
Duration: 17 Weeks, 3.0 hrs per week
Contact Hours: 51
Topics Covered Extensively: Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 24

MIAII - DADE CTY COLLEGE
MIAMI, Florida 33176.
(305) 596-1211

PROGRAMS AND CURRICULA

Air Conditioning Engineering Technology
Degree: AD, Science
Contact: Succop, William
(305) 685-4564
Students Taking or Completing Offering: Architect, Installer-Residential (Solar System), Installer-Commercial (Solar System), Solar Technician

SOLAR RELATED COURSES

Solar Energy Fundamentals
Instructor: Cleland, George
Course Number: ETH 2706
Department: Air Conditioning Engineering Technology
Program or Curriculum: Air Conditioning Engineering Technology
Credits: 3
Student Level: High School Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating

Solar Energy Systems, Commerical
Instructor: Cleland, George
Course Number: ETH 2750 C
Department: Air Conditioning Engineering Technology
Program or Curriculum: Air Conditioning Engineering Technology
Credits: 3
Student Level: High School Graduate
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 30
Laboratory: 30
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating

Solar Energy Systems, Residential
Instructor: Cleland, George
Course Number: ETH 2756 C
Department: Air Conditioning Engineering Technology
Program or Curriculum: Air Conditioning Engineering Technology
Credits: 3
Student Level: High School Graduate
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 30
Laboratory: 30
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating

PENSACOLA JUNIOR COLLEGE
PENSACOLA, Florida 32504
(904) 476-5410

PROGRAMS AND CURRICULA

Solar Energy Technology
Degree: AD, Energy Tech. Certificate of Completion
Contact: Lowery, Stanley
(904) 476-5410
FLORIDA SOLAR ENERGY RESEARCH INSTITUTE

SOLAR RELATED COURSES

RES. DESIGN AND INSTALLATION
Instructor: Lowery, Stanley (904) 476-5410
Department: Industrial Technology
Program or Curriculum: Solar Energy Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Classroom: 32
Laboratory: 32
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

SANTA FE CMTY COLLEGE
GAINESVILLE, Florida 32601 (904) 377-5161

SOLAR RELATED COURSES

PRINCIPLES OF SOLAR HEAT
Instructor: Roy, Russell (904) 377-5161
Course Number: ACT 1840
Department: Industrial Education
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 30
Laboratory: 15
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling
Number of Times Taught: 6
Average Enrollment: 20

SOLAR ENERGY FOR THE HOME-OWNER
Instructor: McCard, William H. (305) 299-5000
Department: Open Campus/Continuing Edu.
Student Level: All levels
Duration: 1 Week, 6.0 hrs per week
Contact Hours: 6
Classroom: 2
Topics Covered Extensively: Intro. to Solar Energy; Domestic Hot Water

VALENCIA CMTY COLLEGE
ORLANDO, Florida 32802 (305) 299-5000

SOLAR RELATED COURSES

ENERGY
Instructor: McCord, William (305) 299-5000
Course Number: PS-290
Department: Science
Credits: 3
Student Level: Freshman or Sophomore
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 30
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Domestic Hot Water
Number of Times Taught: 1
Average Enrollment: 12

Solar Energy for the Home-owner
Instructor: McCord, William M. (305) 299-5000
Department: Open Campus/Continuing Edu.
Student Level: All levels
Duration: 1 Week, 6.0 hrs per week
Contact Hours: 6
Classroom: 2
Topics Covered Extensively: Intro. to Solar Energy; Domestic Hot Water

Vocational/Technical Colleges

PINELLAS VO-TECH INSTITUTE
6100 154th Ave. North
Clearwater, Florida 33756

SOLAR RELATED COURSES

*HOUSEHOLD ENERGY CONSERVATION/SOL. ENERGY
Topics Covered Extensively: Energy Conservation; Domestic Hot Water

*SOLAR ENERGY HEATING AND COOLING
Duration: 9 Weeks
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
SOUTH FLORIDA TECHNICAL INSTITUTE  (90020)
201 W. Sunrise Blvd.
Ft. Lauderdale, Florida 33311
(305) 764-3432

PROGRAMS AND CURRICULA

Energy Conversion Systems
Contact:  Linne, William L.  
(305) 764-3432

Students Taking or Completing Offering:
Mechanical or Electrical Contractor, Installer-Residential (Solar System), Trade Specialty

SOLAR RELATED COURSES

Air Cond., Refrig. and Maj. Appliances
Instructor:  Appelman, Louis  
(305) 764-3432
Department:  Training
Program or Curriculum:  Energy Conversion Systems
Student Level:  High School Graduate
Duration:  5 Weeks, 30.0 hrs per week
Contact Hours:  150
Classroom:  100
Laboratory:  50
Topics Covered Extensively:  Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught:  3
Average Enrollment:  10

Other Educational Institutions

FLORENZA SOLAR ENERGY CENTER  (90100)
300 State Rd. 401
Cape Canaveral, Florida 32920

SOLAR RELATED COURSES

*Short Courses, Workshops, Seminars

* * * * * * * * * *
### SOLAR RELATED COURSES

#### Ecology

- **Instructor:** Andrews, Charles L.  
  (404) 532-4341
- **Course Number:** BY 303
- **Department:** Math/Sciences
- **Credits:** 5
- **Student Level:** Freshman or Sophomore
- **Duration:** 10 Weeks, 6.0 hrs per week
- **Contact Hours:** 60
- **Classroom:** 40
- **Laboratory:** 20
- **Average Enrollment:** 20

#### Solar Energy Engineering

- **Instructor:** Williams, J. Richard  
  (404) 894-3351
- **Course Number:** ME 6360
- **Department:** Mechanical Engineering
- **Credits:** 3
- **Student Level:** Junior or Senior
- **Duration:** 11 Weeks, 3.0 hrs per week
- **Contact Hours:** 36
- **Classroom:** 30
- **Laboratory:** 6
- **Topics Covered Extensively:** Alternate Energy Sources; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Elec'1 Generation; Central; Elec'1 Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling
- **Number of Times Taught:** 2
- **Average Enrollment:** 20

#### Landscape Ecology

- **Instructor:** Fisher, W.R.  
  (404) 542-1816
- **Course Number:** LAR 323
- **Department:** Environmental Design
- **Credits:** 5
- **Student Level:** College Graduate
- **Duration:** 10 Weeks, 5.0 hrs per week
- **Contact Hours:** 50
- **Classroom:** 10
- **Laboratory:** 40
- **Number of Times Taught:** 10
- **Average Enrollment:** 20

#### Nursery Management I

- **Instructor:** Tinga, J.H.  
  (404) 542-2471
- **Course Number:** HORT 363A
### Department: Horticulture

**Credits:** 2  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 2.0 hrs per week  
**Contact Hours:** 20  
**Classroom:** 10  
**Laboratory:** 10  
**Number of Times Taught:** 10  
**Average Enrollment:** 25

**Nursery Management II**  
**Instructor:** Tinga, J.H.  
(404) 542-2471  
**Course Number:** HORT 3678  
**Department:** Horticulture  
**Credits:** 2  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 2.0 hrs per week  
**Contact Hours:** 20  
**Classroom:** 10  
**Laboratory:** 10  
**Number of Times Taught:** 10  
**Average Enrollment:** 25

**Public Policy: Energy and Environment**  
**Instructor:** Regens, James L.  
(404) 542-2057  
**Course Number:** POL 451B  
**Department:** Political Science  
**Credits:** 5  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 5.0 hrs per week  
**Contact Hours:** 50  
**Classroom:** 40  
**Laboratory:** 10

### Solar Energy Thermal Processes

**Instructor:** Wilson, J.D. / McLendon, B.D.  
(404) 542-1653  
**Course Number:** 802  
**Department:** Agricultural Engineering  
**Credits:** 5  
**Student Level:** College Graduate  
**Duration:** 10 Weeks, 5.0 hrs per week  
**Contact Hours:** 50  
**Classroom:** 21  
**Laboratory:** 29  
**Topics Covered Extensively:** Heat and Energy Transfer; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water  
**Number of Times Taught:** 2  
**Average Enrollment:** 8

**Utilization of Renewable Energy Resources**  
**Instructor:** McLendon, B. Derrell  
(404) 549-7527  
**Department:** Agricultural Engineering  
**Credits:** 5  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 5.0 hrs per week  
**Contact Hours:** 50  
**Classroom:** 34  
**Laboratory:** 16  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'1 Generation, Small Scale

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**Community/Junior Colleges**

**BRUNSWICK JUNIOR COLLEGE**  
BRUNSWICK, Georgia 31520  
(912) 264-7211

**DEKALB COMMUNITY COLLEGE**  
CLARKSTON, Georgia 30021  
(404) 292-3994

**SOLAR HEATING DEGREE**  
**Instructor:** Penland, William D.  
(404) 292-1525  
**Department:** Heating/Air Conditioning  
**Program or Curriculum:** Solar Heating  
**Student Level:** All levels  
**Duration:** 14 Weeks, 24.0 hrs per week  
**Contact Hours:** 300  
**Classroom:** 200  
**Laboratory:** 100

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**SOLAR RELATED COURSES**

**Solar Heating**  
**Instructor:** Penland, William D.  
(404) 292-1525  
**Department:** Heating/Air Conditioning  
**Program or Curriculum:** Solar Heating  
**Student Level:** All levels  
**Duration:** 14 Weeks, 24.0 hrs per week  
**Contact Hours:** 300  
**Classroom:** 200  
**Laboratory:** 100

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GUAM, UNIVERSITY OF
AGANA, Guam 96910

SOLAR RELATED COURSES

Seminar
Instructor: Smith, Douglas
(671) 734-2921
Course Number: BI 691
Department: Arts and Science, Biology
Credits: 1
Student Level: College Graduate
Duration: 15 Weeks, 1.0 hrs per week
Contact Hours: 15
Classroom: 15
Average Enrollment: 5

* * * * * * * * * *
Solar Energy Research Institute

Colleges/Universities

HAWAII AT MANOA, U OF (1610)
HONOLULU, Hawaii 96822
(808) 948-7837

SOLAR RELATED COURSES

Environmental Education
Instructor: Boyer, Wm. H.
(808) 946-7817
Course Number: ED EF 666
Department: Education
Credits: 3
Student Level: All levels
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 17
Laboratory: 25
Topics Covered Extensively: Intro. to Solar Energy; Solar Systems Design; Solar Systems Maintenance

Seminar on Solar Energy
Instructor: Garrett, Alfred J.
(808) 948-7577
Course Number: CE499AR477
Department: Arts and Sciences, Meteorology
Credits: 1
Student Level: All levels
Duration: 14 Weeks, 1.0 hrs per week
Contact Hours: 14
Classroom: 14
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation
Number of Times Taught: 3
Average Enrollment: 20

Solar Energy and Architecture
Instructor: Falicoff, W.
(808) 943-6845
Course Number: ARCH 477
Department: Arts and Sciences, Architecture
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 17
Laboratory: 25
Topics Covered Extensively: Passive Solar Technology; Solar Economics; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling

Solar Energy Measurements and Surveys
Instructor: Garrett, Alfred J.
(808) 948-7577
Course Number: MET 752
Department: Arts and Sciences, Meteorology
Credits: 3
Student Level: College Graduate
Duration: 14 Weeks, 3.0 hrs per week

Community/Junior Colleges

HAWAII KAUAI CC, U OF (1614)
LIHUE, Hawaii 96766
(808) 245-8311

SOLAR RELATED COURSES

Alternate Sources of Energy
Instructor: Kock, Marshall
(808) 1245-8250
Course Number: SCI 097
Department: Math, Science & Tech.
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'1 Generation, Small Scale; Wind Power, Small Systems
Number of Times Taught: 1
Average Enrollment: 30
SOLAR RELATED COURSES

Alternate Energy
Instructor: Cassetto, James
Course Number: 350
Department: Education, Industrial Ed.
Program or Curriculum: Power Technology
Credits: 3
Student Level: Junior or Senior
Duration: 18 Weeks, 6.0 hrs per week
Contact Hours: 108
Classroom: 54
Laboratory: 50

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Energy Policy Development; Solar System Components; Solar House Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Electric Generation, Central; Electric Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

Average Enrollment: 50

Solar Energy Resources
Instructor: Hager, Wayne
Course Number: E5404
Department: Engineering
Program or Curriculum: Solar Energy Workshop
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 40

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion, Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 3
Average Enrollment: 60

Arch. - Environmental Control System
Instructor: Bevans, Ronald D.
Course Number: 463
Department: Art and Architecture
Credits: 3
Student Level: Junior or Senior
Duration: 17 Weeks, 3.0 hrs per week
Contact Hours: 51

- 75 -
Idaho Solar Energy Research Institute

Classroom: 51
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Heat and Energy Transfer; Passive Solar Technology; Plumbing Techniques; Space Heating; Space Cooling
Number of Times Taught: 4
Average Enrollment: 65

Arch. - Solar Energy Design
Instructor: Eder, Anton
(208) 885-6272
Course Number: 404
Department: Art and Architecture
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 100

Direct Energy Conversion
Instructor: Hagen, Jack I.
(208) 885-6555
Course Number: EE 420
Department: Electrical Engineering
Program or Curriculum: Solar Energy Workshops
Credits: 3
Student Level: College Graduate
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 54
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Central; Space Heating
Number of Times Taught: 2
Average Enrollment: 18

Power Technology
Instructor: Cassotto, James M.
(208) 885-6492
Course Number: 316
Department: Industrial Educ.
Program or Curriculum: Power Technology
Credits: 3
Student Level: Junior or Senior
Duration: 18 Weeks, 6.0 hrs per week
Contact Hours: 108
Classroom: 54
Laboratory: 54
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Small Scale; Process Heat, Industrial; Space Heating
Number of Times Taught: 3
Average Enrollment: 35

Photovoltaics; Solar System Components;
Solar Economics; Solar Home
Construction; Solar Collector
Evaluation/Design; Solar Systems
Design; Solar Systems Installation;
Solar Systems Testing and Evaluation;
Domestic Hot Water; Swimming Pool
Heating; Elec'l Generation, Small
Scale; Process Heat, Industrial; Space Heating
Number of Times Taught: 1
Average Enrollment: 15

Solar Energy Systems
Instructor: Warner, R. E.
(208) 885-6579
Course Number: NEE 435
Department: Mechanical Engineering
Program or Curriculum: Solar Energy
Credits: 3
Student Level: Junior or Senior
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 52
Laboratory: 2
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Central; Space Heating
Number of Times Taught: 2
Average Enrollment: 18

Workshop Solar Energy Tech
Instructor: Cassotto, James
(208) 885-6492
Course Number: 303
Department: Education Industrial Ed.
Program or Curriculum: Power Technology
Credits: 3
Student Level: All levels
Duration: 1 Weeks, 36.0 hrs per week
Contact Hours: 36
Classroom: 18
Laboratory: 18
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Small Scale; Process Heat, Industrial; Space Heating
Number of Times Taught: 3
Average Enrollment: 35
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### Illinois

**BRADLEY UNIVERSITY**

**Address:** Pekin, IL 61554  
**Phone:** (309) 676-7611

<table>
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<th>Solar Related Courses</th>
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<tbody>
<tr>
<td><strong>Solar Energy Application</strong></td>
</tr>
<tr>
<td>Instructor: Safdari, Y. B.</td>
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<tr>
<td>Course Number: ME 409</td>
</tr>
<tr>
<td>Department: Mechanical Engineering</td>
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<tr>
<td>Credits: 3</td>
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<tr>
<td>Student Level: Junior or Senior</td>
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<tr>
<td>Duration: 15 Weeks, 3.0 hrs per week</td>
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<td>Classroom: 30</td>
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<td>Laboratory: 15</td>
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<tr>
<td>Topics Covered Extensively: Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design; Solar System Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling</td>
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### CHICAGO STATE UNIVERSITY

**Address:** Chicago, IL 60628  
**Phone:** (312) 995-2000

<table>
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<td><strong>Conservation of Energy Resources</strong></td>
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<tr>
<td>Instructor: Cutler, Irving</td>
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<tr>
<td>Course Number: 345</td>
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<tr>
<td>Department: Geography</td>
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<td>Credits: 3</td>
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<td>Contact Hours: 45</td>
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<td>Classroom: 45</td>
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<tr>
<td>Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage</td>
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<tr>
<td>Number of Times Taught: 2</td>
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<td>Average Enrollment: 15</td>
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### CITY COLL OF CHICAGO- CITY MIDE C.

**Address:** Chicago, IL 60601  
**Phone:** (312) 977-2500

<table>
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<tr>
<td><strong>Natural Resources: Solar Energy</strong></td>
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<tr>
<td>Instructor: Tryon, John</td>
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<tr>
<td>Course Number: 256</td>
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<tr>
<td>Department: Geography</td>
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<tr>
<td>Credits: 3</td>
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<tr>
<td>Student Level: Freshman or Sophomore</td>
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<tr>
<td>Duration: 15 Weeks, 3.0 hrs per week</td>
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<td>Contact Hours: 45</td>
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<td>Classroom: 45</td>
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<td>Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage</td>
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<td>Number of Times Taught: 7</td>
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### DEPAUL UNIVERSITY

**Address:** Chicago, IL 60604  
**Phone:** (312) 321-8000

<table>
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<tbody>
<tr>
<td><strong>Environmental Quality</strong></td>
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<tr>
<td>Instructor: Schilling, E. J.</td>
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<td>Course Number: 390</td>
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<tr>
<td>Department: Physics</td>
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<td>Credits: 4</td>
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</tbody>
</table>
Student Level: College Graduate
Duration: 3 Weeks, 25.0 hrs per week
Contact Hours: 75
Classroom: 50
Laboratory: 25
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Elec'tl Generation, Central
Number of Times Taught: 1
Average Enrollment: 20

Instructor: R.L.Novak
(312) 321-8192
Course Number: NSM303
Department: DePaul College
Credits: 4
Student Level: Junior or Senior
Duration: 9 Weeks, 3.0 hrs per week
Contact Hours: 27
Classroom: 27
Laboratory: 25
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction
Number of Times Taught: 2
Average Enrollment: 40

EASTERN ILL UNIVERSITY
CHARLESTON, Illinois 61920
(217) 581-3020
SOLAR RELATED COURSES

Alternate Energy Systems
Instructor: Kleine, Ric
(217) 581-2721
Course Number: 3933
Department: School of Technology
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 27
Laboratory: 15
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion
Number of Times Taught: 2
Average Enrollment: 40

GEORGE WILLIAMS COLLEGE
DOWNS GROVE, Illinois 60515
(312) 964-3100
SOLAR RELATED COURSES

*Energy Technology and the Future
Instructor: Clark, Edward T.
Department: IEA

GOVERNORS ST UNIVERSITY
PARK FOREST SOUTH, Illinois 60466
(312) 534-5000
SOLAR RELATED COURSES

Applications of Appropriate Tech.
Instructor: Hagens, Beth
Course Number: 5295
Department: Environmental and Applied Sciences
Credits: 4
Student Level: Junior or Senior
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Intro. to Solar Energy; Marketing/Market Analysis; Materials Research; Passive Solar Technology; Solar Energy Policy Development; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling; Wind Power, Small Systems
Number of Times Taught: 2
Average Enrollment: 15

Fundamentals of Appropriate Technology
Instructor: Hagens, Beth
(312) 534-5000
Course Number: 6255
Department: Environmental & Applied Sciences
Credits: 4
Student Level: Junior or Senior
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar Energy Policy Development; Solar Economics; Solar Home Construction; Solar Systems Design; Elec'tl Generation, Small Scale; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 2
Average Enrollment: 15

GEORGE WASHINGTON COLLEGE
GREENVILLE, Illinois 62246
(618) 664-1840
SOLAR RELATED COURSES

Solar Energy
Instructor: Siefken, Hugh
(618) 664-1840
Course Number: PHY 270
Department: Physics
Credits: 4
Illinois

**Student Level:** All levels  
**Duration:** 6 Weeks, 16.0 hrs per week  
**Contact Hours:** 108  
**Classroom:** 45  
**Laboratory:** 63

**ILL CHICAGO CIRCLE, U OF (1776)**  
CHICAGO, Illinois 60680  
(312) 996-3000

**SOLAR RELATED COURSES**

**Building Construction Systems**  
**Instructor:** Duchnik, Elliott  
(312) 996-3335  
**Course Number:** ARCH 313  
**Department:** Architecture  
**Credits:** 6  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 15.0 hrs per week  
**Contact Hours:** 150  
**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer  
**Average Enrollment:** 10

**Solar Energy**  
**Instructor:** Simon, H. A.  
(312) 996-0530  
**Course Number:** ENRE 391  
**Department:** Energy Engineering  
**Credits:** 4  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 4.0 hrs per week  
**Contact Hours:** 40  
**Topics Covered Extensively:** Heat and Energy Transfer; Solar Collector Evaluation/Design

**ILL URBANA CAMPUS, U OF (1775)**  
URBANA, Illinois 61801  
(217) 333-1000

**SOLAR RELATED COURSES**

**Advanced Topics in Heat and Mass Transfer**  
**Instructor:** Alkire, Richard  
(217) 333-0063  
**Course Number:** AE 488  
**Department:** Chemical Engineering  
**Credits:** 4  
**Student Level:** College Graduate  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Heat and Energy Transfer  
**Number of Times Taught:** 5  
**Average Enrollment:** 15

**Architectural Design Studio**  
**Instructor:** Bergeson, Donald  
(217) 333-2848  
**Course Number:** 371  
**Department:** Architecture  
**Credits:** 5  
**Student Level:** Junior or Senior  
**Duration:** 15 Weeks, 15.0 hrs per week  
**Contact Hours:** 225  
**Topics Covered Extensively:** Energy Conservation; Intro. to Solar Energy

**Solar Energy Implications for Building Design**  
**Instructor:** Smith, Robert  
(217) 333-2848  
**Course Number:** 301ES  
**Department:** Architecture  
**Credits:** 4  
**Student Level:** College Graduate  
**Duration:** 15 Weeks, 4.0 hrs per week  
**Contact Hours:** 60  
**Classroom:** 60  
**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Heat and Energy Transfer; Materials Research  
**Number of Times Taught:** 7  
**Average Enrollment:** 20

**Electrochemical Engineering**  
**Instructor:** Alkire, Richard  
(217) 367-8995  
**Course Number:** 280  
**Department:** Aeronautical and Astronautical Engineering  
**Credits:** 4  
**Student Level:** All levels  
**Duration:** 15 Weeks, 4.0 hrs per week  
**Contact Hours:** 60  
**Classroom:** 60  
**Topics Covered Extensively:** Energy Conversion; Energy Storage; Heat and Energy Transfer  
**Number of Times Taught:** 4  
**Average Enrollment:** 20

**Energy Alternatives and Societal Values**  
**Instructor:** Bond, Charles E.  
(217) 333-1000  
**Course Number:** 391  
**Department:** Aeronautical and Astronautical Engineering  
**Credits:** 4  
**Student Level:** All levels  
**Duration:** 15 Weeks, 4.0 hrs per week  
**Contact Hours:** 60  
**Classroom:** 60  
**Topics Covered Extensively:** Energy Alternatives; Appropriate Technology; Energy Conservation  
**Number of Times Taught:** 7  
**Average Enrollment:** 20

**Energy Implications for Building Design**  
**Instructor:** Smith, Robert  
(217) 333-2848  
**Course Number:** 301ES  
**Department:** Architecture  
**Credits:** 4  
**Student Level:** College Graduate  
**Duration:** 15 Weeks, 4.0 hrs per week  
**Contact Hours:** 60  
**Classroom:** 60  
**Topics Covered Extensively:** Appropriate Technology; Energy Conservation  
**Number of Times Taught:** 7  
**Average Enrollment:** 20

**Geology of Energy**  
**Instructor:** Langenheim, R. L.  
(217) 333-1338  
**Course Number:** 105  
**Department:** Geology  
**Credits:** 2  
**Student Level:** Freshman or Sophomore  
**Duration:** 15 Weeks, 2.0 hrs per week  
**Contact Hours:** 30  
**Classroom:** 30  
**Number of Times Taught:** 4  
**Average Enrollment:** 15
Heat Transfer
Instructor: Dunn, W. E.  
(217) 333-3832
Course Number: ME 213
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Solar Collector Evaluation/Design
Number of Times Taught: 25
Average Enrollment: 120

Oceanography
Instructor: Anderson, T. F.  
Course Number: GEO 1370
Department: Geology
Credits: 4
Student Level: Junior or Senior
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 45
Laboratory: 15
Number of Times Taught: 7
Average Enrollment: 10

Solar Energy Utilization
Instructor: Clausling, A. M.  
(217) 333-0366
Course Number: ME 307
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 30

Solar Thermal Systems and Architectural Design
Instructor: Bergeson, Donald  
(217) 333-2868
Course Number: 3015
Department: Architecture
Credits: 4
Student Level: College Graduate
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 60
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating
Number of Times Taught: 4
Average Enrollment: 10

Sun, Wind, Earth, and Sea
Instructor: Bend, Charles E.  
(217) 367-8995
Course Number: AAE 201
Department: Aeronautical and Astronautical Engineering
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Solar Energy Policy Development; Solar Economics; Domestic Hot Water; Space Heating; Wind Power, Central Systems
Number of Times Taught: 2
Average Enrollment: 24

ILLINOIS INSTITUTE TECHNOLOGY
CHICAGO, Illinois 60616  
(312) 567-3189

PROGRAMS AND CURRICULUM

Energy Conscious Design
Degree: Architecture
Contact: Sharpe, David C.  
(312) 567-3262
Students Taking or Completing Offering: Architect, Educator, Researcher, Other

SOLAR RELATED COURSES

Energy Conscious Design I
Instructor: Swenson, Alfred  
(312) 567-3262
Course Number: ARCH 307
Department: Architecture, Planning
Program or Curriculum: Energy Conscious Design
Credits: 2
Student Level: Junior or Senior
Duration: 17 Weeks, 2.0 hrs per week
Contact Hours: 34
Topics Covered Extensively: Energy Conservation; Passive Solar Technology; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Wind Power, Small Systems
Number of Times Taught: 2
Average Enrollment: 10

Housing and Community Bldgs.
Course Number: CRP 201
Department: City and Regional Planning
Program or Curriculum: Energy Conscious Design
Credits: 6
Student Level: All levels
Duration: 17 Weeks, 16.0 hrs per week
Contact Hours: 272
Topics Covered Extensively: Passive Solar Technology; Solar System Components; Solar Home Construction

Solar & Geographical Energy
Instructor: Lavan, Zalman
Course Number: 449
Department: Mechanical and Aero. Engr.
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 4
Average Enrollment: 20

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ILYON STATE UNIVERSITY
NORVAL, Illinois 61761
(309) 438-2111

PROGRAMS AND CURRICULA

Technology for Industry-Energy
Degree: BS, Industrial Technology
Contact: Israel, Everett N.
(309) 438-3661
Students Taking or Completing Offering: Contractor, Other

SOLAR RELATED COURSES

Solar Cooling and Heating
Instructor: Frances, Edward
(309) 438-3661
Course Number: 300 LEVEL
Department: Industrial Technology
Program or Curriculum: Technology for Industry-Energy
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 5.0 hrs per week
Contact Hours: 75
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Space Heating; Space Cooling
Number of Times Taught: 4
Average Enrollment: 20

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LEWIS UNIVERSITY
LOCKPORT, Illinois 60441
(815) 838-0500

SOLAR RELATED COURSES

Instructor: Walch, Philip
Department: Physics
Topics Covered Extensively: Alternate Energy Sources

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NORTHERN ILL UNIVERSITY
DE KALB, Illinois 60115
(815) 753-1000

SOLAR RELATED COURSES

Energy Conversion
Instructor: Shaffer, John C.
(815) 753-1773
Course Number: PHYS 436
Department: Physics
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conversion

Solar Energy Collection and Conversion
Instructor: Shaffer, John C.
(815) 753-1773
Course Number: PHYS 432
Department: Physics
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Collection and Conversion
Solar Energy Seminar
Instructor: Comer, John C. (815) 753-1154
Course Number: IT598U
Department: Industry and Technology
Credits: 3
Student Level: College Graduate
Duration: 4 Weeks, 20.0 hrs per week
Contact Hours: 80
Classroom: 40
Laboratory: 10
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar Systems Design; Space Heating
Number of Times Taught: 2
Average Enrollment: 10

NORTHWESTERN UNIVERSITY (1739)
EVANSTON, Illinois 60201
(312) 492-3741

PROGRAMS AND CURRICULA
Solar Energy Principles and Applications
Degree: NO, Departmental Engineering Degree
Contact: Thodos, George

SOLAR RELATED COURSES
Solar Energy Principles and Applications
Instructor: Thodos, George (312) 492-3452
Course Number: 710-C65
Department: Chemical Engineering
Program or Curriculum: Solar Energy Principles and Applications
Credits: 4
Student Level: Junior or Senior
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 40
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components
Number of Times Taught: 2
Average Enrollment: 18

PRINCIPIA COLLEGE (1744)
ELSAL, Illinois 62028
(618) 374-2131

SOLAR RELATED COURSES
Energy Efficient Living
Instructor: Holzerleirn, Thomas M. (618) 374-2131
Course Number: 172
Department: Physics
Credits: 5

Student Level: All levels
Duration: 10 Weeks, 1.0 hrs per week
Contact Hours: 100
Classroom: 80
Laboratory: 20
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction
Number of Times Taught: 1
Average Enrollment: 23

Environmental Physics
Instructor: Holzerleirn, Thomas (618) 374-2131
Department: Physics
Credits: 5
Student Level: All levels
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 52
Classroom: 52
Topics Covered Extensively: Alternate Energy Sources; Intro. to Solar Energy; Passive Solar Technology; Space Heating
Number of Times Taught: 3
Average Enrollment: 20

SANGAMON STATE UNIVERSITY (9333)
SPRINGFIELD, Illinois 62708
(217) 786-6634

SOLAR RELATED COURSES
Solar Energy-Options for Illinois
Instructor: Casella, Al (217) 786-6630
Course Number: PAC
Department: Physical Sciences
Credits: 2
Student Level: Junior or Senior
Duration: 4 Weeks, 8.0 hrs per week
Contact Hours: 32
Classroom: 32
Topics Covered Extensively: Intro. to Solar Energy
Number of Times Taught: 3
Average Enrollment: 100

Instructor: Casella, Al (217) 786-6630
Course Number: PHS-422
Department: Physical Sciences
Credits: 5
Student Level: Junior or Senior
Duration: 16 Weeks, 8.0 hrs per week
Contact Hours: 122
Classroom: 64
Laboratory: 64
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space
Illinois Solar Energy Research Institute

SOUTHERN ILLINOIS U CARBOND (1758)
CARBONDALE, ILLINOIS 62901
(618) 453-2121

SOLAR RELATED COURSES

Solar Heating/Space Cooling
Number of Times Taught: 3
Average Enrollment: 40

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SOUTHERN ILLINOIS U EDWARDSVL (1759)
EDWARDSVILLE, ILLINOIS 62026
(618) 692-2000

SOLAR RELATED COURSES

Solar Energy
Instructor: Kokoropoulos, P.
(618) 692-2500
Department: Engineering/Technology
Student Level: All levels
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 10
Topics Covered Extensively: Energy Conservation; Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating
Number of Times Taught: 6
Average Enrollment: 40

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CARL SANDBURG COLLEGE
GALESBURG, ILLINOIS 61401
(309) 344-2518

PROGRAMS AND CURRICULA

*Adult Continuing Edu.
Contact: Rudd, Lanny

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CITY C CHICAGO LOOP C (1652)
CHICAGO, ILLINOIS 60601
(312) 269-8000

SOLAR RELATED COURSES

*Basic Consumer Ed. Courses - Sol. Products

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DUPAGE, COLLEGE OF (6656)
GLEN ELLEN, ILLINOIS 60137
(312) 858-2800

SOLAR RELATED COURSES

Introduction to Solar Energy
Department: Extension Division
Student Level: All levels
Duration: 3 Weeks, 20.0 hrs per week
Contact Hours: 60
Classroom: 39
Laboratory: 21
Topics Covered Extensively: Intro. to Solar Energy
Number of Times Taught: 3
Average Enrollment: 25

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ILL ESTN CC OLNEY CEN C (1742)
OLNEY, ILLINOIS 62450
(618) 395-4351

PROGRAMS AND CURRICULA

Construction Energy Program
Degree: AA, Applied Science
Contact: Marrs, Steve
(618) 395-4351
Students Taking or Completing Offering: Installer-Residential (Solar System), Solar Technician

SOLAR RELATED COURSES

Energy Conservation Theory
Instructor: Culver, Ray
(618) 395-4351
Course Number: SCI 121
Department: Physics
Program or Curriculum: Construction Energy Program
Credits: 3
Student Level: Freshman or Sophomore

Community/Junior Colleges

Illinois

Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 36
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Systems Design

Energy Systems in Construction
Instructor: Parish, William
Course Number: COT 172
Department: Construction Trades
Program or Curriculum: Construction Energy Program
Credits: 3
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 36
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Process Heat; Agricultural; Process Heat, Industrial; Space Heating
Number of Times Taught: 3
Average Enrollment: 20

Gas and Arc Welding
Instructor: Jausel, Russ
Course Number: AUM 282
Department: Welding
Program or Curriculum: Construction Energy Program
Credits: 5
Student Level: All Levels
Duration: 12 Weeks, 8.0 hrs per week
Contact Hours: 96
Classroom: 24
Laboratory: 72
Number of Times Taught: 3
Average Enrollment: 12

SOLAR RELATED COURSES

Air Conditioning and Refrigeration-Load Calculation
Instructor: Harvey, Robert
Course Number: ACR 272
Illinois Solar Energy Research Institute

**Residential Solar Energy Planning**
Instructor: Brooks-Miller, D.L.
Course Number: ARC001-3
Department: Agriculture-Indus.
Occupation: 3
Student Level: All levels
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Domestic Hot Water; Space Heating; Space Cooling; Wind Power; Central Systems; Wind Power; Small Systems

**JOHN A. LOGAN COLLEGE**
CARTERVILLE, Illinois 62918
(618) 985-3741

**SOLAR RELATED COURSES**

**Introduction to Solar Energy**
Instructor: Ehrlich, Brent
Course Number: DRV 035A
Department: Adult and Continuing Education
Student Level: All levels
Duration: 10 Weeks, 2.0 hrs per week
Contact Hours: 20
Classroom: 14
Laboratory: 6
Topics Covered Extensively: Alternate Energy Sources; Intro. to Solar Energy
Number of Times Taught: 2
Average Enrollment: 16

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**KANKAKEE CMTY COLLEGE**
KANKAKEE, Illinois 60901
(815) 933-5910

**SOLAR RELATED COURSES**

**Solar Energy Survey**
Instructor: Mathers, Kris
Course Number: REFR 1413
Department: Technical Division
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Number of Times Taught: 1
Average Enrollment: 8

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**MCHEERY COUNTY COLLEGE**
CRYSTAL LAKE, Illinois 60014
(815) 455-3700

**SOLAR RELATED COURSES**

**Solar Energy Fundamentals**
Instructor: Konitzer, John D.
Course Number: CCD 009A
Department: Natural Science
Student Level: All levels
Duration: 4 Weeks, 4.0 hrs per week
Contact Hours: 16
Classroom: 12
Laboratory: 6
Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec't Generation, Central; Elec't Generation, Small Scale; Space Heating; Wind Power; Central Systems; Wind Power; Small Systems
Number of Times Taught: 1
Average Enrollment: 6

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**MORRINE VLY CMTY COLLEGE**
PALOS HILLS, Illinois 60465
(312) 974-4300

**SOLAR RELATED COURSES**

*Alternate Energy Conference*
Instructor: Zoller, Arlene
Department: Special Projects
Topics Covered Extensively: Alternate
Energy Sources

*Introduction to Solar Energy
Instructor: Zoller, Arlene
Department: Special Projects
Topics Covered Extensively: Intro. to Solar Energy

*Lecture Series on Solar Homes
Instructor: Zoller, Arlene
Department: Special Projects
Topics Covered Extensively: Passive Solar Technology; Solar Home Construction

*Solar Power and Collector Equipment
Instructor: Behles, William J.
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design

Vocational/Technical Colleges

THE QUINCY TECHNICAL SCHOOL (90030)
Quincy, Illinois 62301

SOLAR RELATED COURSES

Air Cond., Refrig., Heating Service
Instructor: Devlin, David B./W.R.Mubuque
Department: Refrigeration
Student Level: High School Graduate
Duration: 1 Weeks, 30.0 hrs per week
Contact Hours: 30
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Solar System Components; Solar Systems Design; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 20

Other Educational Institutions

SOLAR STORE INC (90330)
Box 841, Dept. bs
Peoria, Illinois 61652

PROGRAMS AND CURRICULA

*Sol. Ener. Ed. for Installers
Contact: Shanks, Diane/Adsit, M.
SOLAR RELATED COURSES

Solar Architecture for Architects
Instructor: Koester, Robert J. (317) 265-4955
Course Number: 498
Department: Arch.
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom:
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Electrical Generation, Central; Space Heating
Number of Times Taught: 4
Average Enrollment: 15

Energy, Technology, And Human Affairs
Instructor: Flick, Cathy (317) 962-6561
Course Number: P10
Department: Physics
Credits: 3
Student Level: All levels
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom:
Number of Times Taught: 5
Average Enrollment: 35

Energy Alternatives: Solar Energy
Instructor: Smith, Gerald D. (219) 356-6000
Course Number: 207
Department: Physics
Credits: 4
Student Level: All levels
Duration: 4 Weeks, 15.0 hrs per week
Contact Hours: 60
Classroom: 40

Laboratory: 20
Topics Covered Extensively: Energy Conversion; Solar Energy; Intro. to Solar Energy; Passive Solar Technology; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Electrical Generation, Central; Space Heating

IND NORTHERN GRAD SCH MGMT
MARIAN, Indiana 46952 (317) 674-2900

PROGRAMS AND CURRICULA

Masters of Professional Management
Degree: MS, FT, Professional Management
Contact: Morgan, James; Costa, Dr. Da (317) 674-2900

SOLAR RELATED COURSES

Energy Auditing For Mgrs. and Engrs.
Instructor: Klima, Karel; Thumann, Al (404) 874-8188
Course Number: 561
Program or Curriculum: Masters of Professional Management
Credits: 4
Student Level: College Graduate
Duration: 13 Weeks, 2.0 hrs per week
Contact Hours: 26
Classroom: 26
Topics Covered Extensively: Energy Conservation; Solar Systems Testing and Evaluation; Process Heat, Industrial; Space Heating; Space Cooling
Average Enrollment: 50

Energy Conservation for Managers
Instructor: Klima, Karel; Thumann, Al (404) 074-0100
Course Number: 560
Program or Curriculum: Masters of Professional Management
Credits: 4
Student Level: College Graduate
Duration: 13 Weeks, 2.0 hrs per week
Contact Hours: 26
Classroom: 26
Topics Covered Extensively: Energy Conservation; Process Heat, Industrial; Space Heating; Space Cooling
Average Enrollment: 50

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### SOLAR RELATED COURSES

#### SOLAR ENERGY, READY WHEN YOU ARE
- **Instructor:** Johnson, Kenneth R.  
  - **Department:** Engineering/Continuing Education  
  - **Student Level:** All levels  
  - **Duration:** 10 Weeks, 2.0 hrs per week  
  - **Contact Hours:** 20  
  - **Topics Covered Extensively:** Intro. to Solar Energy; Solar System Components; Solar Systems Design; Space Heating

#### SOLAR ENERGY FOR HEATING AND COOLING
- **Instructor:** Kaplan, Jerome I.  
  - **Course Number:** ME497  
  - **Department:** Engineering and Technology  
  - **Credits:** 3  
  - **Student Level:** Junior or Senior  
  - **Duration:** 15 Weeks, 3.0 hrs per week  
  - **Contact Hours:** 45  
  - **Classroom:** 45

#### SOLAR ENERGY UTILIZATION
- **Instructor:** Viskanta, R.  
  - **Course Number:** ME495V  
  - **Department:** Mechanical Engineering  
  - **Credits:** 1  
  - **Student Level:** Junior or Senior  
  - **Duration:** 5 Weeks, 3.0 hrs per week

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**IND- PURDUE U FORT WAYNE**  
FORT WAYNE, Indiana 46805  
(219) 482-5121

### SOLAR RELATED COURSES

#### SOLAR ENERGY, READY WHEN YOU ARE
- **Instructor:** Johnson, Kenneth R.  
  - **Department:** Engineering/Continuing Education  
  - **Student Level:** All levels  
  - **Duration:** 10 Weeks, 2.0 hrs per week  
  - **Contact Hours:** 20  
  - **Topics Covered Extensively:** Intro. to Solar Energy; Solar System Components; Solar Systems Design; Space Heating

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**IND- PURDUE U INDIANAPOLIS**  
INDIANAPOLIS, Indiana 46202  
(317) 635-8661

### SOLAR RELATED COURSES

#### SOLAR ENERGY FOR HEATING AND COOLING
- **Instructor:** Kaplan, Jerome I.  
  - **Course Number:** ME497  
  - **Department:** Engineering and Technology  
  - **Credits:** 3  
  - **Student Level:** Junior or Senior  
  - **Duration:** 15 Weeks, 3.0 hrs per week  
  - **Contact Hours:** 45  
  - **Classroom:** 45

#### SOLAR ENERGY UTILIZATION
- **Instructor:** Viskanta, R.  
  - **Course Number:** ME495V  
  - **Department:** Mechanical Engineering  
  - **Credits:** 1  
  - **Student Level:** Junior or Senior  
  - **Duration:** 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Topics Covered Extensively: Appropriate Technology; Biomass Conversion; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Space Heating; Space Cooling
Number of Times Taught: 2
Average Enrollment: 20

Utilization of Renewable Resources
Instructor: Ladisch, Michael
(317) 749-2971
Course Number: AGR 500
Department: Agricultural Engineering Dept.
Credits: 1
Student Level: Junior or Senior
Duration: 16 Weeks, 1.0 hrs per week
Contact Hours: 16
Classroom: 16
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conversion

ROSE-HULMAN INST OF TECH
TERRE HAUTE, Indiana 47803
(812) 877-1511

SOLAR RELATED COURSES

Independent study
Instructor: Caskey, Jerry A.
(812) 877-1511
Course Number: CHE490
Department: Mech. Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 20
Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 10

Solar Energy
Instructor: Neukirch, Don L.
(812) 877-1511
Course Number: ME308
Department: Mechanical Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Intro. to Solar Energy; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 40

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Vocational/Technical Colleges

IND VOC TECH C- EVANSVILLE
EVANSVILLE, Indiana 47710
(812) 426-2865

SOLAR RELATED COURSES

Solar Heating and Cooling
Instructor: Fosler, Jerry
(812) 426-2865
Course Number: 7157
Department: Heating, Air Conditioning and Refrigeration
Credits: 2
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 11
Laboratory: 22
Number of Times Taught: 1
Average Enrollment: 15

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IND VOC TECH- SELLERSBURG
SELLERSBURG, Indiana 47172
(812) 246-3301

SOLAR RELATED COURSES

Solar Heating & Cooling
Instructor: Owsky, Dean
Course Number: 7157
Department: Heating, Air Conditioning, Refrigeration
Credits: 2
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 4.0 hrs per week
Contact Hours: 44
Classroom: 22
Laboratory: 22

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INDIANA VOCATIONAL TECHNICAL COLLEGE-

4444
Gary, Indiana 46409
(219) 981-1111

SOLAR RELATED COURSES

Solar Energy Seminar
Credits: 1
Student Level: All levels
Duration: 1 Weeks, 1.5 hrs per week
Contact Hours: 11
Topics Covered Extensively: Solar Energy
Policy Development; Solar System Components; Solar Law/Legislation;
Solar Collector Evaluation/Design;
Solar Systems Design

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Other Educational Institutions

INDIANAPOLIS CENTER FOR ADVANCED RESEARCH
(90300)
1219 West Michigan St.
Indianapolis, Indiana 46202

SOLAR RELATED COURSES

*Solar Energy Studies

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Solar Energy Related Courses

**Energy (lecture and laboratory)**
Instructor: Tomuta, Liviu
(319) 876-3354
Course Number: PHYS 321/2
Department: Science and Mathematics
Credits: 4
Student Level: Junior or Senior
Duration: 15 Weeks, 5.0 hrs per week
Contact Hours: 75
Classroom: 45
Laboratory: 30
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar Systems Design; Space Heating

**Everybody's Physics**
Instructor: Tomuta, Liviu
(319) 876-3354
Course Number: PHYS 158
Department: Science and Mathematics
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 23
Laboratory: 22
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Intro. to Solar Energy

**Iowa State U Sci & Techn (1869)**
AMES, Iowa 50010
(515) 294-4111

**Programs and Curricula**

**Arch.-Energy Conscious Design**
Degree: M.Arch.
Contact: Greenfield, Sanford R.
(515) 294-6716
Students Taking or Completing Offering: Architect, Educator, Researcher, Do-it-yourself Homeowner

**Solar Related Courses**

**Adv. Thermal Environmental Engineering**
Instructor: Woods, James E.
(515) 294-2342
Course Number: ME547X
Department: Mech. Engr.
Program or Curriculum: Arch.-Energy Conscious Design

**Solar Energy Thermal Systems**
Instructor: Woods, James E.
(515) 294-2342
Course Number: ME528
Department: Mechanical Engineering
Program or Curriculum: Arch.-Energy Conscious Design
Credits: 3
Student Level: Junior or Senior
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling

**Human Thermal Environments**
Instructor: Woods, James E.
(515) 294-2342
Course Number: 529
Department: Design/Architecture
Program or Curriculum: Arch.-Energy Conscious Design
Credits: 3
Student Level: College Graduate
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33
Topics Covered Extensively: Heat and Energy Transfer; Space Heating; Space Cooling
Number of Times Taught: 2
Average Enrollment: 8
IOWA, UNIVERSITY OF
IOWA CITY, Iowa 52242
(319) 353-2121

SOLAR RELATED COURSES

Chemistry and the Physics of the Environment
Instructor: Frank, L. A./ Frank, C. W.
Course Number: 11:25/29:25
Department: Liberal Arts/Chemistry-Physics
Credits: 4
Student Level: All levels
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Energy Storage; Intro. to Solar Energy
Number of Times Taught: 6
Average Enrollment: 350

Methods of Direct Energy Conversion
Instructor: Lonngren, Karl
Course Number: 545:176
Department: Electrical and Computer Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Photovoltaics
Number of Times Taught: 7
Average Enrollment: 10

Solar Energy Applications
Instructor: Spencer, D. L.
Course Number: 528:148
Department: Energy Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.5 hrs per week
Contact Hours: 54
Classroom: 44
Laboratory: 10
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design
Number of Times Taught: 2
Average Enrollment: 18

IOWA STATE UNIVERSITY
AMES, Iowa 50011
(515) 294-5000

SOLAR RELATED COURSES

Physics: Energy and the Environment
Instructor: Hutchinson, D. J.
Course Number: 9
Department: Physics and Engineering Science
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Intro. to Solar Energy; Solar Energy Policy Development
Number of Times Taught: 4
Average Enrollment: 75

LUTHER COLLEGE
DECORAH, Iowa 52101
(319) 307-2000

SOLAR RELATED COURSES

Solar Energy
Instructor: Nelson, David T.
Department: Physics
Credits: 3
Student Level: All levels
Duration: 3 Weeks, 20.0 hrs per week
Contact Hours: 60
Classroom: 30
Laboratory: 30
Topics Covered Extensively: Intro. to Solar Energy; Space Heating
Number of Times Taught: 4
Average Enrollment: 30

NORTHERN IOWA, U OF
CEDAR FALLS, Iowa 50613
(319) 273-2311

SOLAR RELATED COURSES

Alternate Energy Sources
Instructor: Macumber, Hilliard K.
Department: College of Natural Sciences
Credits: 1
Student Level: College Graduate
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Solar Energy I - General Overview
Instructor: Sidles, Paul
(515) 296-6844
Course Number: BLDG: 519
Department: Adult Ed
Program or Curriculum: Solar Energy I and II
Student Level: All levels
Contact Hours: 30
Classroom: 27
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water
Number of Times Taught: 7
Average Enrollment: 15

Solar Energy II - Air Systems
Instructor: Hummel, Myron
(515) 296-6990
Course Number: BLDG 522
Department: Adult Ed.
Program or Curriculum: Solar Energy I and II
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 27
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Sheet Metal Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Space Heating
Number of Times Taught: 2
Average Enrollment: 10

KIRKWOOD CMTY COLLEGE
LEWAH, NAPIUS, Iowa 52406
(319) 398-5411

SOLAR RELATED COURSES

*Agr. Supplemental Ener. Systems
Department: Agr. Cont. Education
Topics Covered Extensively: Biomass Conversion; Wind Power, Small Systems

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MUSCATINE CITY COLLEGE
MUSCATINE, Iowa 52761
(319) 263-8250

PROGRAMS AND CURRICULA

Solar Carpentry
Degree: BS, Industrial Education
Contact: Melander, Harry
(319) 263-8250
Students Taking or Completing Offering:
Installer-Residential (Solar System)

Use of Sol. Ener.-Homeowners, Builders
Degree: Certificate of Completion
Contact: Ohlendorf, Vernon
(319) 263-8250
Students Taking or Completing Offering:
Do-it-yourself Homeowner

SOLAR RELATED COURSES

Solar Carpentry
Instructor: Melander, Harry
(319) 263-8250
Department: Trades
Program or Curriculum: Solar Carpentry
Credits: 61
Student Level: High School Graduate
Duration: 46 Weeks, 28.0 hrs per week
Topics Covered Extensively: Energy Conservation; Energy Conversion; Passive Solar Technology; Domestic Hot Water
Number of Times Taught: 1
Average Enrollment: 10

Use of Sol. Ener.-Homeowners, Builders
Instructor: Ohlendorf, Vernon
(319) 263-8250
Department: Community Services-Continued Education
Program or Curriculum: Use of Sol. Ener.-Homeowners, Builders
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 20
Laboratory: 10
Number of Times Taught: 2
Average Enrollment: 15

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SCOTT COMMUNITY COLLEGE
BETTENDORF, Iowa 52722
(319) 359-7531

PROGRAMS AND CURRICULA

*Solar Energetics Technology
Degree: AD, Solar Energetics Technology
(319) 359-7531
Students Taking or Completing Offering:
Architect, Researcher,
Installer-Residential (Solar System),
Installer-Commercial (Solar System),
Solar Technician

SOLAR RELATED COURSES

*Courses: Instal., Repair - Heat., Ref., A/C
Program or Curriculum: *Solar Energetics Technology
Topics Covered Extensively: Energy Storage; Photovoltaics; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Process Heat, Industrial; Space Heating; Space Cooling

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Vocational/Technical Colleges

WESTERN IOWA TECH
SIoux City, Iowa 51102
(712) 276-0380

PROGRAMS AND CURRICULA

Solar Systems Technology
Contact: Chadwick, Richard
(712) 276-0380
Students Taking or Completing Offering:
Installer-Residential (Solar System),
Installer-Commercial (Solar System),
Solar Technician, Other

SOLAR RELATED COURSES

Blueprint Reading
Instructor: Forsling, M. G.
(712) 276-0380
Course Number: 274-3005
Department: Trades & Industry
Program or Curriculum: Solar Systems Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 5.0 hrs per week
Contact Hours: 60
Classroom: 36
Laboratory: 24
Topics Covered Extensively: Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design.
Solar Systems Design; Elec'tl Generation, Small Scale; Space Heating
Average Enrollment: 11

Building Design for Solar Systems
Instructor: Forsling, M. G.
(712) 276-0380
Course Number: 274-3010
Department: Trades & Industry
Program or Curriculum: Solar Systems Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 6.0 hrs per week
Contact Hours: 72
Classroom: 24
Laboratory: 48
Topics Covered Extensively: Energy Conservation; Energy Storage; Passive Solar Technology; Solar Home Construction
Average Enrollment: 11

Integrated Solar Sci. II
Instructor: Forsling, M. G.
(712) 276-0380
Course Number: 274-3006
Department: Trades & Industry
Program or Curriculum: Solar Systems Technology
Credits: 5
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 5.0 hrs per week
Contact Hours: 72
Classroom: 48
Laboratory: 24
Topics Covered Extensively: Energy Conversion; Elec'tl Generation, Small Scale; Space Heating; Space Cooling
Average Enrollment: 11

Introduction to Solar Systems
Instructor: Forsling, M. G.
(712) 276-0380
Course Number: 274-3000
Department: Trades & Industry
Program or Curriculum: Solar Systems Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 36
Average Enrollment: 11

Solar Feasibility Cost Analysis
Instructor: Forsling, M. G.
(712) 276-0380
Course Number: 274-3012
Department: Trades & Industry
Program or Curriculum: Solar Systems Technology
Credits: 5
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 5.0 hrs per week
Contact Hours: 60

Solar Energy Research Institute
Systems Design Engineering
Instructor: Forsling, M. G.
(712) 276-0380
Course Number: 274-3011
Department: Trades & Industry
Program or Curriculum: Solar Systems Technology
Credits: 6
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 8.0 hrs per week
Contact Hours: 96
Classroom: 48
Laboratory: 48
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer;
Average Enrollment: 11

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<table>
<thead>
<tr>
<th>Institutions</th>
<th>Contact Information</th>
<th>Solar Energy System Design</th>
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<tbody>
<tr>
<td>BENEDICTINE COLLEGE</td>
<td>ATCHISON, Kansas 66002</td>
<td>Instructor: Dean, Thomas Scott</td>
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<tr>
<td></td>
<td>(913) 367-6110</td>
<td>Course Number: 731</td>
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<tr>
<td>SOLAR RELATED COURSES</td>
<td></td>
<td>Department: Architectural Engineering</td>
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<tr>
<td>Passive Solar Energy</td>
<td></td>
<td>Credits: 3</td>
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<tr>
<td>Instructor: Miles, Red</td>
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<td>Student Level: College Graduate</td>
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<tr>
<td>Department: Continuing Education</td>
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<td>Duration: 16 Weeks, 5.0 hrs per week</td>
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<td>Student Level: All levels</td>
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<td>Contact Hours: 80</td>
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<td>Duration: 7 Weeks, 2.0 hrs per week</td>
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<td>Classroom: 32</td>
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<td>Laboratory: 48</td>
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<td>Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating</td>
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<tr>
<td>EMPORIA STATE UNIVERSITY</td>
<td>EMPORIA, Kansas 66801</td>
<td>Solar Energy System Design</td>
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<tr>
<td></td>
<td>(316) 343-1200</td>
<td>Instructor: Dean, Thomas Scott</td>
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<tr>
<td>SOLAR RELATED COURSES</td>
<td></td>
<td>Course Number: 728</td>
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<tr>
<td>The Energy Crisis</td>
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<td>Department: Architectural Engineering</td>
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<tr>
<td>Instructor: Backhus, DeWayne</td>
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<td>Credits: 2</td>
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<td>Course Number: PS 520</td>
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<td>Student Level: Junior or Senior</td>
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<tr>
<td>Department: Liberal Arts and Sci.-Phys. Sci.</td>
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<td>Duration: 16 Weeks, 3.0 hrs per week</td>
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<td>Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Space Heating</td>
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<td>KANSAS MAIN CAMPUS, U OF</td>
<td>LAWRENCE, Kansas 66045</td>
<td>Architectural Design Studio 3</td>
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<td></td>
<td>(913) 864-2700</td>
<td>Instructor: Contes, Gary</td>
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<tr>
<td>SOLAR RELATED COURSES</td>
<td></td>
<td>Course Number: 105-603</td>
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<tr>
<td>Solar Energy</td>
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<td>Department: Architecture</td>
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<tr>
<td>Instructor: Neacek, I.V.</td>
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<td>Program or Curriculum: Architecture</td>
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<tr>
<td>Course Number: ME 614</td>
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<td>Credits: 5</td>
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<tr>
<td>Department: Mechanical Engineering</td>
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<td>Student Level: Junior or Senior</td>
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<td>Credits: 3</td>
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<td>Duration: 18 Weeks, 3.0 hrs per week</td>
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<td>Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating</td>
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Duration: 16 Weeks, 15.0 hrs per week
Contact Hours: 240
Laboratory: 240
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design: Solar Systems Design; Domestic Hot Water; Space Heating; Wind Power, Small Systems
Average Enrollment: 20
Architectural Design Studio, 4
Instructor: Coates, Gary
Course Number: 105-604
Department: Architecture
Program or Curriculum: Architecture Credits: 5
Student Level: Junior or Senior
Duration: 16 Weeks, 15.0 hrs per week
Contact Hours: 240
Laboratory: 240
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design: Solar Systems Design; Domestic Hot Water; Space Heating; Wind Power, Small Systems
Average Enrollment: 20
Architectural Design Studio, 5
Instructor: Coates, Gary
Course Number: 105-801
Department: Architecture
Program or Curriculum: Architecture Credits: 5
Student Level: Junior or Senior
Duration: 16 Weeks, 15.0 hrs per week
Contact Hours: 240
Laboratory: 240
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design: Solar Systems Design; Domestic Hot Water; Space Heating; Wind Power, Small Systems
Average Enrollment: 20
Basic Construction Technology
Instructor: Chapman
Course Number: 104-290
Department: Pre-Design Professions Program or Curriculum: Architecture
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 8
Number of Times Taught: 5
Average Enrollment: 250
Ener. Use and Control in Agri. Systems
Instructor: Clark, Stanley J. (913) 532-5580
Course Number: 505
Department: Engineering Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 5.0 hrs per week
Contact Hours: 75
Classroom: 30
Laboratory: 45
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conversion
Number of Times Taught: 6
Average Enrollment: 15
Environmental Design of Farm Buildings
Instructor: Spillman, Charles K. (913) 532-5580
Course Number: 505 510
Department: Agricultural Engineering Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 5.0 hrs per week
Contact Hours: 80
Classroom: 32
Laboratory: 48
Number of Times Taught: 6
Average Enrollment: 17
Environmental Design Studio
Instructor: Miller
Course Number: 104-261
Department: Pre-Design Professions Program or Curriculum: Architecture Credits: 4
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Laboratory: 64
Number of Times Taught: 5
Average Enrollment: 300
Environmental Systems in Architecture
Instructor: Jahnke, William R. (913) 532-5950
Course Number: 105-515
Department: Architecture Program or Curriculum: Architecture Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Topics Covered Extensively: Energy Conservation; Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar Systems Components;
Solar Economics: Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 6
Average Enrollment: 100

Environmental Systems in Architecture I
Instructor: Coates, Gary
(913) 532-5953
Course Number: 105-413
Department: Architecture
Program or Curriculum: Architecture
Credits: 4
Student Level: Junior or Senior
Duration: 16 Weeks, 8.0 hrs per week
Contact Hours: 64
Classroom: 48
Laboratory: 16
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Space Heating
Average Enrollment: 140

Intro. to Alternate Energy Sources
Instructor: Eckhoff, N. Dean
(913) 532-5624
Course Number: 500-420
Department: General Engineering
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Wind Power; Small Systems
Number of Times Taught: 4
Average Enrollment: 10

Solar Energy Conversion Processes
Instructor: Eckhoff, N. Dean
(913) 532-5624
Course Number: 500-380
Department: General Engineering
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating; Wind Power; Small Systems

Average Enrollment: 7

Solar Energy Thermal Processes
Instructor: Ball, H. D.
(913) 532-5610
Course Number: 560-680
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 25

Theory of Design
Instructor: Coates, Gary
(913) 532-5953
Course Number: 105-715
Department: Architecture
Program or Curriculum: Architecture
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Passive Solar Technology; Solar Energy Policy Development; Solar Economics; Solar Law/Legislation; Space Heating; Space Cooling

Topics in Building Construction Systems
Instructor: Coates, Gary
(913) 532-5953
Course Number: 105-735
Department: Architecture
Program or Curriculum: Architecture
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Laboratory: 48
Topics Covered Extensively: Energy Conservation; Energy Storage; Passive Solar Technology; Solar Energy Policy Development; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 7

* * * * * * * * * *
### Pittsburg St University (1926)

**Solar Related Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Instructor</th>
<th>Department</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
<th>Classroom</th>
<th>Topics Covered Extensively</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar Energy</td>
<td>Hightower, Daniel L.</td>
<td>Technology</td>
<td>3</td>
<td>Junior or Senior</td>
<td>18 Weeks</td>
<td>54</td>
<td>45</td>
<td>Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling</td>
</tr>
</tbody>
</table>

**Energy, Resources & Environment**

- **Instructor**: Gries, J.C./Berg, J.R.
- **Course Number**: 300G
- **Department**: Geology
- **Credits**: 3
- **Student Level**: All levels
- **Duration**: 16 Weeks, 3.0 hrs per week
- **Contact Hours**: 48
- **Classroom**: 48
- **Number of Times Taught**: 20
- **Average Enrollment**: 200

**Inst. Math & Proc.**

- **Instructor**: Webb, Edgar
- **Course Number**: 1.E.751
- **Department**: Industrial Education
- **Credits**: 3
- **Student Level**: Junior or Senior
- **Duration**: 6 Weeks, 15.0 hrs per week
- **Contact Hours**: 40
- **Classroom**: 30
- **Laboratory**: 30
- **Number of Times Taught**: 2
- **Average Enrollment**: 9

**Meteorology**

- **Instructor**: Carrier, Cecil
- **Course Number**: GEOG 235
- **Department**: Geology/Geography
- **Credits**: 3
- **Student Level**: Junior or Senior
- **Duration**: 16 Weeks, 4.0 hrs per week
- **Contact Hours**: 64
- **Classroom**: 32
- **Laboratory**: 32
- **Average Enrollment**: 36

**ME Special Topics**

- **Instructor**: Graham, A.R.
- **Course Number**: MET 571
- **Department**: Mechanical Engineering
- **Credits**: 3
- **Student Level**: Junior or Senior
- **Duration**: 15 Weeks, 3.0 hrs per week
- **Contact Hours**: 45
- **Classroom**: 45
- **Number of Times Taught**: 1
- **Average Enrollment**: 20

**Petroleum Geology**

- **Instructor**: Berg, J.R.
- **Course Number**: 682
- **Department**: Geology
- **Credits**: 3
- **Student Level**: Junior or Senior
- **Duration**: 16 Weeks, 3.0 hrs per week
- **Contact Hours**: 40

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### Wichita State University (1950)

**Solar Related Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Instructor</th>
<th>Department</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
<th>Classroom</th>
<th>Topics Covered Extensively</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar Energy</td>
<td>Backes, Robert</td>
<td>Physics</td>
<td>3</td>
<td>Junior or Senior</td>
<td>8 Weeks</td>
<td>40</td>
<td>40</td>
<td>Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating</td>
</tr>
</tbody>
</table>

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**Energy-Alternatives and Impact**

- **Instructor**: Berg, J.R.
- **Course Number**: 690
- **Department**: Geology
- **Credits**: 3
- **Student Level**: Junior or Senior
- **Duration**: 16 Weeks, 3.0 hrs per week
- **Contact Hours**: 48
- **Classroom**: 48
- **Number of Times Taught**: 4
- **Average Enrollment**: 13
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Instructor</th>
<th>Phone Number</th>
<th>Classroom</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
</tr>
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<tbody>
<tr>
<td>Urban Alternate Energy Sources</td>
<td>Graham, A.R.</td>
<td>(316) 689-3402</td>
<td>48</td>
<td>54</td>
<td>13</td>
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<tr>
<td>Solar Energy Technology</td>
<td>Hundley, Gerald</td>
<td>(316) 276-7611</td>
<td>51</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Solar Energy and Applied Science I</td>
<td>Greer, Neil</td>
<td>(316) 792-2701</td>
<td>51</td>
<td>1</td>
<td>15</td>
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<tr>
<td>Solar System Design Technology I</td>
<td>Ashburn, M.</td>
<td>(913) 825-0275</td>
<td>48</td>
<td>48</td>
<td>48</td>
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</tbody>
</table>

**Topics Covered Extensively: Alternate Energy Sources**
Solar System Design Technology II
Instructor: Ashburn, M.
(913) 825-0275
Course Number: MT2844
Department: Mechanical Technology
Program or Curriculum: Mech. Engineering
                        Tech.-Solar Option
Credits: 4
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 8.0 hrs per week
Contact Hours: 128
Classroom: 42
Laboratory: 86
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer;
Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics;
Solar Collector Evaluation/Design;
Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

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Other Educational Institutions

UNIVERSITY FOR MAN
1221 Thurston Avenue
Manhattan, Kansas 66502

PROGRAMS AND CURRICULA

Appropriate Technology
Contact: Coates, Gary
(913) 532-5866

* * * * * * * * * * * *
SOLAR RELATED COURSES

Advanced Topics in Solar Energy
Instructor: Birkebak, R.C.
Course Number: ME 782/380
Department: Mechanical Engineering
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 1
Average Enrollment: 10

Solar Energy I
Instructor: McPherson, Mike
Course Number: PHY299
Department: Physics
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 5.0 hrs per week
Contact Hours: 75

Solar Collector Construction
Instructor: H.M. Healey
Course Number: ET347
Department: Engineering Technology
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Laboratory: 6

Solar Fundamentals For Buildings
Instructor: Healey, H.M.
Course Number: ET347
Department: Engineering Technology
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Storage; Heat and Energy Transfer;
Intro. to Solar Energy; Passive Solar Technology; Solar System Components;
Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 0

WKU Solar Heating Systems
Instructor: Healey, H.M.
(502) 745-2461
Department: Engineering Technology
Student Level: All levels
Duration: 1 Weeks, 32.0 hrs per week
Contact Hours: 32
Classroom: 28
Laboratory: 4

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Louisiana Solar Energy Research Institute

Colleges/Universities

LA STATE U AND ACM C
Baton Rouge, Louisiana 70803
(504) 388-1471

SOLAR RELATED COURSES

Mechanical Engineering Problems
Instructor: Arrias/Maples
Course Number: 7933
Department: Mechanical Engineering
Credits: 3
Student Level: College Graduate
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Topics Covered Extensively: Energy Conversion; Energy Storage; Photovoltaics; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 2
Average Enrollment: 10

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LOUISIANA TECH UNIVERSITY
Ruston, Louisiana 71272
(318) 257-0211

SOLAR RELATED COURSES

Solar Energy Design
Instructor: Barron, Randall F.
Course Number: 442
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Elec'tl Generation, Central; Process Heat, Agricultural; Space Heating; Space Cooling
Number of Times Taught: 0

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NEW ORLEANS, UNIVERSITY OF
New Orleans, Louisiana 70118
(504) 283-0600

SOLAR RELATED COURSES

Design of Solar Heat. and Cool. Systems
Instructor: Russo, Edwin P.
Course Number: 4770
Department: Engineering/Mechanical
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 42
Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling
Number of Times Taught: 5
Average Enrollment: 15

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TULANE U OF LOUISIANA
New Orleans, Louisiana 70118
(504) 865-4011

SOLAR RELATED COURSES

Solar Thermal Processes
Instructor: Hamilton, DeWitt C.
Course Number: ME 619
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 5
Average Enrollment: 15

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Community/Junior Colleges

DELGADO COLLEGE
New Orleans, Louisiana 70119
(504) 486-7393

SOLAR RELATED COURSES

Applied Solar Energy
Instructor: Charbonnet, Lary/ Tou, Patrick
Course Number: MET1130
Department: Eng. and Indus.
   Tech.
Credits: 3.
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Small Systems
Number of Times Taught: 2
Average Enrollment: 30

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### Solar Related Courses

#### COLBY COLLEGE

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Instructor</th>
<th>Department</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
<th>Classroom</th>
<th>Topics Covered Extensively</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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<tbody>
<tr>
<td>Energy Economics</td>
<td>Tietenberg, Tom</td>
<td>Economics</td>
<td>3</td>
<td>Junior or Senior</td>
<td>12 Weeks, 3.0 hrs per week</td>
<td>36</td>
<td>39</td>
<td>Biomass Conversion; Intro. to Solar Energy; Solar Economics</td>
<td>2</td>
<td>24</td>
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</tbody>
</table>

#### MEINE AT ORONO, U OF

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Instructor</th>
<th>Department</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
<th>Classroom</th>
<th>Topics Covered Extensively</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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<tbody>
<tr>
<td>Mechanical Engineering Laboratory</td>
<td>Hill, Richard C.</td>
<td>Engineering &amp; Science</td>
<td>2</td>
<td>Junior or Senior</td>
<td>13 Weeks, 3.0 hrs per week</td>
<td>39</td>
<td>39</td>
<td>Biomass Conversion; Intro. to Solar Energy; Solar Economics</td>
<td>2</td>
<td>24</td>
</tr>
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</table>

Other Educational Institutions
CORNERSTONES, WING SCHOOL OF SHELTER TECHNOLOGY
54 Cumberland St.
Brunswick, Maine 04011

SOLAR RELATED COURSES

Advanced New House
Course Number: B
Duration: 3 Weeks, 35.0 hrs per week
Contact Hours: 105
Topics Covered Extensively: Passive Solar Technology; Solar Home Construction

Passive Solar Building Design
(207) 729-0540
Course Number: E
Duration: 1 Weeks, 35.0 hrs per week
Contact Hours: 35
Topics Covered Extensively: Passive Solar Technology; Solar Home Construction

Passive Solar House Design & Construction
Instructor: Wing, Charles (207) 729-0540
Course Number: A
Credits: 3
Student Level: All levels
Duration: 8 Weeks, 6.0 hrs per week
Contact Hours: 48
Classroom: 45
Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction
Number of Times Taught: 30
Average Enrollment: 30

Retrofitting Existing Structures
(207) 729-0540
Course Number: C
Duration: 3 Weeks, 35.0 hrs per week
Contact Hours: 105
Topics Covered Extensively: Alternate Energy Sources; Passive Solar Technology; Solar Home Construction

Solar Greenhouses
(207) 729-0540
Course Number: D
Duration: 1 Weeks, 35.0 hrs per week
Contact Hours: 35
Topics Covered Extensively: Passive Solar Technology; Solar Home Construction

The Design Workshop
Instructor: Colburn, Gary (207) 729-0540
Topics Covered Extensively: Passive Solar Technology; Solar Home Construction

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Portland Vocational Center
Portland, Maine 04111

SOLAR RELATED COURSES

*Training in Solar Installation
Topics Covered Extensively: Solar Systems Installation

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SHELTER INSTITUTE
53 Center Street
Bath, Maine 04530

SOLAR RELATED COURSES

*Passive Solar Design
Instructor: Hennin, Patsy (207) 443-9084
Duration: 15 Weeks
Topics Covered Extensively: Passive Solar Technology; Solar Home Construction

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SOLAR RELATED COURSES

Energy and Environment
Instructor: Haig, Frank R.
Course Number: PHYS 150
Department: Physics, Engr.
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45 Classroom: 45

SOLAR RELATED COURSES

Programs and Curriculum
Mechanical Engr./Solar Energy
Degree: BS, Science
Contact: Cunniff, P. F.
Course Number: ENES 414
Department: Mechanical Engineering
Program or Curriculum: Mechanical Engr./Solar Energy
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 45 Classroom: 45
Topics Covered Extensively: Energy Storage; Passive Solar Technology; Solar System Components; Solar Economics; Solar System Design; Domestic Hot Water; Space Heating
Number of Times Taught: 4 Average Enrollment: 35

Solar Energy Applications in Buildings
Instructor: Allen, R. W.
Course Number: ENES 415
Department: Mechanical Engineering
Program or Curriculum: Mechanical Engr./Solar Energy
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 40 Classroom: 40
Topics Covered Extensively: Energy Storage; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 5 Average Enrollment: 35

Environmental Systems in Architecture
Instructor: Lord, David
Course Number: ARCH 514
Department: Architecture
Program or Curriculum: Mechanical Engr./Solar Energy
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 6.0 hrs per week
Contact Hours: 84

Solar Energy Research Institute

Classroom: 56 Laboratory: 28
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 4 Average Enrollment: 7

SOLAR RELATED COURSES

Alt. Engr. Sources - Homemaker
Instructor: Beckey, R.
Student Level: All levels
Duration: 1 Weeks, 6.0 hrs per week
Contact Hours: 6
Topics Covered Extensively: Alternate Energy Sources; Passive Solar Technology; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water

Environmental Systems in Architecture
Instructor: Lord, David
Course Number: ARCH 514
Department: Architecture
Program or Curriculum: Mechanical Engr./Solar Energy
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 6.0 hrs per week
Contact Hours: 84

Solar Energy Research Institute

Classroom: 56 Laboratory: 28
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 4 Average Enrollment: 7

SOLAR RELATED COURSES

Alt. Engr. Sources - Homemaker
Instructor: Beckey, R.
Student Level: All levels
Duration: 1 Weeks, 6.0 hrs per week
Contact Hours: 6
Topics Covered Extensively: Alternate Energy Sources; Passive Solar Technology; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water

US NAVAL ACADEMY

SOLAR RELATED COURSES

Energy Conversion
Instructor: Wu, C.
Course Number: EN443
Department: Mechanical Engineering
Credits: 3
Ocean Energy Conversion  
Instructor: McCormick, M.E.  
(301) 267-3873  
Course Number: EN474  
Department: Naval Systems Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 48 Weeks, 3.0 hrs per week  
Classroom: 40  
Laboratory: 40  
Topics Covered Extensively: Alternate Energy Sources  
Number of Times Taught: 1  
Average Enrollment: 30  

Community/Junior Colleges  
ALLEGANY CMTY COLLEGE  
CUMBERLAND, Maryland 21502  
(301) 724-7700  
SOLAR RELATED COURSES  
Industrial Systems I  
Instructor: Myers, Robert W.  
(301) 724-7700  
Course Number: 203  
Department: Electromechanical Engineering  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 26  
Laboratory: 38  
Number of Times Taught: 3  
Average Enrollment: 12  

Industrial Systems II  
Instructor: Myers, Robert W.  
(301) 724-7700  
Course Number: 204  
Department: Electromechanical Engineering  
Credits: 3  
Student Level: Freshman or Sophomore  
Duration: 16 Weeks, 4.0 hrs per week  
Contact Hours: 64  
Classroom: 26  
Laboratory: 38  
Number of Times Taught: 3  
Average Enrollment: 12  

DUNDEE CMTY COLLEGE  
BALTIMORE, Maryland 21222  
(301) 282-6700  
SOLAR RELATED COURSES  
Solar Energy: Installation and Maintenance  
Instructor: Ledden, Jack  
(301) 282-6700  
Department: Math/Science  
Student Level: All levels  
Duration: 15 Weeks, 2.0 hrs per week  
Contact Hours: 30  
Classroom: 15  
Laboratory: 15  
Number of Times Taught: 2  
Average Enrollment: 15  

HARFORD COMMUNITY COLLEGE  
BEL AIR, Maryland 21014  
(301) 838-1000  
SOLAR RELATED COURSES  
Principles and Applications of Solar Energy  
Course Number: 095  
Department: Continuing Education  
Student Level: All levels  
Duration: 16 Weeks, 3.0 hrs per week  
Contact Hours: 40  
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology  

Vocational/Technical Colleges
PROGRAMS AND CURRICULA

Refrig., Climate Control and Clean Air
Degree: Refrig.-Climate Cont.-Clean Air
Contact: Tickler, Earl M.
(301) 727-6863

Students Taking or Completing Offering:
Installer-Residential (Solar System),
Solar Technician, Trade Specialty

SOLAR RELATED COURSES

Refrig.-Climate Control- Clean Air
Instructor: Tickler, Earl M.
(301) 727-6863

Program or Curriculum: Refrig., Climate Control and Clean Air
Student Level: High School Graduate
Duration: 6 Weeks, 30.0 hrs per week
Contact Hours: 180
Classroom: 90
Laboratory: 60

Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer;
Intro. to Solar Energy; Passive Solar Technology; Pluming Techniques; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Colleges/Universities

AMHERST COLLEGE
AMHERST, Massachusetts (413) 542-2000

SOLAR RELATED COURSES

#Energy

BOSTON COLLEGE
CHESTNUT HILL, Massachusetts (617) 969-0100

SOLAR RELATED COURSES

Energy
Instructor: deBethune, Andre J.
Course Number: CH 152
Department: Art and Sci., Chem., Even., College
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 3.0 hrs per week
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Domestic Hot Water; Central Systems; Wind Power, Small Systems
Number of Times Taught: 4
Average Enrollment: 25

BOSTON UNIVERSITY
BOSTON, Massachusetts (617) 353-2000

SOLAR RELATED COURSES

Man and Energy
Instructor: Lichtin, Norman N.
Course Number: UNI-EY-501
Department: University Professors
Credits: 4
Student Level: Junior or Senior
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Classroom: 39

Solar Heating
Course Number: MET EM 510
Department: Metropolitan College
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Domestic Hot Water;

Space Heating

BRIDGEWATER STATE COLLEGE
BRIDGEWATER, Massachusetts (617) 697-8321

SOLAR RELATED COURSES

Solar Energy
Instructor: Blackford, Paul A.
Course Number: GE 412
Department: Earth Sciences and Geography
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 6
Average Enrollment: 19

CLARK UNIVERSITY
WORCESTER, Massachusetts (617) 793-7177

SOLAR RELATED COURSES

Alternative Energy Systems Laboratory
Instructor: Gottlieb, Albert
Course Number: STS 132
Department: Science, Technology and Society
Student Level: Junior or Senior
Duration: 14 Weeks, 6.0 hrs per week
Contact Hours: 84
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar Collector Evaluation/Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Small Scale; Space Heating; Wind Power, Small Systems
Number of Times Taught: 2
Average Enrollment: 10

Solar and Wind Energy for Home Use
Instructor: Russell, John I.
Course Number: ID 109
Department: Prof. and Cont. Edu.
Credits: 3
Student Level: All levels
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
### Solar Energy Research Institute

**Topics Covered Extensively:** Alternate Energy Sources: Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'l Generation, Small Scale; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems

**Number of Times Taught:** 2

**Average Enrollment:** 18

**Solar Energy**

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Course Number</th>
<th>Department</th>
<th>Course</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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<tbody>
<tr>
<td>Davies, John</td>
<td>STG 131</td>
<td>Science, Technology, Society</td>
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**HAMPDEN UNIVERSITY**

**CAMBRIDGE, Massachusetts**

(617) 454-7811

**SOLAR RELATED COURSES**

**Solar Heating: Basic Issues**

<table>
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<tr>
<th>Instructor</th>
<th>Course Number</th>
<th>Department</th>
<th>Credits</th>
<th>Student Level</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
</tr>
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<tbody>
<tr>
<td>Napp Boyd, William</td>
<td>24-513</td>
<td>Center for Lifelong Learning</td>
<td>4</td>
<td>All levels</td>
<td>1</td>
<td>12</td>
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**LOWELL, UNIVERSITY OF**

**LOWELL, Massachusetts**

(617) 454-7811

**PROGRAMS AND CURRICULA**

**Appl. Physics - Solar Ener. Option**

<table>
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<tr>
<th>Degree</th>
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<td>PhD, MS, Physics, Solar Energy Option</td>
<td>24-513</td>
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**Students Taking or Completing Offering:**

Researcher, Solar Engineer

**Solar Energy**

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**SUNY, ALBANY**

**ALBANY, New York**

(518) 442-3200

**SOLAR RELATED COURSES**

**Solar Heating: Basic Issues**

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**Students Taking or Completing Offering:**

Researcher, Solar Engineer

**Solar Energy**

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**SUNY, STONY BROOK**

**STONY BROOK, New York**

(631) 632-7365

**SOLAR RELATED COURSES**

**Solar Heating: Basic Issues**

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Researcher, Solar Engineer

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**SUNY, TROY**

**TROY, New York**

(518) 273-2500

**SOLAR RELATED COURSES**

**Solar Heating: Basic Issues**

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**SUNY, UNIVERSITY AT ROCHESTER**

**ROCHESTER, New York**

(585) 475-2000

**SOLAR RELATED COURSES**

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**SUNY, WESTCHESTER**

**WESTCHESTER, New York**

(914) 606-5000

**SOLAR RELATED COURSES**

**Solar Heating: Basic Issues**

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Researcher, Solar Engineer

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Average Enrollment: 18

** MASS AMHERST CAMPUS, U OF **

AMHERST, Massachusetts
(413) 545-0111

PROGRAMS AND CURRICULA

** Energy Program **
Degree: BS, Mechanical Engineering-Energy Option
Contact: McGowan, Duane
(413) 545-2756

** SOLAR RELATED COURSES **

** Engineering Wind Power Systems **
Instructor: McGowan, Duane E.
Course Number: ME3/98C90H
Department: Mechanical Engineering
Program or Curriculum: Energy Program
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 37
Laboratory: 5
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Solar Collector Evaluation/Design; Solar Systems Testing and Evaluation; Wind Power, Small Systems
Number of Times Taught: 4
Average Enrollment: 20

** Solar and Direct Energy Conversion **
Instructor: McGowan, J.
Course Number: 570
Department: Mechanical Engineering
Program or Curriculum: Energy Program
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating
Number of Times Taught: 4
Average Enrollment: 20

** SOLAR RELATED COURSES **

** Design with Microclimate **
Instructor: Johnson, Tim
Course Number: 4.071J
Department: Architecture
Program or Curriculum: Arch. Study
Credits: 12
Student Level: All levels
Duration: 13 Weeks, 6.0 hrs per week
Contact Hours: 70
Classroom: 39
Laboratory: 39
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology
Number of Times Taught: 3
Average Enrollment: 25

** Energy Economics and Policy **
Instructor: Jacoby, H.D./ Zimmerman, M.B.
Course Number: 15.923
Department: Management - Applied Economics
Program or Curriculum: Arch. Study
Credits: 9
Student Level: College Graduate
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Classroom: 39
Topics Covered Extensively: Energy Conservation; Marketing/Market Analysis; Solar Energy Policy Development
Number of Times Taught: 5
Average Enrollment: 25

** Energy Prod. from Renewable Resources **
Instructor: Faw, J.A.
Course Number: 2.63
Department: Mechanical Engineering
Program or Curriculum: Arch. Study
Credits: 12
Student Level: College Graduate
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 36
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Photovoltaics; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 2
### Materials for Advanced Energy Systems

**Instructor:** Bowen, H.M.; Adler, D.  
**(617) 253-6892**

**Course Number:** 3.74J  
**Department:** Materials Science & Engineering

**Program or Curriculum:** Arch. Study  
**Credits:** 12  
**Student Level:** Junior or Senior  
**Duration:** 14 Weeks, 3.0 hrs per week  
**Contact Hours:** 42  
**Classroom:** 42  
**Topics Covered Extensively:** Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Solar Energy; Materials Research; Photovoltaics

### Solar Energy Systems

**Instructor:** Pratt, G.W./ Thornton, R.D.  
**(617) 253-4636**

**Course Number:** 6.725  
**Department:** Elect. Engineering & Computer Sci.

**Program or Curriculum:** Arch. Study  
**Credits:** 12  
**Student Level:** Junior or Senior  
**Duration:** 14 Weeks, 3.0 hrs per week  
**Contact Hours:** 42  
**Classroom:** 42  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design Solar Systems; Design; Wind Power, Small Systems

### Alternate Energy Techniques

**Instructor:** Seeley, W.  
**(413) 664-4511**

**Course Number:** D171  
**Department:** Physics

**Program or Curriculum:** Self Sufficient Prog.-Solar  
**Credits:** 3  
**Student Level:** All levels  
**Duration:** 14 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 10  
**Laboratory:** 15  
**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Solar Collector; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating
NORTHEASTERN UNIVERSITY  
BOSTON, Massachusetts  
(617) 437-2000

SOLAR RELATED COURSES

Heat and Mass Transfer
Instructor: Foster, Arthur R.  
(617) 437-3811
Course Number: 02.260
Department: Mechanical Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 12 Weeks, 4.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Heat and Energy Transfer; Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 6
Average Enrollment: 25

Instructor: Smith, Robert O./ Meeker, J.  
(617) 965-5428
Course Number: 93.310
Department: Lincoln College
Credits: 2
Student Level: Junior or Senior
Duration: 12 Weeks, 2.0 hrs per week
Contact Hours: 22
Classroom: 22
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Solar System Components; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 20

Solar Thermal Engineering I
Instructor: Foster, Arthur R.  
(617) 437-3811
Course Number: 02.655
Department: Mechanical Engineering
Credits: 2
Student Level: College Graduate
Duration: 12 Weeks, 2.0 hrs per week
Classroom: 24
Topics Covered Extensively: Heat and Energy Transfer; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 15

Solar Thermal Engineering II
Instructor: Foster, Arthur R.  
(617) 437-3811
Course Number: 02.656
Department: Mechanical Engineering
Credits: 2
Student Level: College Graduate
Duration: 12 Weeks, 2.0 hrs per week
Contact Hours: 24
Classroom: 24
Topics Covered Extensively: Heat and Energy Transfer; Electric Generation, Central; Electric Generation, Small Scale; Space Cooling
Number of Times Taught: 1
Average Enrollment: 15

The Energy Crisis: Solar Energy
Instructor: Williams, John A.  
(617) 437-2991
Course Number: 04.862
Department: Chemical Engineering
Credits: 2
Student Level: College Graduate
Duration: 12 Weeks, 2.0 hrs per week
Contact Hours: 24
Classroom: 24
Topics Covered Extensively: Intro. to Solar Energy; Solar Systems Design; Domestic Hot Water
Number of Times Taught: 2
Average Enrollment: 35

SPRINGFIELD COLLEGE  
SPRINGFIELD, Massachusetts  
(413) 787-2100

SOLAR RELATED COURSES

Energy 81
Instructor: Polito, Peter J.  
(413) 787-2094
Course Number: PHY81
Department: Physics
Credits: 2
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Alternate
Massachusetts Solar Energy Research Institute

Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

Energy 82
Instructor: Polito, Peter J.
(413) 787-2084
Course Number: PHY 82
Department: Physics
Credits: 2
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

Energy 83
Instructor: Polito, Peter J.
(413) 787-2084
Course Number: PHY 83
Department: Physics
Credits: 2
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

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SOLAR RELATED COURSES

Energy Applications and Techniques
Instructor: Kelley, Robert F.
Course Number: NS8-404
Department: Natural Science/Physics
Credits: 3
Student Level: College Graduate
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design
Number of Times Taught: 1
Average Enrollment: 9

Energy, Cons., Management for Householder
Instructor: Dick, Daniel E.
Course Number: 8-136
Department: Natural Sciences/Physics
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 2.5 hrs per week
Contact Hours: 38
Classroom: 38
Topics Covered Extensively: Energy Conservation; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 30

Man's Environment - The World of Energy
Instructor: Chapman, Harold L.
Course Number: NS 8230
Department: Natural Science/Physics
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy
Number of Times Taught: 1
Average Enrollment: 25

Shelter, Des., Alt. Energy
Instructor: Dick, Daniel E.
Course Number: 8-135
Department: Art
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 2.5 hrs per week
Contact Hours: 38
Classroom: 38
Topics Covered Extensively: Alternate Energy Sources; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Solar Systems Design; Space Heating
Number of Times Taught: 4
Average Enrollment: 12

Community/Junior Colleges

BRISTOL COMMUNITY COLLEGE
FALL RIVER, Massachusetts
(617) 678-2811

PROGRAMS AND CURRICULA

*Energy Program

BUNKER HILL CMTY COLLEGE
CHARLESTON, Massachusetts
(617) 241-8600

SOLAR RELATED COURSES

Issues in Energy
Instructor: Chisholm, Francis E.
Department: Science
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy

CAFE COO CMTY COLLEGE
WEST BARNSTABLE, Massachusetts
(617) 362-2131

PROGRAMS AND CURRICULA

Energy Systems Technology
Degree: AD, Science
Contact: Paniott, Ted
Students Taking or Completing Offering: Solar Technician
SOLAR RELATED COURSES

**Energy Systems I-A Survey of Energy Alternatives**
Instructor: Panitz, Ted
(617) 362-2131
Course Number: TE 130
Department: Industry Related Technology Program
Program or Curriculum: Energy Systems Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 45
Laboratory: 15
Topics Covered Extensively: Alternate Energy Sources
Number of Times Taught: 1
Average Enrollment: 18

**Energy Systems II - Solar Energy I**
Instructor: Panitz, Ted
(617) 362-2131
Course Number: TE 131
Department: Industry Related Technologies
Program or Curriculum: Energy Systems Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 45
Laboratory: 15
Topics Covered Extensively: Solar Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 35

**Energy Systems III - Solar Energy II**
Instructor: Panitz, Ted
(617) 362-2131
Course Number: TE 132
Department: Industry Related Technologies
Program or Curriculum: Energy Systems Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 45
Laboratory: 15
Topics Covered Extensively: Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 35

**Franklin Inst of Boston**
BOSTON, Massachusetts
(617) 423-4630
SOLAR RELATED COURSES

**Solar and Alt. Ener. Sys. Design**
Instructor: Powell, William
(617) 423-4630
Course Number: ES 426
Department: Energy System Engineering
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 7.0 hrs per week
Contact Hours: 10
Classroom: 60
Laboratory: 95
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 0
Average Enrollment: 3

**North Shore Cnty College**
BEVERLY, Massachusetts
(617) 927-4850
SOLAR RELATED COURSES

**Solar Energy - New Approaches, New Hopes**
Instructor: Powell, James
(617) 927-4850
Department: Continuing Education
Student Level: High School Graduate
Duration: 10 Weeks, 1.0 hrs per week
Contact Hours: 10

\* \* \* \* \* \* \* \* \*
SPRINGFIELD TECHNICAL CC  (8078)  Springfield, Massachusetts  (413) 781-6470

PROGRAMS AND CURRICULA

*Solar Energy Option  
Degree:  AD, Solar Energy  
Contact:  Murray, Carl  
(413) 781-6470

SOLAR RELATED COURSES

*Courses in Solar Technology  
Department:  Eng'r. Tech.  
Program or Curriculum:  *Solar Energy Option  
Topics Covered Extensively:  Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating

BOSTON ARCHITECTURAL CENTER  (90190)  320 Newbury St.  Boston, Massachusetts  

SOLAR RELATED COURSES

*Computers, Energy, and the Built Environment  
Duration:  1.0 Days  
Topics Covered Extensively:  Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction

*Solar Heating System Design  
Instructor:  Smith, Bob  
Duration:  8 Weeks

HEARTWOOD  (90210)  Johnson Rd.  Johnson Rd., Massachusetts  

SOLAR RELATED COURSES

*Passive Solar Homes  
Instructor:  Velonis, E./ Misson, N/ Wehner, D.  
(413) 623-6677  
Duration:  3 Weeks

HOOSUCK INSTITUTE  (90220)  Windsor Mill  N. Adams, Massachusetts 01247  

SOLAR RELATED COURSES

*Arch and the Environment  
Instructor:  Ekstrom, R./ Green, K.  
(413) 664-6302  
Credits:  2  
Duration:  2 Weeks, 10.0 hrs per week  
Contact Hours:  40  
Topics Covered Extensively:  Passive Solar Technology; Solar Law/Legislation

*Energy from the Sun, Wind, and Water  
Instructor:  R.Ekstrom/ Knuth, R.  
(413) 664-6302  
Credits:  3  
Duration:  2 Weeks, 10.0 hrs per week  
Contact Hours:  20  
Topics Covered Extensively:  Alternate Energy Sources; Energy Conversion; Elec'tl Generation, Small Scale; Wind Power, Small Systems
**Massachusetts Solar Energy Research Institute**

**NORTHEAST INSTITUTE OF INDUSTRIAL TECHNOLOGY**
41 Phillips St.
Boston, Massachusetts 02114

**PROGRAMS AND CURRICULA**

**Installing Solar Water Heaters**
Degree: Solar Water Systems
Contact: Galvin, G. M.
(617) 523-2813

**SOLAR RELATED COURSES**

**Installing Solar Water Heaters**
Instructor: Smith, Robert O./Lannon, E.
Department: Air Conditioning, Refrigeration Tech.
Program or Curriculum: Installing Solar Water Heaters
Student Level: College Graduate
Duration: 15 Weeks, 2.0 hrs per week
Contact Hours: 30
Classroom: 30
Number of Times Taught: 4
Average Enrollment: 30

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**THE CAMBRIDGE SCHOOL - WESTON CNT. FOR OPEN EDU.**
Weston, Massachusetts

**SOLAR RELATED COURSES**

*Adapting Heating Systems for Solar Use* (617) 965-5428
Topics Covered Extensively: Space Heating

Topics Covered Extensively: Space Heating

*Basic Solar Heating* (617) 965-5428
Topics Covered Extensively: Space Heating

*Biomass for Energy* (617) 965-5400
Topics Covered Extensively: Biomass Conversion

*Designing Your Own Solar System* (617) 965-5428
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating

*Photovoltaics* (617) 965-5428
Topics Covered Extensively: Photovoltaics

*Power from the Sea* (617) 965-5428

*Small Wind Mills* (617) 965-5428
Topics Covered Extensively: Wind Power, Small Systems

*Solar Heating Added to Your House* (617) 965-5420

*Solar Heating System Design* (617) 965-5428
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

*Wind Machines* (617) 965-5420
Topics Covered Extensively: Wind Power, Central Systems; Wind Power, Small Systems
Colleges/Universities

CENTRAL MICHIGAN UNIVERSITY (2243)
MOUNT PLEASANT, Michigan 48858
(517) 774-3151

SOLAR RELATED COURSES

Energy Efficient Design and Cons.
Instructor: Ecker, Louis G./ Nee, John
(517) 774-3996
Course Number: 679
Department: Industrial Education/Technology
Credits: 3
Student Level: Junior or Senior
Duration: 6 Weeks, 13.0 hrs per week
Contact Hours: 60
Classroom: 20
Laboratory: 10
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water
Number of Times Taught: 1
Average Enrollment: 30

DETROIT, UNIVERSITY OF (2323)
DETROIT, Michigan 48221
(313) 927-1000

SOLAR RELATED COURSES

Energy Con. Architecture
Instructor: LaGrassa, Stephen
(313) 927-1532
Course Number: ART 514
Department: Architecture
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Number of Times Taught: 1
Average Enrollment: 15

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FERRIS STATE COLLEGE (2260)
BIG RAPIDS, Michigan 49307
(616) 796-9971

PROGRAMS AND CURRICULA

Refrig., Heating and Air Conditioning Technology
Degree: AD, Applied Science in Refrig., Heating, and Air Conditioning
Contact: Shane, James B.
(616) 796-9971
Students Taking or Completing Offering: Installer-Commercial (Solar System), Installer-Residential (Solar System), Solar Technician, Trade Specialty

SOLAR RELATED COURSES

Advanced Air Conditioning
Instructor: Nott, Joe
(616) 796-9971
Course Number: RHA 263
Department: Construction
Program or Curriculum: Refrig., Heating and Air Conditioning Technology
Credits: 9
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 20.0 hrs per week
Contact Hours: 200
Classroom: 50
Laboratory: 150
Average Enrollment: 18

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EASTERN MICHIGAN UNIVERSITY (2259)
YPSILANTI, Michigan 48197
(313) 487-1849

SOLAR RELATED COURSES

Solar Energy in Construction
Instructor: Kicklighter, Clois E.
(313) 487-4330
Course Number: 539

* * * * * * * * *
### Solar Energy Research Institute

**Technology**  
**Credits:** 3  
**Student Level:** All levels  
**Duration:** 10 Weeks, 3.0 hrs per week  
**Contact Hours:** 30  
**Classroom:** 30  
**Topics Covered Extensively:** Energy Conservation; Passive Solar Technology; Solar Home Construction; Space Heating; Energy Use and Conservation

**Energy Use and Conservation**  
**Instructor:** Erion, John  
**Course Number:** BCT 302  
**Department:** Construction  
**Program or Curriculum:** Refrig., Heating and Air Conditioning Technology  
**Credits:** 4  
**Student Level:** All levels  
**Duration:** 10 Weeks, 5.0 hrs per week  
**Contact Hours:** 50  
**Classroom:** 30  
**Laboratory:** 20  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Solar System Components; Solar Economics; Solar Systems Installation; Domestic Hot Water; Space Heating

**Heating**  
**Instructor:** Stevens, Russ  
**Course Number:** RHA 600  
**Department:** Construction  
**Program or Curriculum:** Refrig., Heating, and Air Conditioning Technology  
**Credits:** 9  
**Student Level:** Freshman or Sophomore  
**Duration:** 10 Weeks, 20.0 hrs per week  
**Contact Hours:** 200  
**Classroom:** 50  
**Laboratory:** 150  
**Topics Covered Extensively:** Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Systems Maintenance; Space Heating  
**Average Enrollment:** 18

**Summer Air Conditioning**  
**Instructor:** Lawrence, Fred/ Shaw, Dick  
**Course Number:** RHA 261  
**Department:** Construction  
**Program or Curriculum:** Refrig., Heating and Air Conditioning Technology  
**Credits:** 9  
**Student Level:** Freshman or Sophomore  
**Duration:** 10 Weeks, 20.0 hrs per week

### GENERAL MOTORS INSTITUTE

**Solar Energy**  
**Instructor:** Brink, Michael  
**Course Number:** E180310  
**Department:** Mechanical Engineering  
**Program or Curriculum:** Solar Energy  
**Student Level:** College Graduate  
**Duration:** 1 Weeks, 24.0 hrs per week  
**Contact Hours:** 74  
**Classroom:** 21  
**Laboratory:** 3  
**Topics Covered Extensively:** Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Process Heat; Industrial; Wind Power; Small Systems; Space Cooling  
**Number of Times Taught:** 1  
**Average Enrollment:** 10

### GRAND VALLEY ST COLLEGES

**Solar Energy**  
**Instructor:** Bailey, Rod  
**Course Number:** E180310  
**Department:** Mechanical Engineering  
**Program or Curriculum:** Solar Energy  
**Student Level:** College Graduate  
**Duration:** 1 Weeks, 24.0 hrs per week  
**Contact Hours:** 74  
**Classroom:** 21  
**Laboratory:** 3  
**Topics Covered Extensively:** Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Process Heat; Industrial; Wind Power; Small Systems; Space Cooling  
**Number of Times Taught:** 1  
**Average Enrollment:** 10

### Solar Related Courses

**Instructor:** Brink, Michael  
**Course Number:** E180310  
**Department:** Mechanical Engineering  
**Program or Curriculum:** Solar Energy  
**Student Level:** College Graduate  
**Duration:** 1 Weeks, 24.0 hrs per week  
**Contact Hours:** 74  
**Classroom:** 21  
**Laboratory:** 3  
**Topics Covered Extensively:** Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Process Heat; Industrial; Wind Power; Small Systems; Space Cooling  
**Number of Times Taught:** 1  
**Average Enrollment:** 10

**Contact Hours:** 200  
**Classroom:** 50  
**Laboratory:** 150  
**Topics Covered Extensively:** Plumbing Techniques; Solar System Components; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating  
**Average Enrollment:** 10
SOLAR RELATED COURSES

**Alternative Energy Systems**
Instructor: Bailey, Rod  
Course Number: 1579  
Department: William James College  
Credits: 5  
Student Level: All levels  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 25  
Laboratory: 25  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Passive Solar Technology; Domestic Hot Water; Space Heating  
Number of Times Taught: 4  
Average Enrollment: 40

**Bio-Gas**
Instructor: Martin, Alan O.  
Course Number: 240  
Department: Energy Division  
Program or Curriculum: Energy & Environmental Studies  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion

**Geo-Thermal and other Geological Alternatives**
Instructor: Tyler, John  
Course Number: 220  
Department: Energy Division  
Program or Curriculum: Energy & Environmental Studies  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate Energy Sources

**Hydro-electricity**
Instructor: Gates, Timothy  
Course Number: 220  
Department: Energy Division  
Program or Curriculum: Energy & Environmental Studies  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology  
Number of Times Taught: 3  
Average Enrollment: 25

**Solar I**
Instructor: Gates, Timothy  
Course Number: 200  
Department: Energy Division  
Program or Curriculum: Energy and Environmental Studies  
Credits: 3  
Student Level: All levels  
Duration: 15 Weeks, 3.0 hrs per week  
Contact Hours: 45  
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Economics; Solar Collector
### Michigan Solar Energy Research Institute

**Evaluation/Design; Solar Systems**
- Solar Systems Installation;
- Solar Systems Maintenance; Domestic Hot Water; Space Heating

**Number of Times Taught:** 6  
**Average Enrollment:** 50

### Wind Energy Conversion Systems

**Instructor:** Bregg, Gary  
**Course Number:** 210  
**Department:** Energy Division  
**Program or Curriculum:** Energy and Environmental Studies  
**Credits:** 3  
**Student Level:** All levels  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Wind Power, Small Systems  
**Number of Times Taught:** 3  
**Average Enrollment:** 20

### Solar Energy Conversion Systems

**Instructor:** Kerber, R.  
**Course Number:** ME 414  
**Department:** Mechanical Engineering  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 3.0 hrs per week  
**Contact Hours:** 30  
**Classroom:** 30

**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Photovoltaics; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector; Evaluation/Design; Solar Systems Design; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems  
**Number of Times Taught:** 2  
**Average Enrollment:** 30

### Lawrence Inst Technology

**SOUTHELFIELD, Michigan 48075**  
**(313) 356-0200**

### SOLAR RELATED COURSES

**#Natural Energy Sources**
- **Department:** Architecture  
- **Topics Covered Extensively:** Heat and Energy Transfer; Intro. to Solar Energy; Wind Power, Small Systems

**#Solar Energy**
- **Department:** Architecture  
- **Student Level:** Junior or Senior  
- **Topics Covered Extensively:** Energy Conversion; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling

### Michigan State University

**EAST LANSING, Michigan 48824**  
**(517) 355-1855**

### SOLAR RELATED COURSES

**Development of Solar Energy Designs**
- **Instructor:** Zapp, H. R.  
- **Course Number:** EGR 480  
- **Department:** Electrical Engineering  
- **Credits:** 4  
- **Student Level:** Junior or Senior  
- **Duration:** 10 Weeks, 4.0 hrs per week  
- **Contact Hours:** 40  
- **Classroom:** 40

**Topics Covered Extensively:** Alternate Energy Sources; Energy Conversion

**Number of Times Taught:** 7  
**Average Enrollment:** 60

### Solar Energy Conversion

**Instructor:** Dhanak, A. M.  
**Course Number:** ME 490  
**Department:** Mechanical Engineering  
**Credits:** 4  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 4.0 hrs per week  
**Contact Hours:** 40  
**Classroom:** 40

**Topics Covered Extensively:** Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Domestic Hot Water; Space Heating; Space Cooling

**Number of Times Taught:** 1  
**Average Enrollment:** 50

### Technology and Utilization of Energy

**Instructor:** Dhanak, A. M.  
**Course Number:** ME 300  
**Department:** Mechanical Engineering  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 10 Weeks, 3.0 hrs per week  
**Contact Hours:** 30  
**Classroom:** 30

**Topics Covered Extensively:** Alternate Energy Sources; Energy Conversion

**Number of Times Taught:** 7  
**Average Enrollment:** 60
SOLAR RELATED COURSES

Environmental Control Engineering
Instructor: Frea, Ward
Course Number: ME437
Department: Mech.
Credits: 3
Student Level: Junior or Senior
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 36
Average Enrollment: 15

Forest Synecology
Instructor: Coffman, M.S.
Course Number: FR510
Department: Forestry
Credits: 4
Student Level: College Graduate
Duration: 12 Weeks, 4.0 hrs per week
Contact Hours: 48
Classroom: 36
Laboratory: 12
Average Enrollment: 10

Heat Transfer
Instructor: Frea, Ward
Course Number: ME328
Department: Mech.
Credits: 4
Student Level: Junior or Senior
Duration: 12 Weeks, 4.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Heat and Energy Transfer
Average Enrollment: 75

Radiative Heat Transfer
Instructor: Frea, Ward
Course Number: ME527
Department: Mech.
Credits: 3
Student Level: College Graduate
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 36
Topics Covered Extensively: Heat and Energy Transfer
Special Topics in Elect. Engrg.
Instructor: Schwartz, R.F.
Course Number: EE490
Department: Electrical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Intro. to Solar Energy; Materials Research; Photovoltaics
Number of Times Taught: 1
Average Enrollment: 27

Applied Energy Conversion
Instructor: Pearson, J. R.
Course Number: 437
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Number of Times Taught: 8
Average Enrollment: 15

Energy Conservation Seminar I
Instructor: Overdick, Willard A.
Course Number: 555
Department: Architecture and Urban Planning
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Number of Times Taught: 4
Average Enrollment: 15

Instrum. for Sol. Ener. Measurements
Instructor: Franklin, Donald J.
Course Number: 466
Department: Atmospheric and Oceanic Science
Credits: 3
Student Level: Junior or Senior
Solar Energy Research Institute

Duration: 15 Weeks, 5.0 hrs per week
Contact Hours: 75
Classroom: 45
Laboratory: 30
Number of Times Taught: 1
Average Enrollment: 10

Solar Energy Fundamentals
Instructor: Clark, John
(313) 763-1046
Course Number: 475
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Number of Times Taught: 6
Average Enrollment: 10

Solar Energy Systems Design
Instructor: Clark, John
(313) 763-1046
Course Number: 575
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Number of Times Taught: 4
Average Enrollment: 8

Alternate Energy Sources
Instructor: Friedman, Peter
Course Number: 295
Department: Natural Sciences
Credits: 3
Student Level: All levels
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 42
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Energy Storage; Photovoltaics
Number of Times Taught: 1
Average Enrollment: 50

Energy and Chemistry
Instructor: Allenstein, R.V.
(906) 226-3204
Course Number: CH 105
Department: Chemistry
Credits: 4
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 5.0 hrs per week
Contact Hours: 60
Classroom: 40
Laboratory: 32
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer
Number of Times Taught: 5
Average Enrollment: 35
### Oakland University

#### SOLAR RELATED COURSES

<table>
<thead>
<tr>
<th><strong>Energy</strong></th>
</tr>
</thead>
</table>
| **Instructor:** Tepley, N.  
**Course Number:** PHY 115  
**Department:** Physics  
**Credits:** 4  
**Student Level:** All levels  
**Duration:** 14 Weeks, 4.0 hrs per week  
**Contact Hours:** 56  
**Classroom:** 56  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Elec’l Generation, Central; Wind Power, Central Systems |

<table>
<thead>
<tr>
<th><strong>Energy and the Environment</strong></th>
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</thead>
</table>
| **Instructor:** Miller, Steven R.  
**Course Number:** ENV 312  
**Department:** Environmental Science  
**Credits:** 4  
**Student Level:** All levels  
**Duration:** 15 Weeks, 4.0 hrs per week  
**Contact Hours:** 60  
**Classroom:** 60  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conservation; Energy Conversion |

<table>
<thead>
<tr>
<th><strong>Problems in Energy and Environment</strong></th>
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</thead>
</table>
| **Instructor:** Miller, Steven R.  
**Course Number:** ENV 353  
**Department:** Environmental Science  
**Credits:** 4  
**Student Level:** Junior or Senior  
**Duration:** 15 Weeks, 4.0 hrs per week  
**Contact Hours:** 60  
**Classroom:** 50  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Elec’l Generation, Central; Elec’l Generation, Small Scale |

### Saginaw Valley State College

#### SOLAR RELATED COURSES

<table>
<thead>
<tr>
<th><strong>Solar Energy Systems</strong></th>
</tr>
</thead>
</table>
| **Instructor:** Ford, Frank E.  
**Course Number:** 431  
**Department:** Engineering & Technology  
**Credits:** 3  
**Student Level:** All levels  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating |

### Wayne State University

#### SOLAR RELATED COURSES

<table>
<thead>
<tr>
<th><strong>Energy in the Environment</strong></th>
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</thead>
</table>
| **Instructor:** Thomas, R.L.  
**Course Number:** 0106  
**Department:** Physics and Astronomy  
**Credits:** 3  
**Student Level:** All levels  
**Duration:** 10 Weeks, 3.0 hrs per week  
**Contact Hours:** 30  
**Classroom:** 30  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy |

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<thead>
<tr>
<th><strong>Energy, Technology and Society</strong></th>
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</table>
| **Course Number:** GST 2202  
**Department:** Lifelong Learning-Univ. Studies/Weekend Coll. Prog.  
**Credits:** 4  
**Student Level:** Freshman or Sophomore  
**Duration:** 11 Weeks, 4.0 hrs per week  
**Contact Hours:** 44  
**Classroom:** 11  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conservation |

### Michigan State University

#### Energy in the Environment

- Instructors: Thomas, R.L.  
- Department: Physics and Astronomy  
- Credits: 3  
- Student Level: All levels  
- Duration: 10 Weeks, 3.0 hrs per week  
- Contact Hours: 30  
- Classroom: 30  
- Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy  
- Number of Times Taught: 4  
- Average Enrollment: 16
### Solar Energy Research Institute

#### Program in Environ. Studies 502
- **Instructor:** Saperstein, A.M.
- **Course Number:** ENV 502
- **Department:** I.E., Physics, Pol. Sci.
- **Credits:** 4
- **Student Level:** Junior or Senior
- **Duration:** 30 Weeks, 4.0 hrs per week
- **Contact Hours:** 120
- **Number of Times Taught:** 3
- **Average Enrollment:** 10

#### Program in Environ. Studies 503
- **Instructor:** Saperstein, A.M.
- **Course Number:** ENV 503
- **Department:** I.E., Physics, Pol. Sci.
- **Credits:** 4
- **Student Level:** Junior or Senior
- **Duration:** 30 Weeks, 4.0 hrs per week
- **Contact Hours:** 120
- **Number of Times Taught:** 3
- **Average Enrollment:** 10

#### Residential Solar Energy
- **Instructor:** Bowen, David R.
  - **Course Number:** GST 2203
  - **Department:** Lifelong Learning, Univ. Studies/Weekend Coll. Prog.
  - **Credits:** 4
  - **Student Level:** Freshman or Sophomore
  - **Duration:** 1 Week, 34.0 hrs per week
  - **Contact Hours:** 34
  - **Classroom:** 34
  - **Topics Covered:** Alternate Energy Sources; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar Energy Policy; Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating
  - **Number of Times Taught:** 2
  - **Average Enrollment:** 600

#### Senior Seminar
- **Instructor:** Majeske, Penelope K.
  - **Course Number:** 4986
  - **Department:** Upper Division
  - **Credits:** 4
  - **Student Level:** Junior or Senior
  - **Duration:** 11 Weeks, 4.0 hrs per week
  - **Contact Hours:** 44
  - **Number of Times Taught:** 3
  - **Average Enrollment:** 7

#### Solar Energy Heat Transfer Processes
- **Instructor:** Singh, Trilochan
  - **Course Number:** ME0527
  - **Department:** Mechanical Engineering
  - **Credits:** 4
  - **Student Level:** Junior or Senior
  - **Duration:** 11 Weeks, 4.0 hrs per week
  - **Contact Hours:** 44
  - **Classroom:** 40
  - **Number of Times Taught:** 6
  - **Average Enrollment:** 15

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**Western Michigan University**

KALAMAZOO, Michigan 49008

(616) 383-1600

**SOLAR RELATED COURSES**

#### Solar Energy II
- **Instructor:** Schubert, R.C.
  - **Course Number:** 495
  - **Department:** Mechanical Engineering
  - **Credits:** 3
  - **Student Level:** Junior or Senior
  - **Duration:** 3 Weeks, 15.0 hrs per week
  - **Contact Hours:** 45
  - **Classroom:** 45
  - **Topics Covered:** Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating
  - **Number of Times Taught:** 1
  - **Average Enrollment:** 15

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**Community/Junior Colleges**
CHAS S MOTT CMTY COLLEGE
FLINT, Michigan 48503
(313) 762-0200

PROGRAMS AND CURRICULA

Energy Technology
Degree: AD, Applied Science, Alternate Energy
Contact: Laine, Douglas E.
(313) 762-0278
Students Taking or Completing Offering: Trade Specialty

SOLAR RELATED COURSES

Solar Heating and Cooling
Instructor: Laine, Douglas E.
(616) 762-0278
Course Number: PHYSCI-113
Department: Science and Mathematics
Program or Curriculum: Energy Technology
Credits: 2
Student Level: All levels
Duration: 16 Weeks, 2.0 hrs/week
Contact Hours: 32
Classroom: 32
Number of Times Taught: 2
Average Enrollment: 20

* * * * * * * *

DELTA COLLEGE
UNIVERSITY CENTER, Michigan 48710
(517) 666-0400

SOLAR RELATED COURSES

Solar Energy Workshop
Instructor: Moss, C./ Schuitman, J./ Whittaker, M.
(616) 467-9945
Course Number: 78293
Department: Science
Credits: 1
Student Level: All levels
Duration: 16 Weeks, 2.0 hrs/week
Contact Hours: 32
Classroom: 32
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 20

* * * * * * * *

GLEN OAKS CMTY COLLEGE
CENTREVILLE, Michigan 49032
(616) 467-9945

SOLAR RELATED COURSES

Alternative Energy
Instructor: Moss, Wayne
(616) 467-9945
Course Number: VAE 110
Department: Vocational
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs/week
Contact Hours: 45
Classroom: 45
Number of Times Taught: 1
Average Enrollment: 30

* * * * * * * *

GRAND RAPIDS JR COLLEGE
GRAND RAPIDS, Michigan 49502
(616) 456-4895

PROGRAMS AND CURRICULA

Arch. Draft.
Degree: AD, Arch. Draft.
Contact: Boyer, Don
Students Taking or Completing Offering: Architett

Heat., Vent., A/C
Degree: AD, Heat., Vent., A, C
Contact: Boyer, Don

SOLAR RELATED COURSES

SOL. Sys. - Collector Des. and Cons.
Instructor: Larson, L.
(616) 456-4860
Course Number: TE 245
Department: Technology
Program or Curriculum: Arch. Draft. and Heat., Vent., A/ C
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 4.0 hrs/week
Contact Hours: 64
Classroom: 16
Laboratory: 32

* * * * * * *
Topics Covered Extensively: Materials Research; Plumbing Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

**Solar Dwelling Design Concepts**

**Instructor:** Larson, L.  
(616) 456-4860

**Course Number:** TE 243  
**Department:** Technology

**Program or Curriculum:** Arch. Draft. and Heat., Vent., A/C

**Credits:** 3  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 4.0 hrs per week  
**Contact Hours:** 64  
**Classroom:** 32  
**Laboratory:** 32

Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Passive Solar Technology; Solar Home Construction; Domestic Hot Water; Space Heating; Space Cooling

**Solar Theory & Design**

**Instructor:** Larson, L.  
(616) 456-4860

**Course Number:** TE 142  
**Department:** Technology

**Program or Curriculum:** Arch. Draft. and Heat., Vent., A/C

**Credits:** 2  
**Student Level:** Freshman or Sophomore  
**Duration:** 16 Weeks, 2.0 hrs per week  
**Contact Hours:** 32  
**Classroom:** 28  
**Laboratory:** 4

Topics Covered Extensively: Energy Conversion; Intro. to Solar Energy; Domestic Hot Water; Space Heating

Number of Times Taught: 2  
Average Enrollment: 15

---

**JACKSON COMMUNITY COLLEGE**

JACKSON, Michigan 49201  
(517) 787-0800

SOLAR RELATED COURSES

**Solar Heating and Cooling**

**Instructor:** Ed., Supplemental-Dean Occup. Ed.  
(517) 787-0800

**Course Number:** AT3-010  
**Department:** Occupational  
**Credits:** 1  
**Student Level:** All levels  
**Duration:** 8 Weeks, 2.0 hrs per week  
**Contact Hours:** 16  
**Classroom:** 16  
**Number of Times Taught:** 2  
**Average Enrollment:** 45
SOLAR RELATED COURSES

MACOMB CO CC- SOUTH CAMPUS (8906)
WARREN, Michigan 48093
(313) 779-7000

Solar Heating and Energy Conservation
Instructor: Cooper, W. B.
(313) 779-7465
Course Number: CCT 280
Department: Mechanical Tech.
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 8.0 hrs per week
Contact Hours: 128
Classroom: 64
Laboratory: 64
Number of Times Taught: 4
Average Enrollment: 20

SID MICHIGAN CNTY COLLEGE (6768)
HARRISON, Michigan 48625
(517) 386-7792

SOLAR RELATED COURSES

Alternate Energy Sources
Instructor: Derscheid, Larry
(517) 386-7792
Course Number: 151
Department: Physical Science
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Laboratory: 32
Topics Covered Extensively: Alternate Energy Sources
Number of Times Taught: 3
Average Enrollment: 10

Heat Systems
Instructor: Hohman, John
(517) 386-7792
Course Number: HRA201
Department: Technical
Credits: 6
Student Level: Junior or Senior
Duration: 16 Weeks, 8.0 hrs per week
Contact Hours: 128
Classroom: 64
Laboratory: 64
Number of Times Taught: 4
Average Enrollment: 20

SCHOOLCRAFT COLLEGE (2315)
LIVONIA, Michigan 48152
(313) 591-6400

SOLAR RELATED COURSES

Energy, Man and the Future
Instructor: Lesko
(313) 591-6400
Course Number: 101
Department: Physics
Credits: 4
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 5.0 hrs per week
Contact Hours: 80
Classroom: 48
Laboratory: 32
Number of Times Taught: 8
Average Enrollment: 20

Here Comes the Sun
Instructor: Bursar/Solar Energy
Student Level: All levels
Duration: 1 Weeks, 18.0 hrs per week
Contact Hours: 18

SOUTH CLAIR CO CNTY COLLEGE (2310)
FORT HURON, Michigan 48060
(313) 984-3801

SOLAR RELATED COURSES

Alternate Energy, Intro. To Energy
Instructor: Zychowski, Phil
(313) 984-3801
Course Number: 100
Department: Industrial Technology
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Classroom: 32
Laboratory: 32
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Intro. to Solar Energy; Solar Home Construction; Wind Power, Small Systems
Number of Times Taught: 1
Average Enrollment: 15

SOUTHWESTERN MICHIGAN COLLEGE
DOWAGIAC, Michigan 49047
(616) 782-5113

SOLAR RELATED COURSES

Solar Energy
Instructor: Haidler, William
(616) 782-5113
Course Number: 181
Department: Continuing Education
Credits: 2
Student Level: All levels
Duration: 6 Weeks, 6.0 hrs per week
Contact Hours: 36
Classroom: 36
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 6
Average Enrollment: 20

Other Educational Institutions

SUN STRUCTURES
201 E. Liberty St.
Ann Arbor, Michigan

SOLAR RELATED COURSES

*Alt. Ener. Workshops

* * * * * * * * *
AUGSBURG COLLEGE
MINNEAPOLIS, Minnesota 55454
(612) 332-5181

SOLAR RELATED COURSES

Energy Options for the Future
Instructor: Paulson, Kermit E.
(612) 332-5181
Department: Physics
Credits: 4
Student Level: All levels
Duration: 13 weeks, 3.0 hrs per week
Contact Hours: 39
Classroom: 39
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy

BERIDJI STATE U
BERIDJI, Minnesota 56601
(218) 755-2000

SOLAR RELATED COURSES

Alternate Energy Sources
Instructor: Strom, Irving
(218) 755-2760
Course Number: 370
Department: Industrial Technology
Credits: 2
Student Level: All levels
Duration: 10 weeks, 2.0 hrs per week
Contact Hours: 20
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation
Number of Times Taught: 1
Average Enrollment: 20

Fireplace Construction
Instructor: Anderson, Robert
(218) 755-2950
Course Number: 496
Department: Ind. Tech.
Credits: 1
Student Level: All levels
Duration: 1 week, 20.0 hrs per week
Contact Hours: 20
Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer
Number of Times Taught: 5
Average Enrollment: 40

Heat Pump Tech.
Instructor: Larson, Irving
(218) 755-2950
Course Number: 4/956
Department: Ind. Tech.
Credits: 1
Student Level: All levels
Duration: 1 week, 10.0 hrs per week
Contact Hours: 10
Classroom: 10

Solar Heating (Energy)
Instructor: Larson, Irving
(218) 755-2950
Course Number: 4/956
Department: Ind. Tech.
Credits: 1
Student Level: All levels
Duration: 1 week, 10.0 hrs per week
Contact Hours: 10
Classroom: 10
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 25

Wind Generation (Energy)
Instructor: Larson, Irving
(218) 755-2950
Department: Ind. Tech.
Credits: 1
Student Level: All levels
Duration: 10 weeks, 1.0 hrs per week
Contact Hours: 10
Classroom: 10
Topics Covered Extensively: Energy Storage; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 1
Average Enrollment: 20

GUSTAVUS ADOLPHUS COLLEGE
SAINT PETER, Minnesota 56082
(507) 931-4300

SOLAR RELATED COURSES

Alternate Sources of Energy
Instructor: Bradley, Wendell
(507) 931-4300
Course Number: 1048
Department: Physics
Credits: 1
Student Level: All levels
Duration: 7 weeks, 4.0 hrs per week
Contact Hours: 20
Laboratory: 10
Topics Covered Extensively: Alternate Energy Sources
Number of Times Taught: 5
Average Enrollment: 40
Minnesota Solar Energy Research Institute

Energy
Instructor: Bradley, Wendell  
(507) 931-4300
Course Number: 104A
Department: Physics
Credits: 1
Student Level: All levels
Duration: 7 Weeks, 4.0 hrs per week
Contact Hours: 28
Classroom: 28
Topics Covered Extensively: Alternate Energy Sources
Number of Times Taught: 5
Average Enrollment: 12

Instructor: Fuller, Richard  
(507) 931-4300
Course Number: 191-491
Department: Physics
Credits: 1
Student Level: Junior or Senior
Duration: 14 Weeks, 5.0 hrs per week
Contact Hours: 70
Laboratory: 70
Topics Covered Extensively: Alternate Energy Sources
Number of Times Taught: 3
Average Enrollment: 3

Mankato State University
Mankato, Minnesota 56001  
(507) 389-1111

Solar Related Courses
Energy and Management
Instructor: Nordue, Dale  
(507) 369-6536
Course Number: 101
Department: Physics and Electronics Engineering Technology
Credits: 4
Student Level: All levels
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 30
Laboratory: 10
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Solar Systems Design
Number of Times Taught: 3
Average Enrollment: 6

Environmental Studies
Instructor: Sydor, Michael  
(218) 726-7205
Course Number: PHY 3050
Department: Letters & Science/Physics

Number of Times Taught: 1
Average Enrollment: 35

Minnesota MPLS St Paul, U Of  
Minneapolis, Minnesota 55455  
(612) 373-2851

Solar Related Courses
Solar Energy Utilization
Instructor: Liu, Benjamin Y.H.  
Course Number: ME 5712
Department: Mechanical Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Number of Times Taught: 4
Average Enrollment: 45

Minnesota Duluth, U Of  
Duluth, Minnesota 55812  
(218) 726-8000

Solar Related Courses
Energy Resources: Sources, Use and Conservation
Instructor: Oakland, Lewis J.  
Course Number: PHYS 1000
Department: Letters & Science/Physics
Credits: 4
Student Level: All levels
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 30
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy
Number of Times Taught: 1
Average Enrollment: 35

Credits: 3
Student Level: Junior or Senior
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33
Topics Covered Extensively: Heat and Energy Transfer
Number of Times Taught: 1
Average Enrollment: 6

SAINT OLAF COLLEGE
NORTHFIELD, Minnesota 55057
(507) 663-2222

SOLAR RELATED COURSES

*Physics Dept. Courses
Department: Physics

SAINT TERESA, COLLEGE OF
WINONA, Minnesota 55987
(507) 452-9302

PROGRAMS AND CURRICULA

Solar Energy Dynamics
Degree: NO
Contact: Homer, Oscar
(507) 454-2930

Students Taking or Completing Offering:
Educator

SAINT CLOUD ST UNIVERSITY
SAINT CLOUD, Minnesota 56301
(612) 255-0121

SOLAR RELATED COURSES

Solar Energy
Instructor: Mathiason, Dennis
(218) 236-2136
Course Number: 103
Department: Chemistry
Credits: 4
Student Level: All levels
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Solar System Components; Space Heating
Number of Times Taught: 2
Average Enrollment: 40

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SAINT CLOUD ST UNIVERSITY
SAINT CLOUD, Minnesota 56301
(612) 255-0121

SOLAR RELATED COURSES

Solar Energy
Instructor: Trummel, Donald
(612) 255-0121
Course Number: 495/595
Department: Physics
Credits: 2
Student Level: All levels
Duration: 8 Weeks, 3.0 hrs per week
Contact Hours: 20
Classroom: 19
Laboratory: 5
Number of Times Taught: 2
Average Enrollment: 20

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WM MITSCHILL COLLEGE LAW
SAINT PAUL, Minnesota 55105
(612) 227-9171

SOLAR RELATED COURSES

Energy Law & Policy
Instructor: Prince, J. D.
(612) 227-9171
Course Number: 393
Department: College of Law
Credits: 2
Student Level: College Graduate
Duration: 16 Weeks, 2.0 hrs per week
Contact Hours: 32
Classroom: 32
Topics Covered Extensively: Solar Energy Policy Development; Solar Law/Legislation

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Community/Junior Colleges

- 137 -
LAKEWOOD CITY COLLEGE
WHITE BEAR LAKE, Minnesota 55110
(612) 770-1331

PROGRAMS AND CURRICULA

Energy Engineering Technology
Degree: AD, Applied Science-Energy
Contact: Wischmann, Robert
(612) 770-1331

SOLAR RELATED COURSES

Energy Concepts
Instructor: Wischmann, Robert
(612) 770-1331
Course Number: NS 138
Department: Natural Science
Program or Curriculum: Energy Engineering Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion;
Energy Conservation; Intro. to Solar Energy; Passive Solar Technology
Number of Times Taught: 9
Average Enrollment: 30

ROCHESTER CITY COLLEGE
ROCHESTER, Minnesota 55901
(507) 285-7210

SOLAR RELATED COURSES

Department: Civil Engr. Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 36

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**Colleges/Universities**

**DELA S'TATE UNIVERSITY**
CLEVELAND, Mississippi 38732
(601) 843-9741

**PROGRAMS AND CURRICULA**

Energy Program for High School Teachers
Contact: Myers, Richard S.
(601) 843-9741

Students Taking or Completing Offering:
Educator

**SOLAR RELATED COURSES**

**Special Topics in Chemistry-Energy**
Instructor: Myers, Richard S.
(601) 843-9741
Course Number: CHE 392
Department: Physical Sciences
Program or Curriculum: Energy Program for High School Teachers
Credits: 3
Student Level: College Graduate
Duration: 2 weeks, 28.0 hrs per week
Contact Hours: 56
Topics Covered Extensively: Alternate Energy Sources; Intro. to Solar Energy
Number of Times Taught: 1
Average Enrollment: 24

**MISSISSIPPI STATE UNIVERSITY**
MISSISSIPPI STATE, Mississippi 39762
(601) 325-3221

**PROGRAMS AND CURRICULA**

Mechanical Engineering
Degree: PhD, MS, BS, Mechanical Engineering
Contact: Carley, C. T.
(601) 325-4915

**SOLAR RELATED COURSES**

Solar Energy Thermal Processes
Instructor: Forbes, Richard
(601) 325-4915
Course Number: ME 4313
Department: Mechanical Engineering
Program or Curriculum: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 14 weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 40
Laboratory: 2
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 25

**Southern Mississipi, U of**
HATTIESBURG, Mississippi 39401
(601) 266-7101

**SOLAR RELATED COURSES**

Solar Heating and Cooling
Instructor: Brent, Charles R.
(601) 266-7212
Course Number: MET 444/544
Department: Sci. and Tech./Indus. Technology
Credits: 3
Student Level: All levels
Duration: 15 weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling
Number of Times Taught: 4
Average Enrollment: 18

**Community/Junior Colleges**

**HINDS JUNIOR COLLEGE**
RAYMOND, Mississippi 39154
(601) 857-5261

**SOLAR RELATED COURSES**

Solar Energy
Instructor: Durham, J. David
(615) 857-5261
Course Number: CEU 0073
Department: Physical Science
Student Level: All levels
Duration: 6 weeks, 2.0 hrs per week
Contact Hours: 12
Classroom: 12
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 25
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### SOLAR RELATED COURSES

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<th>Course Number</th>
<th>Duration</th>
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<th>Classroom</th>
<th>Topics Covered Extensively</th>
<th>Instructor</th>
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<tr>
<td>249-3391</td>
<td>3 Weeks, 20.0 hrs per week</td>
<td>3</td>
<td>All levels</td>
<td>60</td>
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<td>Energy</td>
<td>Peery, Larry J.</td>
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<td>429-4111</td>
<td>12 weeks, 5.0 hrs per week</td>
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<td>Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design</td>
<td>Stanley R. Meyer,</td>
<td>Public Service</td>
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<td>498</td>
<td>16 Weeks, 5.0 hrs per week</td>
<td>3</td>
<td>Junior or Senior</td>
<td>60</td>
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<td>Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy</td>
<td>Morgan, Ronald</td>
<td>Drafting &amp; Design</td>
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### MISSOURI COLUMBIA, U OF

**MISSOURI ST COLLEGE**

JOPLIN, Missouri 64801
(417) 624-8100

**SOLAR RELATED COURSES**

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<th>Course Number</th>
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<th>Credits</th>
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<td>498</td>
<td>Energy Sources and Resources</td>
<td>3</td>
<td>College Graduate</td>
<td>8 weeks, 40.0 hrs per week</td>
<td>48</td>
<td></td>
<td>Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy</td>
<td>Walter/ Bull, Stanley R.</td>
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**MISSOURI ST M F ST COLLEGE**

CENTRAL METHODIST COLLEGE

FAYETTE, Missouri 65248
(660) 248-3391

**SOLAR RELATED COURSES**

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<td>16 Weeks, 5.0 hrs per week</td>
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<td>Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy</td>
<td>Robert Bull,</td>
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**CENTRAL MO ST UNIVERSITY**

WARRENSBURG, Missouri 64093
(660) 632-3500

**SOLAR RELATED COURSES**

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<td>16 Weeks, 5.0 hrs per week</td>
<td>2</td>
<td>Junior or Senior</td>
<td>48</td>
<td></td>
<td>Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy</td>
<td>Robert Bull,</td>
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**MISSOURI STATE UNIVERSITY**

COLUMBIA, Missouri 65201
(314) 882-2121

**SOLAR RELATED COURSES**

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<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
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<td>498</td>
<td>Energy Sources and Resources</td>
<td>3</td>
<td>Junior or Senior</td>
<td>8 weeks, 40.0 hrs per week</td>
<td>48</td>
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<td>Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy</td>
<td>Walter/ Bull, Stanley R.</td>
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**STOUT UNIVERSITY**

WASHINGTON, Missouri 65280
(660) 248-3391

**SOLAR RELATED COURSES**

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<th>Duration</th>
<th>Credits</th>
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<th>Instructor</th>
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<tbody>
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<td>498</td>
<td>16 Weeks, 5.0 hrs per week</td>
<td>2</td>
<td>Junior or Senior</td>
<td>48</td>
<td></td>
<td>Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy</td>
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**ST THOMAS UNIVERSITY**

COLUMBIA, Missouri 65201
(573) 882-2121

**SOLAR RELATED COURSES**

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<th>Duration</th>
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<th>Topics Covered Extensively</th>
<th>Instructor</th>
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**ST UNIVERSITIES**

COLUMBIA, Missouri 65201
(314) 882-2121

**SOLAR RELATED COURSES**

<table>
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**ST THOMAS UNIVERSITY**

COLUMBIA, Missouri 65201
(573) 882-2121

**SOLAR RELATED COURSES**

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**STTHOMAS UNIVERSITY**

COLUMBIA, Missouri 65201
(573) 882-2121

**SOLAR RELATED COURSES**

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Number of Times Taught: 3
Average Enrollment: 70

Meet Inter. Crisis-Comp. Risks, Benefits
Instructor: Moyer, Walter/ Bull, Stanley R.
Course Number: NE301
Department: Energy Systems and Resources
Credits: 4
Student Level: College Graduate
Duration: 8 Weeks, 10.0 hrs per week
Contact Hours: 80
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy
Average Enrollment: 10

Solar Energy Utilization
Instructor: Stewart, Jr. W. E.
Course Number: 301
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 40
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Materials Research; Passive Solar Technology; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 1
Average Enrollment: 25

Solar Energy Conversion
Instructor: Moore, Gordon L.
Course Number: MAE339
Department: Mechanical & Aerospace Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Materials Research; Passive Solar Technology; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design
Average Enrollment: 22

Teachers Energy Symposium
Instructor: Moyer, W./ Bull, S.R.
Course Number: NE301
Department: Energy Systems and Resources
Credits: 1
Student Level: College Graduate
Duration: 2 Weeks, 10.0 hrs per week
Contact Hours: 20
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy

Solar Energy Conversion-Lab
Instructor: Boone, Jack L.
Course Number: EE 336
Missouri Solar Energy Education Directory

**Solar Heating and Cooling**

Instructor: Aminy, Bassem F.
Course Number: ME 365
Program or Curriculum: Solar Energy Conversion
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 40

**SOUTHWESTERN MISSOURI UNIVERSITY**

SPRINGFIELD, Missouri 65802
(417) 836-5000

**PROGRAMS AND CURRICULUMS**

**Engineering Physics-Solar Emphasis**

Degree: BS,
Contact: Banks, L.E.
(417) 836-5131

**SOLAR RELATED COURSES**

**Basics of Solar Energy**

Instructor: Banks, L.E.
Course Number: 131
Department: Physics
Program or Curriculum: Engineering Physics-Solar Emphasis
Credits: 1
Student Level: All levels
Duration: 8 Weeks, 2.0 hrs per week
Contact Hours: 16
Classroom: 16
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar House Construction; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 40

**Solar Energy Laboratory**

Instructor: Banks, L. E.
(417) 836-5131
Course Number: 141
Department: Physics
Program or Curriculum: Engineering Physics-Solar Emphasis
Credits: 1
Student Level: All levels
Duration: 16 Weeks, 2.0 hrs per week
Contact Hours: 32
Laboratory: 32
Number of Times Taught: 1
Solar System Analysis
Instructor: Banks, L.E.
(417) 836-5131
Course Number: 265
Department: Physics
Program or Curriculum: Engineering Physics - Solar Emphasis
Credits: 2
Student Level: Junior or Senior
Duration: 16 Weeks, 2.0 hrs per week
Contact Hours: 32
Classroom: 32
Topics Covered Extensively: Solar Economics; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Process Heat, Industrial

Solar System Design
Instructor: Banks, L.E.
(417) 836-5131
Course Number: 265
Department: Physics
Program or Curriculum: Engineering Physics-Solar Emphasis
Credits: 2
Student Level: Junior or Senior
Duration: 16 Weeks, 2.0 hrs per week
Contact Hours: 32
Laboratory: 32
Topics Covered Extensively: Passive Solar Technology; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design
Average Enrollment: 1

Solar Thermal Analysis
Instructor: Banks, L.E.
(417) 836-5131
Course Number: 265
Department: Physics
Program or Curriculum: Engineering Physics-Solar Emphasis
Credits: 2
Student Level: Junior or Senior
Duration: 16 Weeks, 2.0 hrs per week
Contact Hours: 32
Classroom: 32
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Space Heating
Number of Times Taught: 1
Average Enrollment: 10

Wind Energy
Instructor: Northrip, J.W.
(417) 836-5405
Course Number: 131
Department: Physics
Program or Curriculum: Engineering Physics-Solar Emphasis
Credits: 1
Student Level: All levels
Duration: 8 Weeks, 2.0 hrs per week
Contact Hours: 16
Classroom: 16

Topics Covered Extensively: Wind Power, Central Systems; Wind Power; Small Systems
Number of Times Taught: 1
Average Enrollment: 40

WASHINGTON UNIVERSITY (2520)
SAINT LOUIS, Missouri 63130
(314) 889-5000

SOLAR RELATED COURSES

Energy Effective Building Design
Instructor: Associates, W. Tao and
Department: Architecture
Course Number: 265
Credits: 2
Student Level: College Graduate
Duration: 16 Weeks, 2.0 hrs per week
Contact Hours: 32
Classroom: 32
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics
Average Enrollment: 14

Solar Energy Technology and Policy
Instructor: Zermer, Larry
Department: Technology and Human Affairs
Course Number: THA 143
Credits: 2
Student Level: All levels
Duration: 15 Weeks, 2.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Space Heating
Number of Times Taught: 2
Average Enrollment: 70

WEBSTER COLLEGE (2521)
SAINT LOUIS, Missouri 63119
(314) 968-0500

SOLAR RELATED COURSES

Energy Appropriate to the Task
Instructor: McConnell, Bill
Department: Science
Course Number: 131
Credits: 2
Student Level: All levels
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Topics Covered Extensively: Energy Conservation; Passive Solar Technology
Number of Times Taught: 2
Average Enrollment: 10

Community/Junior Colleges

CROWDER COLLEGE (2459)
NEOSHO, Missouri 64850
(417) 451-3223

SOLAR RELATED COURSES

Basic Solar Design
Instructor: Boyt, Art
Department: Science
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Maintenance; Domestic Hot Water; Elec'1 Generation; Small Scale; Space Heating; Wind Power; Small Systems
Number of Times Taught: 4
Average Enrollment: 23

SAINT LOUIS CC- KERAMEC (2472)
KIRKWOOD, Missouri 63122
(314) 966-7500

SOLAR RELATED COURSES

Fund. of Solar Ener. and Ener. Cons.
Instructor: Strutman, Warren
Course Number: 12,906
Department: Ener. and Tech.-Cont.
Student Level: High School Graduate
Duration: 8 Weeks, 2.0 hrs per week
Contact Hours: 16
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar Home Construction; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating; Space Cooling
Montana

Colleges/Universities

MONTANA C MIHR SCI-TECHN (2531)
BUTTE, Montana 59701
(406) 792-0321

SOLAR RELATED COURSES

Heat Transfer
Instructor: Alexander, Richard
(406) 792-0321
Course Number: ES 526
Department: Engineering Science
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Heat and Energy Transfer

MONTANA STATE UNIVERSITY (2532)
BOZEMAN, Montana 59715
(406) 994-4361

SOLAR RELATED COURSES

Instructor: Musselman, R. L.
(406) 994-2203
Course Number: 570
Department: Mechanical Engineering
Credits: 4
Student Level: College Graduate
Duration: 2 Weeks, 20.0 hrs per week
Contact Hours: 40
Classroom: 30
Laboratory: 10
Topics Covered Extensively Alternate Energy Sources; Energy Conservation;
Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy;
Passive Solar Technology; Solar System Components; Solar Economics; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 5

Energy Course for Homebuilders
Instructor: Martindale, W. R.
(406) 994-2203
Course Number: 570
Department: Mechanical Engineering
Student Level: All levels
Duration: 10 Weeks, 2.0 hrs per week
Contact Hours: 20
Classroom: 20
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation;
Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology;
Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design;
Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 5

Solar Energy Design
Instructor: Warrington, Robert O.
(406) 994-2203
Course Number: ME 480
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Space Heating
Number of Times Taught: 2
Average Enrollment: 10

MONTANA, UNIVERSITY OF (2536)
MISSOULA, Montana 59801
(406) 243-0211

SOLAR RELATED COURSES

Alternative Energy & the Ecosphere
Instructor: Sheridan, R.
(406) 243-2613
Course Number: 178-9
Department: Botany-Liberal Arts
Credits: 3
Student Level: All levels
Duration: 9 Weeks, 3.0 hrs per week
Contact Hours: 27
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology;
Biomass Conversion; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Plumbing Techniques;
SOLAR RELATED COURSES

Western Montana College
Dillon, Montana 59725
(406) 683-7751

SOLAR RELATED COURSES
Solar Energy
Instructor: Streeter, Joseph B.
(406) 683-7102
Course Number: 2/3/491
Department: Science
Credits: 2
Student Level: All levels
Contact Hours: 30
Classroom: 30
Laboratory: 10
Number of Times Taught: 1
Average Enrollment: 22

Community/Junior Colleges
Flathead Vly City College
KALISPELL, Montana 59901
(406) 755-8222

SOLAR RELATED COURSES
Alternative Energy & Conservation
Instructor: Blood, Lex
(406) 755-5222
Course Number: 179
Department: 9
Credits: 3
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 19
Laboratory: 14
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Design/Conversion Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Energy Policy Development; Solar Energy System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation;

= 197 =
### SOLAR RELATED COURSES

**Environmental Science 260**
- Course Number: 260
- Department: Physics
- Credits: 4
- Student Level: Junior or Senior
- Duration: 14 Weeks, 5.0 hrs per week
- Contact Hours: 70
- Classroom: 56
- Laboratory: 14
- Number of Times Taught: 6
- Average Enrollment: 24

**Environmental Science 460**
- Course Number: 460
- Department: Physics
- Credits: 4
- Student Level: Junior or Senior
- Duration: 14 Weeks, 5.0 hrs per week
- Contact Hours: 70
- Classroom: 56
- Laboratory: 14
- Number of Times Taught: 2
- Average Enrollment: 20

**Solar Home Heating**
- Instructor: Kruse, James
- Department: Continuing Ed.
- Student Level: All levels
- Duration: 7 Weeks, 3.0 hrs per week
- Contact Hours: 21
- Classroom: 21
- Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Space Heating
- Number of Times Taught: 4
- Average Enrollment: 30

### Community/Junior Colleges

**Central Tech City College**
- Campus: Grand Island, Nebraska 68801
- Toll-Free: (308) 364-5220

**Solar Energy Fundamentals**
- Instructor: Krueger, Alan
- Course Number: 330.5
- Department: Ret/Heating
- Credits: 2
- Student Level: Freshman or Sophomore
- Duration: 10 Weeks, 4.0 hrs per week
- Contact Hours: 40
- Laboratory: 40
- Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 46

**METROPOLITAN TECHNICAL CC**
OMAHA, Nebraska 68137
(402) 457-5100

**PROGRAMS AND CURRICULA**

**Solar Technical Training Program**
Degree: Solar Systems
Contact: Kafka, James J.
(402) 457-5100
Students Taking or Completing Offering: Solar Technician

**SOLAR RELATED COURSES**

**Survey of Solar Energy**
Instructor: Reimnuth, Larry
(402) 457-5100
Department: Continuing Education
Program or Curriculum: Solar Technician Training Program
Student Level: All levels
Duration: 8 Weeks, 2.5 hrs per week
Contact Hours: 20
Classroom: 12
Laboratory: 8
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling; Wind Power, Small Systems
Number of Times Taught: 3
Average Enrollment: 8

**SOUTHEAST CC MILFORD CAN**
MILFORD, Nebraska 68405
(402) 761-2131

**SOLAR RELATED COURSES**

**Heat. and A/C System Theroy**
Instructor: Lundgren, Stan
Course Number: 5700227
Department: Construction Occupations
Credits: 2
Student Level: All levels
Duration: 6 Weeks, 5.0 hrs per week
Contact Hours: 32
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy

**Residential A/C Theory I**
Instructor: Lundgren, Stan
Course Number: 4400653
Department: Architectural Technology
Credits: 2
Student Level: Freshman or Sophomore
Duration: 7 Weeks, 5.0 hrs per week
Contact Hours: 32
Classroom: 32
Topics Covered Extensively: Energy Storage; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating
Number of Times Taught: 4
Average Enrollment: 15

**Solar Energy**
Instructor: Roll, Dean
Course Number: 5700253
Department: Construction
Credits: 2
Student Level: All levels
Duration: 7 Weeks, 5.0 hrs per week
Contact Hours: 32
Classroom: 32
Topics Covered Extensively: Energy Storage; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating
Number of Times Taught: 4
Average Enrollment: 15

**Solar Energy 4400653**
Instructor: Roll, Dean
Course Number: 4400653
Department: Construction
Credits: 2
Student Level: All levels
Duration: 6 Weeks, 5.0 hrs per week
Contact Hours: 32
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling

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**SOLAR RELATED COURSES**

*Solar Heat. Instruction - Familiarization*
Department: Bldg C Construc. / Ref.
Topics Covered Extensively: Intro. to Solar Energy

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**MID PLAINS CC- H PLATTE**
NORTH PLATTE, Nebraska 69101
(308) 532-8740

**SOLAR RELATED COURSES**

*Solar Heat. Instruction - Familiarization*
Department: Bldg C Construc. / Ref.
Topics Covered Extensively: Intro. to Solar Energy

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### Solar Energy Research Institute

#### Colleges/Universities

**NEVADA LAS VEGAS, U OF**

LAS VEGAS, Nevada 89154
(702) 739-3011

**PROGRAMS AND CURricula**

**Solar Systems**

- **Contact:** Tryon, John G.  
  (702) 739-3701

- **Students Taking or Completing Offering:**
  Contractor, Installer-Residential  
  (Solar System), Installer-Commercial  
  (Solar System), Solar Technician,  
  Heating, Ventilation, and Air Cond. Worker

### Solar Related Courses

#### Solar Heating

- **Instructor:** Tryon, John G.  
  (702) 739-3701

- **Course Number:** EGG475X

- **Department:** Engineering

- **Credits:** 3

- **Student Level:** Junior or Senior

- **Duration:** 16 Weeks, 3.0 hrs per week

- **Contact Hours:** 48

- **Classroom:** 48

- **Topics Covered Extensively:**
  - Solar Energy
  - Solar System Components
  - Solar Economics
  - Solar Collector Evaluation/Design
  - Solar Systems Design
  - Solar Systems Installation
  - Domestic Hot Water
  - Swimming Pool Heating
  - Space Heating
  - Space Cooling

- **Number of Times Taught:** 1

- **Average Enrollment:** 10

#### Solar Systems-Domestic Hot Water

- **Instructor:** Tryon, John G.  
  (702) 739-3701


- **Program or Curriculum:** Solar Systems

- **Student Level:** All levels

- **Duration:** 5 Weeks, 3.0 hrs per week

- **Contact Hours:** 16

- **Classroom:** 13

- **Topics Covered Extensively:**
  - Solar System Components
  - Solar Economics
  - Solar Collector Evaluation/Design
  - Solar Systems Design
  - Solar Systems Installation
  - Domestic Hot Water

- **Number of Times Taught:** 1

- **Average Enrollment:** 20

#### Solar Systems-Economics

- **Instructor:** Tryon, John G.  
  (702) 739-3701


- **Program or Curriculum:** Solar Systems

- **Student Level:** All levels

- **Duration:** 2 Weeks, 10.0 hrs per week

- **Contact Hours:** 20

- **Classroom:** 20

**Solar Systems-Heat. & Cool. of Bldgs.**

- **Instructor:** Tryon, John G.  
  (702) 739-3701


- **Program or Curriculum:** Solar Systems

- **Student Level:** All levels

- **Duration:** 7 Weeks, 4.0 hrs per week

- **Contact Hours:** 28

- **Classroom:** 28

- **Topics Covered Extensively:**
  - Marketing/Market Analysis
  - Solar System Components
  - Solar Systems Design
  - Space Heating

- **Number of Times Taught:** 1

- **Average Enrollment:** 15

#### Solar Systems-Swimming Pools

- **Instructor:** Tryon, John G.  
  (702) 739-3701


- **Program or Curriculum:** Solar Systems

- **Student Level:** All levels

- **Duration:** 2 Weeks, 4.5 hrs per week

- **Contact Hours:** 9

- **Classroom:** 6

- **Topics Covered Extensively:**
  - Plumbing Techniques
  - Solar System Components
  - Solar Economics
  - Solar Systems Design
  - Solar Systems Installation
  - Swimming Pool Heating

- **Number of Times Taught:** 2

- **Average Enrollment:** 20

#### Topics in Physics: Solar Energy

- **Instructor:** Duneton, J.  
  (702) 784-6792

- **Course Number:** PHY 100B

- **Department:** Sci. Math., & Engineering/Physics

- **Credits:** 1

- **Student Level:** All levels

- **Duration:** 5 Weeks, 3.0 hrs per week

- **Contact Hours:** 15

- **Classroom:** 15

- **Number of Times Taught:** 2

- **Average Enrollment:** 40

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**NEVADA RENO, U OF**

RENO, Nevada 89557
(702) 784-1110

**SOLAR RELATED COURSES**

**Solar Energy 483-783**

- **Instructor:** Hallett, J.  
  (702) 784-6792

- **Course Number:** 483-783

- **Department:** Arts and Sci.-Physics.

- **Credits:** 2
Solar Engineering
Instructor: McKee, R. B.
(702) 784-6880
Course Number: SOL 201
Department: Mechanical Engineering
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 6.0 hrs per week
Contact Hours: 90
Classroom: 45
Laboratory: 45
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer
Number of Times Taught: 2
Average Enrollment: 15

Comprehensive Solar Energy Technology
Instructor: Comarow, David
(702) 643-6060
Course Number: SOL 119
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 9.0 hrs per week
Contact Hours: 135
Classroom: 90
Laboratory: 45
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

INTRODUCTION TO SOLAR TECHNOLOGY
Instructor: Comarow, David
Course Number: SOL 119
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 9.0 hrs per week
Contact Hours: 135
Classroom: 90
Laboratory: 45
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

Advanced Solar Energy Technology
Instructor: Comarow, David
(702) 643-6060
Course Number: SOL 201
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 6.0 hrs per week
Contact Hours: 90
Classroom: 45
Laboratory: 45
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer
Number of Times Taught: 2
Average Enrollment: 15

Solar Energy Technology
Degree: AD, OT, Solar Energy Tech., Applied Science
Contact: Comarow, David
(702) 843-6060
Students Taking or Completing Offering: Solar Technician, Sheet Metal Worker, Electrician, Plumber

SOLAR-RELATED COURSES
Advanced Solar Energy Technology
Instructor: Comarow, David
(702) 643-6060
Course Number: SOL 201
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 6.0 hrs per week
Contact Hours: 90
Classroom: 45
Laboratory: 45
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer
Number of Times Taught: 2
Average Enrollment: 15

Community/Junior Colleges
CLARK COUNTY COLLEGE
LAS VEGAS, Nevada 89103
(702) 643-6060

PROGRAMS AND CURRICULA
Solar Energy Technology
Degree: AD, OT, Solar Energy Tech., Applied Science
Contact: Comarow, David
(702) 843-6060
Students Taking or Completing Offering: Solar Technician, Sheet Metal Worker, Electrician, Plumber

SOLAR-RELATED COURSES
Advanced Solar Energy Technology
Instructor: Comarow, David
(702) 643-6060
Course Number: SOL 201
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 6.0 hrs per week
Contact Hours: 90
Classroom: 45
Laboratory: 45
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer
Number of Times Taught: 2
Average Enrollment: 15

Passive Solar Heating and Cooling Technology
Instructor: Comarow, David
(702) 643-6060
Course Number: SOL 130
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Laboratory: 45
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar Economics; Solar Home Construction; Space Heating; Space Cooling

Practicum in Solar Technology
Instructor: Comarow, David
(702) 643-6060
Course Number: SOL 1210
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 9.0 hrs per week
Contact Hours: 135
Topics Covered Extensively: Domestic Hot Water; Swimming Pool Heating; Process Heat, Industrial; Space Heating; Space Cooling

Solar Energy Technology--Home Owner
Instructor: Comarow, David
(702) 643-6060
Course Number: ENR 1103
Department: Science
Program or Curriculum: Solar Energy Technology
Student Level: All levels
Duration: 16 Weeks, 15.0 hrs per week
Contact Hours: 15
Classroom: 15

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling
Number of Times Taught: 7
Average Enrollment: 100

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Colleges/Universities

DARTMOUTH COLLEGE (2573)
DURHAM, New Hampshire
(603) 666-110

PROGRAMS AND CURRICULA


SOLAR RELATED COURSES

*Intro. to Solar Energy
Department: Thayer School of Eng'r
Student Level: All levels
Topics Covered Extensively: Intro. to Solar Energy

*Solar Energy Design
Department: Thayer School of Eng'r
Student Level: All levels
Topics Covered Extensively: Solar System Components; Solar Collector
Evaluation/Design; Solar Systems Design

NEW ENGLAND COLLEGE (2579)
HANOVER, New Hampshire
(603) 666-1110

SOLAR RELATED COURSES

Energy Issues
Instructor: Lemons, John
(603) 428-2388
Course Number: ES202
Department: Environmental Studies
Credits: 4
Student Level: All levels
Duration: 12 Weeks, 4.0 hrs per week
Contact Hours: 48
Classroom: 10
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation
Average Enrollment: 40

NH PLYMOUTH ST COLLEGE (2591)
PLYMOUTH, New Hampshire
(603) 536-1550

SOLAR RELATED COURSES

Solar Energy Survey
Course Number: 197.111
Department: Natural Science
Credits: 2
Student Level: Freshman or Sophomore
Duration: 8 Weeks, 3.0 hrs per week
Contact Hours: 24

Vocational/Technical Colleges

NH VOC- TECH (2582)
MANCHESTER, New Hampshire
(603) 666-6706

PROGRAMS AND CURRICULA

Solar Energy Certificate Program
Degree: Solar Energy
Contact: Mcgonigal, David
(603) 666-6706
Students Taking or Completing Offering: Educator, Do-it-yourself Homeowner

SOLAR RELATED COURSES

Energy Conservation - Principles
Instructor: Mcgonigal, David
(603) 666-6706
Course Number: M91/0EV
Department: Evening
Program or Curriculum: Solar Energy Certificate Program
Credits: 3
Student Level: All levels
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Topics Covered Extensively: Energy Conservation
Number of Times Taught: 1
Average Enrollment: 20

Energy Survey & Alternative Systems
Instructor: Mcgonigal, David
(603) 666-6706
Course Number: M9/0EV
Department: Evening
Program or Curriculum: Solar Energy Certificate Program
Credits: 3
Student Level: All levels
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology;
Energy Conservation; Intro. to Solar Energy; Passive Solar Technology
Number of Times Taught: 1
Average Enrollment: 20

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**New Hampshire Solar Energy Research Institute**

### Principles of Solar Design
- **Instructor:** Magnon, David  
  (603) 668-6706
- **Course Number:** M943EV
- **Department:** Evening Extension
- **Program or Curriculum:** Solar Energy Certificate Program
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 12 Weeks, 3.0 hrs per week
- **Contact Hours:** 36
- **Topics Covered Extensively:** Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design

### Solar Construction & Installation Tech.
- **Instructor:** Magnon, David  
  (603) 668-6706
- **Course Number:** M944EV
- **Department:** Evening Extension
- **Program or Curriculum:** Solar Energy Certificate Program
- **Credits:** 4
- **Student Level:** All levels
- **Duration:** 12 Weeks, 4.0 hrs per week
- **Contact Hours:** 48
- **Topics Covered Extensively:** Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance

### Solar Energy - a Prime Energy Resource
- **Instructor:** Magnon, David  
  (603) 668-6706
- **Course Number:** M942EV
- **Department:** Evening Extension
- **Program or Curriculum:** Solar Energy Certificate Program
- **Credits:** 4
- **Student Level:** All levels
- **Duration:** 12 Weeks, 4.0 hrs per week
- **Contact Hours:** 48
- **Topics Covered Extensively:** Alternate Energy Sources; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Space Heating

### Solar Heating Systems
- **Instructor:** Byrne, E.  
- **Course Number:** 404
- **Department:** HVAC
- **Credits:** 4
- **Student Level:** All levels
- **Duration:** 12 Weeks, 4.0 hrs per week
- **Contact Hours:** 48
- **Topics Covered Extensively:** Plumbing Techniques; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

### Solar Seminar - Integrated Projects
- **Instructor:** Magnon, David  
  (603) 668-6706
- **Course Number:** M945EV
- **Department:** Evening Extension
- **Program or Curriculum:** Solar Energy Certificate Program
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 12 Weeks, 3.0 hrs per week
- **Contact Hours:** 36

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**New Hampshire Community College - Nashua**

### Energy and Energy Sources
- **Instructor:** Mihager, Lawrence
- **Course Number:** 826
- **Department:** Math/Science
- **Credits:** 3
- **Student Level:** Freshman or Sophomore
- **Duration:** 12 Weeks, 3.0 hrs per week
- **Contact Hours:** 36
- **Topics Covered Extensively:** Alternate Energy Sources; Energy Conservation; Energy Conversion; Intro. to Solar Energy; Space Heating

### Other Educational Institutions

**NEW ENGLAND CENTER FOR APPROPRIATE TECH.**
15 Garrison Ave.  
Durham, New Hampshire 03824

### SOLAR RELATED COURSES

*Passive Solar Workshops-incls. Greenhouse*
- **Instructor:** O'Donnell, Richard  
  (603) 862-2764
- **Topics Covered Extensively:** Passive Solar Technology

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Colleges/Universities

FAIRLawn D'CUNX TEANECK CAM (2607)
TEANECK, New Jersey
(201) 836-6300

SOLAR RELATED COURSES

Solar Energy
Instructor: Wieden, S.
(201) 836-6300
Course Number: FH431
Department: Physics
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45

Topics Covered Extensively: Appropriate technology; Materials Research; Solar Collector Evaluation/Design
Number of Times Taught: 1
Average Enrollment: 10

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GLASSBORO STATE COLLEGE (2609)
GLASSBORO, New Jersey
(609) 445-5000

PROGRAMS AND CURRICULA

Energy and Trans. Concentration
Degree: MA, BA; Arts
Contact: Weiss, Leigh
(609) 445-6209

Students Taking or Completing Offering:
Educator; Do-it-yourself Homeowner,
Installer-Residential (Solar System),
Installer-Commercial (Solar System),
Solar Technician

SOLAR RELATED COURSES

Advanced Solar Energy Systems
Instructor: Weiss, Leigh B.
(609) 445-6209
Department: Industrial Education & Technology
Program or Curriculum: Energy and Trans Concentration
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 6.0 hrs per week
Contact Hours: 96
Classroom: 60
Laboratory: 36

Topics Covered Extensively: Energy Conservation; Energy Storage; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 10

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MONTCLAIR STATE COLLEGE (2617)
UPPER MONTCLAIR, New Jersey
(201) 893-4000

PROGRAMS AND CURRICULA

Industrial Powers
Degree: BA, BS,

Students Taking or Completing Offering:
Educator, Electrician, Plumber, Sheet Metal Worker

SOLAR RELATED COURSES

Alternate Energy Conversion Systems
Instructor: Greenwald, Martin
(201) 893-4163
Course Number: 484
Department: Industrial Educ. & Technology
Program or Curriculum: Industrial Powers
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Classroom: 32
Laboratory: 32

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Solar Economics; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Elec'1 Generation, Central; Elec'1 Generation, Small Scale; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems
New Jersey Solar Energy Research Institute

Number of Times Taught: 8
Average Enrollment: 20

Wind Energy Conversion Systems
Instructor: Greenwald, Martin
(201) 893-4163
Course Number: 485
Department: Industrial Edu. & Technology
Program or Curriculum: Industrial Powers
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Classroom: 32
Laboratory: 32
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion;
Energy Storage; Marketing/Market Analysis; Solar Economics; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Solar
Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 1
Average Enrollment: 25

NJ INSTITUTE TECHNOLOGY (2621)
NEWARK, New Jersey
(201) 645-5321

PROGRAMS AND CURRICULA
Mech. Engrg. & Technology
Contact: Kirchner, R.
(201) 645-5378
Students Taking or Completing Offering: Architect, Solar Engineer, Other

SOLAR RELATED COURSES
Introduction to Solar Energy
Instructor: Kirchner, R.
(201) 645-5378
Course Number: ME 480
Department: Mechanical Engineering
Program or Curriculum: Mech. Engrg. & Technology
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Collector Evaluation/Design
Number of Times Taught: 1
Average Enrollment: 20

Solar Energy Applications
Instructor: Kirchner, R.
(201) 645-5378
Course Number: MET417
Department: Mechanical Engineering
Program or Curriculum: Mech. Engrg. & Technology
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Laboratory: 3
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating
Number of Times Taught: 4

Solar Heating Design
Instructor: Kirchner, R.
(201) 645-5378
Department: Mechanical Engineering
Program or Curriculum: Mech. Engrg. & Technology
Credits: 3
Student Level: College Graduate
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Laboratory: 3
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Economics; Solar Systems Design; Domestic Hot Water; Space Heating

PRIHCEIUN UNIVERSITY (2627)
PRINCETON, New Jersey
(609) 452-3000

PROGRAMS AND CURRICULA
Energy Conversion and Resources
Degree: PhD, MS, BA, BS, Mechanical Engineering
Contact: Bogdonoff, Seymour M.
(609) 452-5125
Students Taking or Completing Offering: Architect, Educator, Researcher, Solar Engineer

SOLAR RELATED COURSES
Characteristics and Technology of Materials
Instructor: Royce, B. S. H.
(609) 452-4681
Course Number: ENGR 202
Department: Mechanical and Aerospace Engineering
Program or Curriculum: Energy Conversion and Resources
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<th>Course Title</th>
<th>Instructor</th>
<th>Contact Hours:</th>
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<td>MAHWAH, New Jersey</td>
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<td>Harrison, Eugene</td>
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<td>(201) 825-2800</td>
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Students Taking or Completing Offering:
Educator, Researcher, Do-it-yourself
Homeowner, Other

SOLAR RELATED COURSES

Alternative Energy Design
Instructor: Makofske, W.
(201) 825-2800
Course Number: 400
Department: Environmental Studies
Program or Curriculum: Alternative Energy
Credits: 4
Student Level: Junior or Senior
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Classroom: 48
Laboratory: 16
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Wind Power, Small Systems

Alternative Energy Sources
Instructor: Makofske, William
(201) 825-2800
Course Number: 300
Department: Environmental Studies
Program or Curriculum: Alternative Energy
Credits: 4
Student Level: Junior or Senior
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Classroom: 64
Laboratory: 16
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar System Components
Number of Times Taught: 3
Average Enrollment: 40

Alternative Energy Workshop
Instructor: Greenwald, M./ Makofske, W.
(201) 825-2800
Course Number: 300
Department: Environmental Studies
Program or Curriculum: Alternative Energy
Credits: 4
Student Level: All levels
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Classroom: 24
Laboratory: 40
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems

Energy Efficient Solar Design
Instructor: Makofske, W.
(201) 825-2800
Course Number: 300
Department: Environmental Studies
Program or Curriculum: Alternative Energy
Credits: 4
Student Level: Junior or Senior
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Classroom: 64
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 3
Average Enrollment: 50

Energy, Power and the Environment
Instructor: Makofske, William
(201) 825-2800
Course Number: 200-300
Department: Environmental Studies
Program or Curriculum: Alternative Energy
Credits: 4
Student Level: All levels
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Classroom: 64
Topics Covered Extensively: Energy Conversion; Energy Storage; Energy Transfer; Intro. to Solar Energy
Number of Times Taught: 3
Average Enrollment: 40

RUTGERS U NEW BRUNSWICK
NEW BRUNSWICK, New Jersey
(201) 932-1766

SOLAR RELATED COURSES

Instructor: Briggs, David G.
(201) 923-3656
Course Number: 650:474
Department: Chem. Indus. and Aerospace Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Topics Covered Extensively: Energy
### 1978-79 National Solar Energy Education Directory

**New Jersey**

**STOCKTON STATE COLLEGE**
PONSONA, New Jersey  (609) 652-1776

**SOLAR RELATED COURSES**

**Solar Energy**
- Instructor: Taylor, Harold
- Course Number: PHYS3320
- Department: Natural Sciences and Mathematics
- Credits: 4
- Student Level: Junior or Senior
- Duration: 15 Weeks, 4.0 hrs per week
- Contact Hours: 53
- Classroom: 53
- Topics Covered Extensively: Appropriate Technology; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating
- Number of Times Taught: 4
- Average Enrollment: 63

**SOLAR ENERGY WORKSHOP**
- Department: Project Matte

**MIDDLESEX COUNTY COLLEGE**
EDISON, New Jersey  (201) 548-6000

**SOLAR RELATED COURSES**

**Workshop Appr. to Teach. Train. in Energ.**
- Department: Natural Sciences

**Vocational/Technical Colleges**

**MERCEY CO AREA VOC. TECH. SCHOOLS**
1005 Old Trenton Rd.
TRENTON, New Jersey 08690

**SOLAR RELATED COURSES**

**Install Solar Heat. & Cool.**
- Department: Plumbing, Heating, & Refrigeration
- Topics Covered Extensively: Plumbing Techniques; Solar System Components; Solar Systems Installation; Domestic Hot Water; Space Heating; Space Cooling

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**OCEAN COUNTY VOCATIONAL TECHNICAL SCHOOLS**
Route 571
Jackson, New Jersey 08527

**PROGRAMS AND CURRICULA**

- Degree: Evening School Certificate

**SOLAR RELATED COURSES**

- Department: Evening School
- Student Level: All levels
- Duration: 15 Weeks
- Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

**Solar Energy Workshop**
- Department: Evening School
- Student Level: All levels
- Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating
New Jersey Solar Energy Research Institute

Installation; Domestic Hot Water

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PASSAIC SCHOOL OF DRAFTING (90080)
657 Main Avenue
Passaic, New Jersey 07055

PROGRAMS AND CURRICULA

Solar Energy Design
Degree: NO, Architectural Draftsman
Contact: Adanoff, O. J.
(201) 777-4909
Students Taking or Completing Offering: Trade Specialty

SOLAR RELATED COURSES

Arch. Drafting (Solar Energy Des.)
Instructor: Stix, G.H.
(201) 777-4909
Department: Arch. Drafting
Program or Curriculum: Solar Energy Design
Student Level: High School Graduate
Duration: 4 Weeks, 25.0 hrs per week
Contact Hours: 100
Classroom: 10
Laboratory: 90
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer;
Intro. to Solar Energy; Plumbing Techniques; Solar Collector
Evaluation/Design; Solar Systems Design

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SALEM COUNTY VOCATIONAL TECHNICAL SCHOOLS (90420)
R.D. #2, Box 350
Woodstown, New Jersey 08098

PROGRAMS AND CURRICULA

*Plumbing and Heating Trades

SOLAR RELATED COURSES

*Introduction to Solar Heating
Department: Continuing Education
Contact Hours: 36
Topics Covered Extensively: Space Heating; Space Cooling

*Unit on Solar Energy
Program or Curriculum: *Plumbing and Heating Trades
Student Level: All levels
Topics Covered Extensively: Solar System Components; Solar Collector
Evaluation/Design; Solar Systems Design; Domestic Hot Water

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UNION CO TECHNICAL INST
SCOTCH PLAINS, New Jersey
(201) 889-2000

SOLAR RELATED COURSES

Solar Heating I
Instructor: Mai, Frank
(201) 889-2000
Course Number: HV-201-71
Department: Heating Ventilating-Air Conditioning
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 15
Laboratory: 30
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion;
Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy;
Plumbing Techniques; Sheet Metal Techniques; Solar System Components;
Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling
Number of Times Taught: 2
Average Enrollment: 20

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Other Educational Institutions

ESSEX COUNTY TECHNICAL CAREERS CENTER (90390)
91 West Market St.
Newark, New Jersey

PROGRAMS AND CURRICULA

*Day Program - Sol. Heat. Systems
Degree: Certificate

*Night Program - Sol. Heat Systems
Degree: Certificate

SOLAR RELATED COURSES

*Solar Heating Systems - (Day Course)
Department: Adult Education
Program or Curriculum: *Day Program - Sol. Heat. Systems
Contact Hours: 300
Topics Covered Extensively: Solar System Components; Solar Collector
Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling
*Solar Heating Systems - (Night Course)*

Department: Adult Education

Program or Curriculum: *Night Program - Sol. Heat. Systems*

Contact Hours: 120

Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling

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**SOUTHERN NEW JERSEY OIC**  
Camden, New Jersey  
(90070)

**PROGRAMS AND CURRICULA**

Solar Energy Unit Installer Program
Degree: Completion Certificate
Contact: Keene, Joseph P.  
(609) 966-2545

Students Taking or Completing Offering: Installer-Residential (Solar System)

**SOLAR RELATED COURSES**

Solar Energy Installer
Instructor: Keene, Joseph P.  
(609) 966-2545

Program or Curriculum: Solar Energy Unit Installer Program
Student Level: High School Graduate
Duration: 26 Weeks, 5.0 hrs per week
Contact Hours: 130

Topics Covered Extensively: Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating; Space Heating

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### Solar Greenhouse Construction

**Instructor:** Coca, Michael  
**Department:** Industrial Education  
**Program or Curriculum:** Solar Greenhouse Construction  
**Student Level:** All levels  
**Duration:** 8 Weeks, 3.0 hrs per week  
**Contact Hours:** 24  
**Topics Covered Extensively:** Energy Storage; Intro. to Solar Energy; Solar Home Construction; Space Cooling  
**Number of Times Taught:** 2  
**Average Enrollment:** 8  

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### Solar Greenhouse Construction

**Instructor:** Yarger, Frederick L.  
**Department:** Physics  
**Course Number:** 135  
**Student Level:** All levels  
**Duration:** 10 Weeks, 2.0 hrs per week  
**Contact Hours:** 20  
**Topics Covered Extensively:** Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction  
**Number of Times Taught:** 7  
**Average Enrollment:** 20  

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### Solar Energy Use

**Instructor:** Ebenezer, J.  
**Department:** Engineering  
**Course Number:** 385  
**Student Level:** Junior or Senior  
**Duration:** 16 Weeks, 3.0 hrs per week  
**Contact Hours:** 48  
**Classroom:** 48  
**Topics Covered Extensively:** Passive Energy Utilization and Conversion  
**Instructor:** Houghton, A. V.  
**Department:** Mechanical Engineering  
**Course Number:** 362  
**Student Level:** Junior or Senior  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Photovoltaics; Solar Energy Policy Development; Solar System Components  
**Number of Times Taught:** 7  
**Average Enrollment:** 22  

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### Solar Energy System Design and Analysis

**Instructor:** Wessling, F. C.  
**Department:** Mechanical Engineering  
**Course Number:** M.E. 525  
**Student Level:** College Graduate  
**Duration:** 16 Weeks, 3.0 hrs per week  
**Contact Hours:** 48  
**Topics Covered Extensively:** Energy Conservation; Marketing/Market Analysis; Materials Research; Plumbing Techniques; Sheet Metal Techniques  
**Number of Times Taught:** 3  
**Average Enrollment:** 25  

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### Solar Energy Systems Design and Analysis

**Instructor:** Wessling, F. C.  
**Course Number:** M.E. 525  
**Student Level:** College Graduate  
**Duration:** 16 Weeks, 3.0 hrs per week  
**Contact Hours:** 48  
**Topics Covered Extensively:** Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Collector Evaluation; Solar System Components  
**Number of Times Taught:** 3  
**Average Enrollment:** 25  

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### Solar Energy Use

**Instructor:** Ebenezer, J.  
**Course Number:** 385  
**Student Level:** Junior or Senior  
**Duration:** 16 Weeks, 3.0 hrs per week  
**Contact Hours:** 48  
**Classroom:** 48  
**Topics Covered Extensively:** Passive
Solar Technology; Solar System
Components: Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 170

NM STATE U MAIN CAMPUS (2657)
LAS CRUCES, New Mexico 88003
(505) 646-2035

PROGRAMS AND CURRICULA
Solar Engineering
Degree: PhD, MS, Mechanical Engr.
Contact: Smith, P. R.
(505) 646-3501

SOLAR RELATED COURSES
Solar Energy
Instructor: Mancini, T. R.
(505) 646-3501
Course Number: 555
Department: Mechanical Engr.
Program or Curriculum: Solar Engineering
Credits: 3
Student Level: College Graduate
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Classroom: 39
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Process Heat; Industrial; Space Heating; Space Cooling
Number of Times Taught: 4
Average Enrollment: 15

Solar Energy Utilization
Instructor: Mancini, T.R./ Fenton, D.L.
(505) 646-3501
Course Number: 595
Department: Mechanical Engineering
Program or Curriculum: Solar Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Classroom: 39
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Process Heat; Industrial; Space Heating; Space Cooling
Number of Times Taught: 4
Average Enrollment: 15

COLLEGE OF
SANTA FE, COLLEGE OF (2649)
SANTA FE, New Mexico 87501
(505) 982-6011

SOLAR RELATED COURSES
Elect. from the Wind
Instructor: Dankoff, Mark
(505) 671-2573
Department: Continuing Education
New Mexico Solar Energy Research Institute

Solar Energy
Instructor: Haggard, Keith
Department: Continuing Education
Student Level: College Graduate
Duration: 8 Weeks, 2.0 hrs per week
Contact Hours: 16
Classroom: 12
Topics Covered Extensively: Passive Solar Technology; Solar Home Construction
Number of Times Taught: 15
Average Enrollment: 10

Solar Greenhouses
Instructor: Yanda, Bill
Department: Continuing Education
Student Level: College Graduate
Duration: 8 Weeks, 2.0 hrs per week
Contact Hours: 16
Classroom: 12
Topics Covered Extensively: Passive Solar Technology; Solar Home Construction; Wind Power, Small Systems
Number of Times Taught: 15
Average Enrollment: 10

Solar-Adobe Design and Construction
Instructor: Wilson, Quentin C./Chalom, Mark
Department: Continuing Education/Community Services
Student Level: All levels
Duration: 8 Weeks, 3.0 hrs per week
Contact Hours: 24
Classroom: 24
Topics Covered Extensively: Solar Home Construction; Solar Systems Design
Number of Times Taught: 7
Average Enrollment: 12

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Community/Junior Colleges

NORTHERN NM COMMUNITY COLLEGE
EL RITO, New Mexico 87530
(505) 581-4501

SOLAR RELATED COURSES

Solar-Adobe Design and Construction
Instructor: Wilson, Quentin C.
Department: Continuing Education/Community Services
Student Level: All levels
Duration: 8 Weeks, 3.0 hrs per week
Contact Hours: 24
Classroom: 24
Topics Covered Extensively: Solar Home Construction; Solar Systems Design
Number of Times Taught: 7
Average Enrollment: 12

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**Colleges/Universities**

**ADELPHI UNIVERSITY**

**GARDEN CITY, New York 11530**

(516) 294-8700

**PROGRAMS AND CURRICULA**

**Energy Institute**

Degree: MS, BS, Physics, Energy Studies

Contact: Dochar, John

(516) 294-8700

Students Taking or Completing Offering:

Educator, Researcher

**SOLAR RELATED COURSES**

**Physics of Energy**

Instructor: Burke, Edward

(516) 294-8700

Course Number: 117

Department: Physics

Program or Curriculum: Energy Institute

Credits: 3

Student Level: Junior or Senior

Duration: 15 Weeks, 2.0 hrs per week

Contact Hours: 30

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar System Maintenance; Domestic Hot Water; Space Heating; Space Cooling

Number of Times Taught: 3

Average Enrollment: 10

**Solar Heating and Cooling**

Instructor: Garrell, Martin

(516) 294-8700

Course Number: 670

Department: Physics

Program or Curriculum: Energy Institute

Credits: 3

Student Level: Junior or Senior

Duration: 15 Weeks, 2.0 hrs per week

Contact Hours: 30

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar System Maintenance; Domestic Hot Water; Space Heating; Space Cooling

Number of Times Taught: 3

Average Enrollment: 10

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**BARD COLLEGE**

**ANNANDALE-ON-HUDSON, New York 12504**

(914) 758-6822

**SOLAR RELATED COURSES**

**Alternative Energy Sources**

Instructor: Brody, Burton

(914) 758-6822

Department: Physics

Credits: 4

Student Level: All levels

Duration: 13 Weeks, 4.0 hrs per week

Contact Hours: 42

Classroom: 32

Laboratory: 2

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Electric Generation, Small Scale; Space Heating

Number of Times Taught: 1

Average Enrollment: 30

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**CLARKSON COLLEGE OF TECHN**

**POTSDAM, New York 13676**

(315) 268-6400

**SOLAR RELATED COURSES**

**Alternative Sources of Energy**

Instructor: Clark, James

(315) 268-6588

Course Number: ME 315

Department: Mechanical and Industrial Engineering

Credits: 3

Student Level: Junior or Senior

Duration: 15 Weeks, 3.0 hrs per week

Contact Hours: 45

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Solar Systems Design; Wind Power, Central Systems; Wind Power, Small Systems

Number of Times Taught: 3

Average Enrollment: 35

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**COLUMBIA U MAIN DIVISION**

**NEW YORK, New York 10027**

(212) 280-1754

**SOLAR RELATED COURSES**

**Solar Energy Applications**

Instructor: Sanders, W.T.

(212) 280-4126

Course Number: ME4224X

Department: Mechanical Engineering

Credits: 3

Student Level: College Graduate

Duration: 14 Weeks, 3.0 hrs per week

Contact Hours: 42

Classroom: 36
Topics Covered Extensively: Energy, Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling

CORNELL U STATUTORY C
ITHACA, New York 14853
(607) 256-1000

SOLAR RELATED COURSES

Energy and Man
Instructor: Albright, L. D.
(607) 256-4535
Course Number: 201
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 42
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy
Number of Times Taught: 4
Average Enrollment: 25

CUNY BROOKLYN COLLEGE
BROOKLYN, New York 11210
(212) 780-5485

PROGRAMS AND CURRICULA

Energy Related Topics
Contact: Celenza, L. S.
(212) 780-5813

SOLAR RELATED COURSES

Energy in a Technological Society
Instructor: Celenza
(212) 780-5813
Department: Physics
Program or Curriculum: Energy Related Topics
Credits: 3
Student Level: College Graduate
Duration: 2 Weeks, 23.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar Economics; Solar Home Construction; Elec'1 Generation, Central; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

CUNY C OF STATEN ISLAND
STATEN ISLAND, New York 10301
(212) 720-3000

SOLAR RELATED COURSES

Solar Energy
Instructor: Nankivell, John
(212) 390-7524
Course Number: MET 108
Department: Mechanical Technology
Credits: 3
Student Level: High School Graduate
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Number of Times Taught: 1
Average Enrollment: 46

CUNY CITY COLLEGE
NEW YORK, New York 10031
(212) 690-6741

SOLAR RELATED COURSES

Prins. Appls. of Solar Energy
Instructor: Lustins, M.
Department: Physics
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Intro. to Solar Energy
Average Enrollment: 18

CUNY GRAD SCH & U CENTER
NEW YORK, New York 10036
(212) 790-4395

SOLAR RELATED COURSES

Direct Energy Conversion
Instructor: Shulman, Carl
Department: Electrical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Laboratory: 36
Number of Times Taught: 3
Average Enrollment: 10

Solar Energy Thermal Process
Instructor: Hewett, Thomas A.
Department: Mechanical Engineering
Credits: 3
Student Level: College Graduate
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar System Design; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 12

HAMPTON COLLEGE
CLINTON, New York 13323
(315) 859-6011

SOLAR RELATED COURSES

Physics of Energy
Instructor: Ring, James W.
Department: Physics
Student Level: Freshman or Sophomore
Duration: 6 Weeks, 12.0 hrs per week
Contact Hours: 72
Classroom: 36
Laboratory: 36
Number of Times Taught: 2
Average Enrollment: 20

MANHATTAN COLLEGE
BRONX, New York 10461
(212) 548-1400

SOLAR RELATED COURSES

Direct Energy Conversion
Instructor: Ley, James
Department: Engineering, Electrical Engin.
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Number of Times Taught: 2
Average Enrollment: 10

Energy Conversion Systems
Instructor: Koplik, Bernard
Department: Engineering, Mech. Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion

Energy Sources
Instructor: Ley, James
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion

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New York Solar Energy Research Institute

Energy Sources; Energy Conversion
Number of Times Taught: 5
Average Enrollment: 15

Radiation Heat Transfer
Instructor: Koplik, Bernard
(212) 548-1400
Course Number: 709
Department: Engineering, Mechanical Eng
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Heat and Energy Transfer

Solar Energy Systems
Instructor: Koplik, Bernard
(212) 548-1400
Course Number: 711
Department: Mechanical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Solar System Components; Intro. to Solar Energy; Solar Systems Design
Number of Times Taught: 1
Average Enrollment: 15

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NAZARETH C OF ROCHESTER
ROCHESTER, New York 14610
(716) 586-2525

SOLAR RELATED COURSES

Energy, Our Servant-Our Problem
Instructor: Gannaway, Susan
(716) 566-2525
Course Number: CHM 111
Department: Chemistry
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 42
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation
Number of Times Taught: 2
Average Enrollment: 30

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NEW YORK UNIVERSITY
NEW YORK, New York 10012
(212) 598-1212

PROGRAMS AND CURRICULA

Solar Energy
Degree: Certificate of Participation
Contact: Philippus, Denis Sinclair
(212) 598-2101

SOLAR RELATED COURSES.

Instructor: Hahn, Marshall S.
(212) 598-3356
Department: Technology and Industrial Education
Credits: 3
Student Level: College Graduate
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Domestic Hot Water; Space Heating; Wind Power, Small Systems
Number of Times Taught: 1
Average Enrollment: 16

Solar Energy
Instructor: Wilke, Douglas A.
(516) 759-9050
Department: NYMC/Continuing Education
Program or Curriculum: Solar Energy
Credits: 1
Student Level: College Graduate
Duration: 1 Weeks, 24.0 hrs per week
Contact Hours: 24
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Plumbing Techniques; Solar Energy Policy Development; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Swimming Pool Heating; Elec'1 Generation, Central; Elec'1 Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 10
Average Enrollment: 30

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**POLYTECHNIC INST NEW YORK** (2796)
BROOKLYN, New York 11201
(212) 643-5000

### SOLAR RELATED COURSES

**Solar Energy for Heating and Cooling**
- **Instructor:** Scarl, Donald
  - **Course Number:** ES929
  - **Department:** Interdepartmental
  - **Credits:** 3
  - **Student Level:** College Graduate
  - **Duration:** 14 Weeks, 3.0 hrs per week
  - **Contact Hours:** 42
  - **Classroom:** 42
  - **Topics Covered Extensively:** Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design
  - **Number of Times Taught:** 4
  - **Average Enrollment:** 40

**Solar Energy System**
- **Instructor:** Shen, C. N.
  - **Course Number:** 35.446
  - **Department:** Electrical and Systems Engineering
  - **Credits:** 3
  - **Student Level:** Junior or Senior
  - **Duration:** 15 Weeks, 3.0 hrs per week
  - **Contact Hours:** 45
  - **Classroom:** 45
  - **Topics Covered Extensively:** Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling
  - **Number of Times Taught:** 2
  - **Average Enrollment:** 20

**RENSSELAER POLY INSTITUTE** (2803)
TROY, New York 12181
(518) 270-6000

### SOLAR RELATED COURSES

**Energy Conscious Design**
- **Instructor:** Kroener, Walter
  - **Course Number:** 10.4701
  - **Department:** Architecture
  - **Credits:** 3
  - **Student Level:** Junior or Senior
  - **Duration:** 14 Weeks, 3.0 hrs per week
  - **Contact Hours:** 42
  - **Classroom:** 42
  - **Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems
  - **Number of Times Taught:** 2
  - **Average Enrollment:** 25

**Alternate Energy Sources**
- **Instructor:** Walter, W. W.
  - **Course Number:** EHFM 601
  - **Department:** Mechanical Engineering
  - **Credits:** 4
  - **Student Level:** Junior or Senior
  - **Duration:** 11 Weeks, 4.0 hrs per week
  - **Contact Hours:** 44
  - **Classroom:** 44
  - **Topics Covered Extensively:** Alternate Energy Sources; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems
  - **Number of Times Taught:** 2
  - **Average Enrollment:** 22

**ROCHESTER INST TECHNOLOGY** (2894)
ROCHESTER, New York 14623
(716) 464-2411

### SOLAR RELATED COURSES

**Energy Conversion**
- **Instructor:** Lubin, M.
  - **Course Number:** HAS 252
  - **Department:** Mechanical and Aerospace Sciences
  - **Credits:** 4
  - **Student Level:** Junior or Senior
  - **Duration:** 14 Weeks, 3.0 hrs per week
  - **Contact Hours:** 42

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New York

New York Solar Energy Research Institute

Classroom: 42
Topics Covered Extensively: Energy Conversion
Number of Times Taught: 5
Average Enrollment: 20

**SAINT BONAVENTURE University**

SAINT BONAVENTURE, New York 14778
(716) 375-2000

SOLAR RELATED COURSES

Alternative Energy Sources
Instructor: Neeson, John
(716) 375-2516
Course Number: FHSC 115
Department: Physics
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Heat and Energy Transfer

**SAINT JOSEPH'S COLLEGE**

SAINT JOSEPH'S COLLEGE, New York 14778
(716) 375-2000

SOLAR RELATED COURSES

Energy: Its Science and Technology
Instructor: Heininger, Clarence
(716) 375-2516
Course Number: SCI 200
Department: Chemistry
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Collector Evaluation/Design; Wind Power; Central Systems; Wind Power; Small Systems
Number of Times Taught: 4
Average Enrollment: 12

**SAINT JOHN FISHER COLLEGE**

ROCHESTER, New York 14618
(716) 586-6400

SOLAR RELATED COURSES

Solar Energy Workshop
Instructor: Stewart, Ronald
(518) 457-7584
Department: Atmospheric Science
Program or Curriculum: Solar Energy Meteor. and Train. Site
Credits: 3
Student Level: College Graduate
Duration: 4 Weeks, 40.0 hrs per week
Contact Hours: 40
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 2
Average Enrollment: 25

**SUNY AT ALBANY**

Albany, New York 12222
(518) 457-3300

PROGRAMS AND CURRICULA

Solar Energy Meteor. and Train. Site
Degree: PhD, MS, BS, Atmospheric Sciences
Contact: Stewart, Ronald
(518) 457-7584
Students Taking or Completing Offering: Educator, Researcher, Solar Technician

SOLAR RELATED COURSES

Solar Radiation
Instructor: Czapski, Ulrich
(518) 457-3991
Course Number: 2639
Department: Atmospheric Science
Program or Curriculum: Solar Energy Meteor. and Train. Site
Credits: 3
Student Level: College Graduate
Duration: 20 Weeks, 3.0 hrs per week
Contact Hours: 60
Number of Times Taught: 1
Average Enrollment: 10

**SUNY AT BINGHAMTON**

BINGHAMTON, New York 13901
(607) 777-2000

PROGRAMS AND CURRICULA

Physics-Specialization in Solar Energy
Degree: BA, BS
Contact: Stannard, C. R.
(607) 777-2217
Students Taking or Completing Offering: Educator, Researcher, Solar Engineer
SOLAR RELAT ED COURSES

Energy Sources and Conversion
Instructor: DePuy, George
Department: General Studies
Course Number: BT192
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 35
Classroom: 35
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating; Elec’t Generation, Small Scale; Space Heating; Space Cooling; Wind Power; Small Systems

Introduction to Solid State Physics
Instructor: Stannard, C. R.
Department: Physics
Course Number: 284
Program or Curriculum: Physics-Specialization in Solar Energy
Credits: 4
Student Level: Junior or Senior
Duration: 14 Weeks, 4.0 hrs per week
Contact Hours: 56
Topics Covered Extensively: Energy Conversion; Materials Research; Photovoltaics
Number of Times Taught: 8
Average Enrollment: 6

Solar Energy
Instructor: Stannard, C. R.
Department: Physics
Program or Curriculum: Physics-Specialization in Solar Energy
Credits: 4
Student Level: All levels
Duration: 14 Weeks, 4.0 hrs per week
Contact Hours: 56
Classroom: 42

The Environment and Physical Principles
Instructor: Stannard, C. R.
Department: Physics
Program or Curriculum: Physics-Specialization in Solar Energy
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conversion; Photovoltaics; Elec’t Generation, Small Scale
Number of Times Taught: 10
Average Enrollment: 8

Advanced Thermodynamics
Instructor: Springer, R.
Department: Engineering Science
Course Number: ENS 529
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer
Number of Times Taught: 10
Average Enrollment: 10

Direct Energy Conversion
Instructor: Springer, R.
Department: Engineering Science
Course Number: NUE 570
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conversion; Photovoltaics; Elec’t Generation, Small Scale
Number of Times Taught: 10
Average Enrollment: 8

Electrophysics Laboratory I
Instructor: Malone, O.
Department: Electrical Engineering
Course Number: EE 557
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Laboratory: 45
Topics Covered Extensively: Energy Conversion; Photovoltaics
Electrophysics Laboratory II
Instructor: Maloney, D.  
(716) 636-2422
Course Number: EE 558
Department: Electrical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Laboratory: 45
Topics Covered Extensively: Energy Conversion; Photovoltaics

Energy Engineering I
Instructor: Springer, R.  
(716) 831-5472
Course Number: ENS 410/510
Department: Engineering Science
Credits: 4
Student Level: Junior or Senior
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 60
Laboratory: 60
Topics Covered Extensively: Alternate Energy Sources; Energy Storage
Number of Times Taught: 5
Average Enrollment: 25

Energy Engineering II
Instructor: Springer, R.  
(716) 831-5472
Course Number: ENS 411/530
Department: Engineering Science
Credits: 4
Student Level: Junior or Senior
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Laboratory: 60
Topics Covered Extensively: Energy Conservation; Energy Conversion; Electrical Generation, Central; Electrical Generation, Small Scale
Number of Times Taught: 5
Average Enrollment: 10

Energy Systems I
Instructor: Gebhardt, B.  
(716) 636-2593
Course Number: EE 541
Department: Mechanical Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 60
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Electrical Generation, Central

Energy Systems II
Instructor: Gebhardt, B.  
(716) 636-2593
Course Number: ME 432
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 60
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Electrical Generation, Central

Environmental Heat & Mass Transfer
Instructor: Gebhardt, B.  
(716) 636-2593
Course Number: ME 560
Department: Mechanical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Laboratory: 30
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer

Heat and Mass Transport
Instructor: Springer, R.  
(716) 831-5472
Course Number: ENS 302
Department: Engineering Science
Credits: 4
Student Level: Junior or Senior
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 45
Laboratory: 30
Topics Covered Extensively: Heat and Energy Transfer
Number of Times Taught: 15
Average Enrollment: 25

Heat Transfer I
Instructor: Gebhardt, B.  
(716) 636-2593
Course Number: ME 545
Department: Mechanical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Laboratory: 45
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Collector Evaluation/Design

Heat Transfer II
Instructor: Gebhardt, B.  
(716) 636-2593
Course Number: ME 546
Department: Mechanical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Laboratory: 45
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Collector Evaluation/Design

Physical Electronics
Instructor: Maloney, D.  
(716) 636-2422
Course Number: EE 350
Department: Electrical Engineering
Credits: 4
Student Level: Junior or Senior
Solar Energy Engineering
Instructor: Springer, R.
(716) 831-5472
Course Number: ENS 463/552
Department: Engineering Science
Credits: 4
Student Level: Junior or Senior
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 60
Topics Covered Extensively: Energy Conversion; Photovoltaics

Storage: Intro. to Solar Energy;
Passive Solar Technology;
Photovoltaics; Solar System Components;
Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec.'l
Generation, Small Scale; Space Heating;
Space Cooling
Number of Times Taught: 10
Average Enrollment: 5

Solid-State Electrical Engineering I
Instructor: Malone, D.
(716) 636-2422
Course Number: EE 554
Department: Electrical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conversion; Photovoltaics

Solid-State Electrical Engineering II
Instructor: Malone, D.
(716) 636-2422
Course Number: EE 555
Department: Electrical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conversion; Photovoltaics

Solid-State Optical Devices
Instructor: Malone, D.
(716) 636-2422
Course Number: EE 656
Department: Electrical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conversion; Photovoltaics

Transport Phenomena in Chem. Engin II
Instructor: Ulbrecht, J.
(716) 636-2911
Course Number: CHE 510
Department: Chemical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer
Number of Times Taught: 3

Transport Phenomena in Chemical Engineering I
Instructor: Ulbrecht, J.
(716) 636-2911
Course Number: CHE509
Department: Chemical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer
Number of Times Taught: 10

SUNY AT STONY BROOK MAIN CAN
STONY BROOK, New York 11794
(516) 246-5000.

SOLAR RELATED COURSES

Energy and the Environment 110
Instructor: Lee, L. L.
(516) 246-6102
Course Number: PHY 110
Department: Physics
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conversion; Heat and Energy Transfer
Number of Times Taught: 10
Average Enrollment: 25

Energy and the Environment 549
Instructor: Fox, David
(516) 246-6106
Course Number: CEN 549
Department: Physics
Credits: 3
Student Level: College Graduate
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 42
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy
Number of Times Taught: 8
Average Enrollment: 45

SUNY C ENVRMTL SCI- FORESTRY
SYRACUSE, New York 13210
(315) 473-6611

SOLAR RELATED COURSES

Energy: Production and Conservation
Instructor: Palmer, David G.
(315) 473-8796
Course Number: ERE6411
Department: Environmental and Resource Engineering
Credits: 3
Student Level: College Graduate
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation

SUNY COLLEGE AT BROCKPORT
BROCKPORT, New York 14420
(716) 395-2211

SOLAR RELATED COURSES

Solar Energy
Instructor: Greer, Ira W.
(716) 395-2636
Course Number: ESC 425
Department: Earth Sciences
Credits: 1
Student Level: Junior or Senior
Duration: 8 Weeks, 2.0 hrs per week
Contact Hours: 16
Classroom: 16
Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Solar System Components; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 50

SUNY COLLEGE AT FREDONIA
FREDONIA, New York 14063
(716) 673-3111

SOLAR RELATED COURSES

Energy & Man
Instructor: Connelly, John J.
(716) 673-3305
Course Number: PH103
Department: Physics
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation
Number of Times Taught: 12

SUNY COLLEGE AT GENESEO
GENESEO, New York 14454
(716) 245-5211

SOLAR RELATED COURSES

Ener. Ed. Workshop/Solar Energy
Instructor: Kimsey, K. F.
(716) 245-5283
Course Number: INT 979
Department: Physics
Credits: 1
Student Level: College Graduate
Duration: 11 Weeks, 15.0 hrs per week
Contact Hours: 15
SUW


Number of Times Taught: 2
Average Enrollment: 15

** SOLAR RELATED COURSES **

SUW COLLEGE AT OSWEGO (2848)
OSWEGO, New York 13125
(315) 341-2500

Instructor: Hinrichs, R./Salvagin, C.
Department: Phys/Earth Sci/Indus. Arts
Credits: 3
Student Level: All levels
Duration: 6 Weeks, 6.7 hrs per week
Contact Hours: 40
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design

Energy From Nature to Man
Instructor: Hinrichs, R.
Course Number: 105
Department: Physics
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 8
Average Enrollment: 40

Energy Technologies and Efficient Res. Fuel Utilization
Instructor: Schneider, Raymond
Course Number: ES 315-515
Department: Earth Sciences and Industrial Arts
Credits: 3
Student Level: All levels
Duration: 6 Weeks, 6.5 hrs per week
Contact Hours: 39
Classroom: 39
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling;

Wind Power, Small Systems
Number of Times Taught: 1
Average Enrollment: 40

Thermodynamics and Applications
Instructor: Hinrichs, R.
Course Number: 360
Department: Physics
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Space Heating
Number of Times Taught: 3
Average Enrollment: 30

Using Solar Energy for Res. Heating
Instructor: Gerbracht, Carlton
Course Number: CE 300
Department: Industrial Arts
Student Level: College Graduate
Duration: 4 Weeks, 1.5 hrs per week
Contact Hours: 6
Classroom: 6
Topics Covered Extensively: Intro. to Solar Energy; Solar Systems Installation
Number of Times Taught: 2
Average Enrollment: 40

** SOLAR COLLEGE DENISON BROWNG (2849) **

PLATTSBURGH, NEW YORK 12901
(518) 564-2000

PROGRAMS AND CURRICULA

Environmental Sci. (Alternate Energy)
Degree: BA, Environmental Science
Contact: Dawson, James C.
(518) 564-2178
Students Taking or Completing Offering: Contractor, Do-it-yourself Homeowner, Solar Technician

SOLAR RELATED COURSES

Energy Systems
Instructor: Kissner, Fritz
Course Number: ENV 369
Department: Institute for Man and Environment
Program or Curriculum: Environmental Sci. (Alternate Energy)
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology;
### New York Solar Energy Research Institute

<table>
<thead>
<tr>
<th>Energy-Resources and Conservation</th>
<th>Instructor: Barnett, S. G.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Number: GEL 305</td>
<td>(518) 564-3107</td>
</tr>
<tr>
<td>Department: Earth Sciences</td>
<td></td>
</tr>
<tr>
<td>Program or Curriculum: Environmental Sci.</td>
<td>(Alternate Energy)</td>
</tr>
<tr>
<td>Credits: 3</td>
<td></td>
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<tr>
<td>Student Level: Junior or Senior</td>
<td></td>
</tr>
<tr>
<td>Duration: 15 Weeks, 3.0 hrs per week</td>
<td></td>
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<tr>
<td>Contact Hours: 45</td>
<td></td>
</tr>
<tr>
<td>Classroom: 45</td>
<td></td>
</tr>
<tr>
<td>Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Heat and Energy Transfer</td>
<td></td>
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<tr>
<td>Number of Times Taught: 6</td>
<td></td>
</tr>
<tr>
<td>Average Enrollment: 60</td>
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</table>

### Residential Research Semester

<table>
<thead>
<tr>
<th>Instructor: Dawson, James C.</th>
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</thead>
<tbody>
<tr>
<td>Course Number: ENV 313-318</td>
</tr>
<tr>
<td>Department: Institute for Man and Environment</td>
</tr>
<tr>
<td>Program or Curriculum: Environmental Sci.</td>
</tr>
<tr>
<td>Credits: 15</td>
</tr>
<tr>
<td>Student Level: Junior or Senior</td>
</tr>
<tr>
<td>Duration: 15 Weeks, 45.0 hrs per week</td>
</tr>
<tr>
<td>Contact Hours: 675</td>
</tr>
<tr>
<td>Classroom: 75</td>
</tr>
<tr>
<td>Laboratory: 600</td>
</tr>
<tr>
<td>Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Plumbing Techniques: Sheet Metal Techniques; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating</td>
</tr>
<tr>
<td>Number of Times Taught: 4</td>
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<tr>
<td>Average Enrollment: 40</td>
</tr>
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### SOLAR RELATED COURSES

#### Solar Energy Applications

<table>
<thead>
<tr>
<th>Instructor: LaGraff, John E.</th>
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</thead>
<tbody>
<tr>
<td>Course Number: MEE 587</td>
</tr>
<tr>
<td>Department: Mechanical and Aerospace Engineering</td>
</tr>
<tr>
<td>Credits: 3</td>
</tr>
<tr>
<td>Student Level: Junior or Senior</td>
</tr>
<tr>
<td>Duration: 15 Weeks, 3.0 hrs per week</td>
</tr>
<tr>
<td>Contact Hours: 39</td>
</tr>
<tr>
<td>Topics Covered Extensively: Intro. to Solar Energy; Solar Collector Evaluation/Design; Space Heating</td>
</tr>
<tr>
<td>Number of Times Taught: 3</td>
</tr>
<tr>
<td>Average Enrollment: 30</td>
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</table>

#### Solar Energy Analysis and Design

<table>
<thead>
<tr>
<th>Instructor: Aubrey, William C.</th>
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<tbody>
<tr>
<td>Course Number: ME 144</td>
</tr>
<tr>
<td>Department: Mechanical Engineering</td>
</tr>
<tr>
<td>Credits: 3</td>
</tr>
<tr>
<td>Student Level: Junior or Senior</td>
</tr>
<tr>
<td>Duration: 10 Weeks, 3.3 hrs per week</td>
</tr>
<tr>
<td>Contact Hours: 33</td>
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<tr>
<td>Classroom: 33</td>
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<tr>
<td>Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling</td>
</tr>
</tbody>
</table>
US MERCHANT MARINE ACADEMY
KINGS POINT, NEW YORK, New York 11024
(516) 482-8200

SOLAR RELATED COURSES

Physics of Solar Energy
Instructor: Dragor, P.
Course Number: H436
Department: Mathematics and Science
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 27
Laboratory: 3
Topics Covered Extensively: Heat and Energy Transfer; Solar Collector Evaluation/Design; Domestic Hot Water
Number of Times Taught: 3
Average Enrollment: 35

VASSAR COLLEGE
POUGHKEEPSIE, New York 12601
(914) 452-7000

SOLAR RELATED COURSES

Environmental Physics
Instructor: Stearns, R.L.
Course Number: 102
Department: Physics
Credits: 3
Student Level: All levels
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Classroom: 39
Number of Times Taught: 5
Average Enrollment: 20

CAYUGA COMMUNITY COLLEGE
AUBURN, New York 13021
(315) 253-7345

PROGRAMS AND CURRICULA
Solar Energy Technology
Degree: Solar Energy Technology
Contact: Komanecky, William
(315) 253-7345
Students Taking or Completing Offering:
Do-it-yourself Homeowner, Electrician, Plumber

SOLAR RELATED COURSES

Seminar in Solar Energy
Instructor: Harrington, Charles
Course Number: TECH 191
Department: Occ. Ed.
Program or Curriculum: Seminar in Solar Energy
Credits: 3
Student Level: All levels
Duration: 17 Weeks, 6.0 hrs per week
Contact Hours: 102
Classroom: 51
Laboratory: 51
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 5
Average Enrollment: 25

COMMUNITY/JUNIOR COLLEGES

ADIRONDACK COMMUNITY COLLEGE
GLENS FALLS, New York 12801
(518) 793-4491

PROGRAMS AND CURRICULA

Seminar in Solar Energy
Degree: Heating Certificate
Contact: Harrington, Charles
(518) 747-0274
Students Taking or Completing Offering:
Solar Technician

Solar Heating Energy
Instructor: Simkin, Robert
(315) 364-8065
Department: Science
Program or Curriculum: Solar Energy Technology
Credits: 1
Student Level: All levels
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Classroom: 15
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Space Heating
Number of Times Taught: 2
Average Enrollment: 23

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SOLAR RELATED COURSES

Solar Energy
Instructor: Drum, Donald A. (518) 828-4181
Course Number: CE 005
Department: Continuing Education
Student Level: All levels
Duration: 10 Weeks, 2.0 hrs per week
Contact Hours: 20
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 3
Average Enrollment: 71

CUW NEW YORK CITY CC
(2696)
BROOKLYN, New York 11201
(212) 643-4033

PROGRAMS AND CURRICULA

Environmental Control Technology
Degree: AD, Applied Science
Contact: Lorask, Samuel (212) 962-0407

SOLAR RELATED COURSES

Environmental Design I
Instructor: Farkas, Stanley (212) 239-1662
Course Number: EC 110
Department: Environmental Control Technology
Program or Curriculum: Environmental Control Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer
Number of Times Taught: 70
Average Enrollment: 25

Environmental Design Laboratory
Instructor: Farkas, Stanley (212) 239-1662
Course Number: EC111
Department: Environmental Control Technology
Program or Curriculum: Environmental Control Technology

Hydronic Systems Design
Instructor: Pita, Edward (212) 239-1662
Course Number: EC220
Department: Environmental Control Technology
Program or Curriculum: Environmental Control Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 40
Laboratory: 60
Number of Times Taught: 16
Average Enrollment: 25

Refrigeration II
Instructor: Lomask, S. (212) 239-1696
Course Number: EC410
Department: Environmental Control Technology
Program or Curriculum: Environmental Control Technology
Credits: 2
Student Level: Junior or Senior
Duration: 15 Weeks, 2.0 hrs per week
Contact Hours: 30
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer
Number of Times Taught: 16
Average Enrollment: 25

Sum. Inst.-Ener. Ed. (Sec. Sch. Teach.)
Instructor: Lomack, S. (212) 962-0407

GENESEE COMMUNITY COLLEGE
BATAVIA, New York 14020
(716) 343-0055

SOLAR RELATED COURSES

Solar Energy
Instructor: Cole, Ronald J.
Course Number: 192
Department: Math-Science
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 37
Laboratory: 23
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Intro. to Solar Energy; Passive Solar Technology; Domestic Hot Water; Swimming Pool Heating; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 1
Average Enrollment: 26

MCHAIC VLY CNTY COLLEGE
UTICA, New York 13501
(315) 792-5500

PROGRAMS AND CURRICULA

Solar Energy Technology
Degree: Solar Energy Technology
Contact: Dunning, Francis
(315) 792-5514

SOLAR RELATED COURSES

Instructor: Dunning, Francis
(315) 792-5514
Course Number: CC530
Department: Physics and Engineering Science
Program or Curriculum: Solar Energy Technology
Credits: 3
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Systems Installation; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 30

Solar Energy II (Installation)
Instructor: Dunning, Francis
(315) 792-5514
Course Number: D2985
Department: Physics
Program or Curriculum: Solar Energy Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 50
Classroom: 30
Laboratory: 20
Topics Covered Extensively: Appropriate Technology; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Energy; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 30

Solar III (Sol. Ener. Sys. Des. and Ana.)
Instructor: Dunning, Francis
(315) 792-5514
Department: Physics
Program or Curriculum: Solar Energy Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 50
Classroom: 30
Laboratory: 20
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Materials Research; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

Solar IV (Alternate Energy Sources)
Instructor: Dunning, Francis
(315) 792-5514
Department: Physics
Program or Curriculum: Solar Energy Technology
New York Solar Energy Research Institute

Curriculum: Solar Energy Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 50
Laboratory: 20
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design
Number of Times Taught: 3
Average Enrollment: 40

ORANGE CO CmTY COLLEGE
MIDDLETOWN, New York 10940
(914) 343-1121

SOLAR RELATED COURSES

Design of Solar Energy Systems
Instructor: Large, George (914) 343-1121
Department: Physical Sciences
Student Level: College Graduate
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling
Number of Times Taught: 2
Average Enrollment: 25

ROCKLAND CITY COLLEGE
SUFFERIN, New York 10901
(914) 356-4650

SOLAR RELATED COURSES

Solar Energy - Its use in the 1970's
Instructor: Cataldo, Ronald (914) 356-1527
Course Number: CF 189
Department: Continuing Ed. and Community Service
Student Level: High School Graduate
Duration: 10 Weeks, 2.0 hrs per week
Contact Hours: 20
Number of Times Taught: 2
Average Enrollment: 20
SUNY AGR C TECH C CANTON (2855)
CANTON, New York 13617
(315) 386-7204

SOLAR RELATED COURSES

**Practical Applications of Solar Energy**
Instructor: Emhof, Carson
Course Number: 30302
Department: Energ. Tech. Division
Credits: 2
Student Level: High School Graduate
Duration: 15 Weeks, 2.0 hrs per week
Contact Hours: 30
Classroom: 30
Number of Times Taught: 3
Average Enrollment: 40

SUNY AGR C TECH C DELHI (2857)
DELHI, New York 13753
(607) 746-4111

PROGRAMS AND CURRICULA

Construction Tech./Civil Tech.
Degree: A.D., Applied Science
Contact: Duncan, George
(607) 746-4223
Students Taking or Completing Offering:
Mechanical or Electrical Contractor, Contractor, Other

SOLAR RELATED COURSES

**General Chemistry**
Instructor: Onasch, Frederick
Course Number: 9512
Department: Physical Sciences
Program or Curriculum: Construction Tech./Civil Tech.
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 5.0 hrs per week
Contact Hours: 75
Classroom: 30
Laboratory: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Materials Research; Photovoltaics

General Physics 9522
Instructor: Vetter, Willard
Course Number: 9522
Department: Physical Sciences
Program or Curriculum: Construction Tech./Civil Tech.
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 30
Laboratory: 30
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy
Average Enrollment: 100

Mechanical Equipment for Buildings
Instructor: Hampel, John
Course Number: 3741
Department: Construction Technology
Program or Curriculum: Construction Tech./Civil Tech.
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 45
Laboratory: 30
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Plumbing Techniques
Number of Times Taught: 20
Average Enrollment: 65

Thermodynamics and Heat Ins.
Instructor: Hampel, John
(607) 746-4386
Course Number: 3711
Department: Construction Technology
Program or Curriculum: Construction Tech/Civil Tech.
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 4.0 hrs per week
Contact Hours: 60
Classroom: 45
Laboratory: 30
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Plumbing Techniques
Number of Times Taught: 20
Average Enrollment: 65

Water Resources
Instructor: Singer, Darrell
(607) 746-4391
Course Number: 3554
Department: Civil Technology
Program or Curriculum: Construction Tech/Civil Tech.
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 6.0 hrs per week
Contact Hours: 90
Classroom: 30
Laboratory: 60
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage
Number of Times Taught: 20
Average Enrollment: 65

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TOMPKINS-CORTLAND CC
DREYDEN, New York 13053
(607) 844-8211

SOLAR RELATED COURSES

Home Use of the Sun's Energy
Instructor: Klein, Gary
(607) 844-8211
Course Number: CEET 708
Department: Lifelong Learning
Student Level: All levels
Duration: 8 Weeks, 5.0 hrs per week
Contact Hours: 24
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Systems Installation
Number of Times Taught: 3
Average Enrollment: 14

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WESTCHESTER CNTY COLLEGE
VALHALLA, New York 10595
(914) 347-7000

SOLAR RELATED COURSES

Alternate Energy Resources & Lab.
Instructor: Lee, Diana
(914) 347-6930
Course Number: 190 172-3
Department: Physical Science
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 5.0 hrs per week
Contact Hours: 75
Classroom: 45
Laboratory: 30
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components

Solar Heating and Energy Cons.
Instructor: Wojan, C.
(914) 347-6930
Department: Mechanical Technology
Student Level: All levels
Duration: 6 Weeks, 2.0 hrs per week
Contact Hours: 12
Classroom: 12
Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 13

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Other Educational Institutions

ALAA PROFESSIONAL STUDY SERIES
1290 Avenue of the Americas
NY, New York 10019

SOLAR RELATED COURSES

Wind Engineering
Instructor: Sforza, Pasquale
(212) 561-4300
Duration: 2.0 Days
Topics Covered Extensively: Wind Power, Central Systems; Wind Power, Small Systems

AMERICAN SOCIETY OF MECHANICAL ENGINEERING
345 E. 47th St.
NY, New York 10017
(212) 644-7743

PROGRAMS AND CURRICULA

*Professional Development
(212) 644-7743

SOLAR RELATED COURSES

*Short Courses
Program or Curriculum: *Professional Development

BROOME-DELAWARE-TIIOOA BOLES
Ed. Center, Upper Glenwood Rd.
Binghamton, New York 13905

SOLAR RELATED COURSES

*Solar Training in Electronics Course

NASSAU COUNTY BOLES
Valentines Rd. & The Plains Rd.
Westbury, New York 11590

SOLAR RELATED COURSES


NY INST TECHN MAIN CAMPUS
OLD HESTBURY, New York 11568
(516) 685-7516

SOLAR RELATED COURSES

Special Studies in Architecture
Instructor: Wilkie, Doug
Course Number: 6201
Department: Architecture
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing
Colleges/Universities

APPALACHIAN ST UNIVERSITY (2906)
BOONE, North Carolina 28608
(704) 262-2000

SOLAR RELATED COURSES

Solar Energy for Homes
Instructor: Manola, Karl C.
(704) 262-3090
Course Number: 3530
Department: Physics
Credits: 1
Student Level: All levels
Duration: 8 Weeks, 2.0 hrs per week
Contact Hours: 16
Classroom: 16

Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 90

DUKE UNIVERSITY (2920)
DURHAM, North Carolina 27706
(919) 684-8111

PROGRAMS AND CURRICULA

Energy Conservation
Degree: MS, Civil, Electrical, Mechanical Engineering
Contact: Chaddock, Jack B.
(919) 684-2832

SOLAR RELATED COURSES

Materials Science and Energy Technology
Instructor: Shepard, Marion L.
(919) 684-2832
Course Number: ME 113
Department: Engineering
Program or Curriculum: Energy Conservation
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45

Topics Covered Extensively: Alternate Energy Sources; Intro. to Solar Energy; Materials Research; Photovoltaics
Number of Times Taught: 4
Average Enrollment: 12

Solar Electric Power Systems
Instructor: Wang, Paul P.
(919) 684-3123
Course Number: EE 155
Department: Engineering
Program or Curriculum: Energy Conservation

Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 4.0 hrs per week
Contact Hours: 56
Classroom: 28
Laboratory: 28

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 20

EAST CAROLINA UNIVERSITY (2923)
GREENVILLE, North Carolina 27834
(919) 757-6212

SOLAR RELATED COURSES

Solar Energy
Instructor: Adler, Carl/ Byrd, William
(919) 757-6739
Course Number: 5640
Department: Physics
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 4.0 hrs per week
Contact Hours: 56
Classroom: 28
Laboratory: 28

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 20
**NC AGRL & TECH STATE U** (2905)
GREENSBORO, North Carolina 27411
(919) 379-7500

**SOLAR RELATED COURSES**

**Energy Conversion**
Instructor: Klett, D. E.
Course Number: 563
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

Number of Times Taught: 1
Average Enrollment: 15

**Solid State Energy Conversion**
Instructor: Stefanakos, E. K.
Course Number: 608
Department: Electrical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 12 weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 36

Topics Covered Extensively: Intro. to Solar Energy; Photovoltaics; Solar Systems Design; Space Heating

Number of Times Taught: 1
Average Enrollment: 10

**NC AT ASHEVILLE, U OF** (2907)
ASHEVILLE, North Carolina 28804
(704) 258-0200

**SOLAR RELATED COURSES**

**Design of Solar Heated Homes**
Instructor: Cole, Robert S.
Course Number: PHY 272
Department: Physics
Credits: 2
Student Level: All levels
Duration: 16 weeks, 2.0 hrs per week
Contact Hours: 32
Classroom: 32

Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction;

**Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water**

Number of Times Taught: 4
Average Enrollment: 60

**Passive Solar Systems**
Instructor: Cole, Robert s.
Department: Physics
Credits: 2
Student Level: All levels
Duration: 16 weeks, 2.0 hrs per week
Contact Hours: 32
Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction

**NC AT CHARLOTTE, U OF** (2975)
CHARLOTTE, North Carolina 28223
(704) 597-2000

**SOLAR RELATED COURSES**

**Energy Conversion I**
Course Number: ESM412
Department: Engineering
Topics Covered Extensively: Energy Conservation

**Energy Conversion II**
Course Number: ESM413
Department: Engineering
Topics Covered Extensively: Energy Conversion; Photovoltaics

**Heating & Air Conditioning**
Course Number: MGT441
Topics Covered Extensively: Solar System Components; Space Heating; Space Cooling

**NC AT GREENSBORO, U OF** (2976)
GREENSBORO, North Carolina 27412
(919) 379-5000

**SOLAR RELATED COURSES**

**Energy Options and the Environment**
Instructor: Heisner, Gerald W.
Course Number: PHYS. 338
Department: Arts and Sciences/Physics
Credits: 3
Student Level: All levels
Duration: 15 weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation;
North Carolina Solar Energy Research Institute

Passive Solar Technology
Number of Times Taught: 10
Average Enrollment: 25

NC STATE U RALEIGH
Raleigh, North Carolina 27607
(919) 737-2011

SOLAR RELATED COURSES

Energy Conservation Techniques
Instructor: Barnes, Donald
(919) 737-2203
Course Number: ARC 592-G
Department: Architecture
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Energy Conservation; Energy Storage; Passive Solar Technology; Solar Home Construction; Space Heating
Number of Times Taught: 1
Average Enrollment: 20

Energy Conversion in Bio. Systems
Instructor: Suggs, Charles W.
(919) 737-3101
Course Number: BAE 303
Department: Biological and Agricultural Engineering
Credits: 2
Student Level: Junior or Senior
Duration: 15 Weeks, 2.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water
Number of Times Taught: 5
Average Enrollment: 18

USTN CAROLINA UNIVERSITY
CULLOWHEE, North Carolina 28723
(704) 293-7211

PROGRAMS AND CURRICULA

Faculty Dev. in Ener. for Ind. Eds.
Degree: MS, BS.
Contact: Cook, J./ Dalley, R.
(704) 227-7368
Students Taking or Completing Offering: Educator

SOLAR RELATED COURSES

Faculty Dev. in Ener. for Ind. Eds.
Instructor: Cook, J./ Dalley, R.
(704) 227-7368
Department: Industrial Education & Technology
Program or Curriculum: Faculty Dev. in Ener. for Ind. Eds.

Credits: 3
Student Level: College Graduate
Duration: 5 Weeks, 40.0 hrs per week
Contact Hours: 40
Classroom: 30
Laboratory: 10
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water
Number of Times Taught: 5
Average Enrollment: 18

Community/Junior Colleges

CARTERET TECHNICAL INST
MOREHEAD CITY, North Carolina 28557
(919) 726-2811

PROGRAMS AND CURRICULA

Solar Energy: Fundamentals and Construction
Degree: Institute Certificate
Contact: Nelson, J. Len
(919) 726-1171
Students Taking or Completing Offering: Do-it-yourself Homeowner

SOLAR RELATED COURSES

Solar Energy: Fundamentals and Construction
Instructor: Whitehurst, Brooks
(919) 726-1171
Course Number: FIS 30310
Department: Community Services
Program or Curriculum: Fundamentals and Construction
Student Level: High School Graduate
Duration: 9 Weeks, 3.0 hrs per week
Contact Hours: 27
Classroom: 9
Laboratory: 18
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water
Number of Times Taught: 5
Average Enrollment: 18

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GASTON COLLEGE
DALLAS, North Carolina 28034
(704) 922-3136

SOLAR RELATED COURSES

Practice Solar Energy
Instructor: McArver, Fred
(704) 922-3136
Department: Continuing Education
Student Level: High School Graduate
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Number of Times Taught: 3
Average Enrollment: 20

GUILFORD TECHNICAL INST
JAMIFSTOWN, North Carolina 27285
(919) 292-1101

SOLAR RELATED COURSES

Solar Hot Water Systems
Instructor: Ellert, Wayne C.
(919) 292-1101
Course Number: 3EBF
Department: Continuing Education
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 25
Laboratory: 5
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar Collector Evaluation/Design; Domestic Hot Water
Number of Times Taught: 3
Average Enrollment: 18

JAMES SPRUNT INSTITUTE
KENANSVILLE, North Carolina 28349
(919) 296-1341

SOLAR RELATED COURSES

Building and Trades
Instructor: Smith, Prentice
(919) 296-1341
Department: Vocational Programs
Credits: 5
Student Level: High School Graduate
Duration: 11 Weeks, 5.0 hrs per week
Contact Hours: 55
Classroom: 18
Laboratory: 37
Number of Times Taught: 4
Average Enrollment: 15

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**SAMPSON TECHNICAL INST**  
CLINTON, North Carolina 28328  
(919) 592-8081

**PROGRAMS AND CURRICULA**

**Air Conditioning, Heating, and Refrigeration**

Degree: Diploma  
Contact: Peacock, Sherwood  
(919) 592-8081  
Students Taking or Completing Offering:  
Installer-Commercial (Solar System), Solar Technician

**STANLY TECHNICAL INST**  
ALBEMARLE, North Carolina 28001  
(704) 982-0121

**SOLAR RELATED COURSES**

Solar Energy Systems  
Instructor: Griffin, James E.  
(704) 463-5820  
Course Number: W970  
Student Level: All levels  
Number of Times Taught: 2  
Average Enrollment: 9

**TRI-COUNTY TECHNICAL INST**  
MURPHY, North Carolina 28906  
(704) 837-6810

**SOLAR RELATED COURSES**

Solar Energy  
Department: Continuing Ed.  
Student Level: All levels  
Contact Hours: 18  
Number of Times Taught: 2  
Average Enrollment: 15

**VANCE-CRAVEN CNTY COLLEGE**  
HENDERSON, North Carolina 27536  
(919) 492-2001

**SOLAR RELATED COURSES**

Carpentry  
Instructor: Norwood, Mike  
(919) 492-3371  
Course Number: 3001 W974  
Department: Occupational Education  
Student Level: All levels  
Duration: 5 Weeks, 3.0 hrs per week  
Contact Hours: 15  
Topics Covered Extensively: Energy Conservation, Energy Conversion, Plumbing Techniques  
Number of Times Taught: 2  
Average Enrollment: 20

**CAPE FEAR TECHNICAL INST**  
WILMINGTON, North Carolina 28401  
(919) 343-0481

**PROGRAMS AND CURRICULA**

General Occupational Technologies  
Degree: AD, General Occupational Technologies  
Contact: Stiles, W. O./Averette, R.  
(919) 343-0481

**SOLAR RELATED COURSES**

Introduction to Energy Resources  
Instructor: Bordeaux, Ralph  
(919) 343-0481  
Course Number: T-EGY101  
Department: Engineering Division  
Program or Curriculum: General Occupational Technologies  
Credits: 3  
Student Level: All levels  
Duration: 11 Weeks, 3.0 hrs per week  
Contact Hours: 33  
Classroom: 33  
Topics Covered Extensively: Alternate Energy Sources; Energy Storage; Intro. to Solar Energy  
Number of Times Taught: 2  
Average Enrollment: 25

Introduction to Solar Energy Systems (Elect.)  
Instructor: Bordeaux, Ralph  
(919) 343-0481  
Course Number: T-EGY103  
Department: Engineering  
Program or Curriculum: General Occupational Technologies  
Credits: 5  
Student Level: All levels  
Duration: 11 Weeks, 6.0 hrs per week  
Contact Hours: 66  
Classroom: 44  
Laboratory: 22  
Topics Covered Extensively: Appropriate Technology; Photovoltaics; Solar Energy Policy Development; Elec'tl Generation, Small Scale; Wind Power, Small Systems

Introduction to Solar Energy Systems (Thermal)  
Instructor: Stiles, Warren O.  
(919) 256-3146  
Course Number: T-EGY102  
Department: G.O.T./Evening  
Program or Curriculum: General Occupational Technologies
Credits: 5
Student Level: All levels
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 66
Classroom: 44
Laboratory: 22
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Domestic Hot Water

CLEVELAND CO TECH INST
SHELBY, North Carolina 28150
(704) 482-8351

SOLAR RELATED COURSES
Resource Conservation
Instructor: Smith, Iverson
(704) 482-8351
Department: Industrial, Environmental Sciences
Credits: 4
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 5.0 hrs per week
Contact Hours: 55
Classroom: 22
Laboratory: 33

PAMlico TECHNICAL INST
GRANTSBOG, North Carolina 28529
(919) 249-1851

PROGRAMS AND CURRICULA
Solar Energy
Degree: Certificate
Contact: Prescott, Matthew
(919) 249-1851
Students Taking or Completing Offering:
Educator, Contractor, Do-it-yourself Homeowner, Installer-Residential (Solar System), Solar Technician

SOLAR RELATED COURSES
Solar Energy
Instructor: Whitehurst, Brooks
(919) 249-1071
Department: Continuing Ed.
Program or Curriculum: Solar Energy
Student Level: All levels
Duration: 4 Weeks, 11.0 hrs per week
Contact Hours: 44
Classroom: 11
Laboratory: 33
Topics Covered Extensively: Solar Systems Installation; Domestic Hot Water
Number of Times Taught: 2

Average Enrollment: 18

RANDOLPH TECHNICAL INST
ASHEBORO, North Carolina 27203
(919) 629-1471

SOLAR RELATED COURSES
Introduction to Solar Energy
Instructor: Hicks, Eugene B.
(919) 629-1471
Department: Continuing Education
Student Level: All levels
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Classroom: 15

SOLAR RELATED COURSES
Introduction to Solar Concepts
Instructor: Liming, Glenn
(704) 586-4091
Course Number: CAR 1120
Department: Industrial/Vocational
Program or Curriculum: Solar Energy Systems-Res. and Comm. Construction
Credits: 4
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 66
Classroom: 33
Laboratory: 33
Number of Times Taught: 1
Average Enrollment: 8

Solar Collector
Instructor: Liming, Glenn
(704) 586-4091
Course Number: CAR 1121
Department: Industrial/Vocational
Program or Curriculum: Solar Energy Systems-Res. and Comm. Construction
Credits: 6
Student Level: Freshman or Sophomore
North Carolina Solar Energy Research Institute

Duration: 11 Weeks, 13.0 hrs per week
Contact Hours: 143
Classroom: 33
Laboratory: 110
Topics Covered Extensively: Solar Collector Evaluation/Design
Number of Times Taught: 1
Average Enrollment: 8

Solar Energy Heating Systems
Instructor: Liming, Glenn
Course Number: CAR 1122
Department: Industrial/Vocational
Program or Curriculum: Solar Energy Systems-Res. and Comm. Construction
Credits: 4
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 66
Classroom: 33
Laboratory: 33
Topics Covered Extensively: Intro. to Solar Energy; Swimming Pool Heating
Number of Times Taught: 1
Average Enrollment: 8

SOLAR RELATED COURSES

Current Trends
Instructor: Payne, David M.
Course Number: AHR 233
Department: Air Conditioning and Refrigeration
Credits: 3
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 4.0 hrs per week
Contact Hours: 44
Classroom: 22
Laboratory: 22
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 16

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TECH INST OF ALAMANCE
HAW RIVER, North Carolina 27258
(919) 578-2002

(5463)
### 1978-79 National Solar Energy Education Directory - North Dakota

#### Colleges/Universities

**MAYVILLE STATE COLLEGE**
- **Hayville**, North Dakota 58257
- (701) 786-2301

**SOLAR RELATED COURSES**

*Energy and the Environment*
- **Instructor:** Carlson, Kenneth T.
- **Course Number:** 322
- **Department:** Science
- **Credits:** 4
- **Student Level:** Junior or Senior
- **Duration:** 12 Weeks, 4.0 hrs per week
- **Contact Hours:** 48
- **Average Enrollment:** 12

### Community/Junior Colleges

**BISMARCK JUNIOR COLLEGE**
- **Bismarck**, North Dakota 58501
- (701) 223-4500

**PROGRAMS AND CURRICULA**

*Solar Heating*
- **Degree:** Certificate of Completion
- **Contact:** McKinney, David
- **Course Number:** ESD 203
- **Department:** Environmental Systems
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 12 Weeks, 5.0 hrs per week
- **Contact Hours:** 60
- **Classroom:** 60

**SOLAR RELATED COURSES**

*Solar Energy*
- **Instructor:** McKinney, David
- **Department:** Heating, Refrigeration, and Air Conditioning
- **Program or Curriculum:** Solar Heating
- **Credits:** 8
- **Student Level:** Freshman or Sophomore
- **Duration:** 8 Weeks, 32.0 hrs per week
- **Contact Hours:** 256
- **Classroom:** 63

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### Vocational/Technical Colleges

**ND STATE SCHOOL SCIENCE**
- **Wahpeton**, North Dakota 58075
- (701) 671-1150

**PROGRAMS AND CURRICULA**

*Environmental Systems Design*
- **Degree:** Certificate, Diploma
- **Contact:** Whitcomb, Larry
- **Students Taking or Completing Offering:** Installer-Residential (Solar System), Installer-Commercial (Solar System), Trade Specialty, Plumber, Sheet Metal Worker

**SOLAR RELATED COURSES**

*Systems and Equipment*
- **Instructor:** Whitcomb, Larry
- **Course Number:** ESD 203
- **Department:** Environmental Systems
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 12 Weeks, 5.0 hrs per week
- **Contact Hours:** 60
- **Classroom:** 60

*Topics Covered Extensively:* Alternate Energy Sources; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Sheet Metal Techniques; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Installation; Solar Systems Maintenance

*Number of Times Taught:* 1
*Average Enrollment:* 25

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*Laboratory: 193*

*Topics Covered Extensively:* Plumbing Techniques; Sheet Metal Techniques; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

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*Laboratory: 193*

*Topics Covered Extensively:* Plumbing Techniques; Sheet Metal Techniques; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
SOLAR RELATED COURSES

Contemporary Energy Applications
Instructor: Stan, Robert
Course Number: 462
Department: Engineering Technology
Credits: 3
Student Level: College Graduate
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 45
Number of Times Taught: 1
Average Enrollment: 35

Radiation Heat Transfer
Instructor: Hitchock, James E.
Course Number: ME 6.73
Department: Aero and Astro. School of Engineering
Credits: 4
Student Level: College Graduate
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Heat and Energy Transfer
Number of Times Taught: 15
Average Enrollment: 8

Independent Study in Solar Energy
Instructor: Taylor, Charles
Course Number: P 196
Credits: 5
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 14.0 hrs per week
Contact Hours: 140
Classroom: 20
Laboratory: 40
Topics Covered Extensively: Intro. to Solar Energy; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 5

E.T. Lab on Alt. Energy Systems
Instructor: Smith, David Lee
Course Number: 23-300-413
Department: Architecture
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Laboratory: 40
### Topics Covered Extensively:
- Alternate Energy Sources; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Wind Power, Small Systems

#### Number of Times Taught: 5
#### Average Enrollment: 8

**E.T. Seminar on the Energy Crisis**
- Instructor: Smith, David Lee
  - (513) 475-6426
- Course Number: 23-300-411
- Department: Architecture
- Credits: 3
- Student Level: Junior or Senior
- Duration: 10 Weeks, 4.0 hrs per week
- Contact Hours: 40
- Classroom: 40
- Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Solar Economics
- Number of Times Taught: 8
- Average Enrollment: 10

**E.T. Studio on Energy Conscious Design**
- Instructor: Smith, David Lee
  - (513) 475-6426
- Course Number: 23-300-510
- Department: Architecture
- Credits: 3
- Student Level: Junior or Senior
- Duration: 10 Weeks, 9.0 hrs per week
- Contact Hours: 50
- Laboratory: 90
- Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling
- Number of Times Taught: 12
- Average Enrollment: 12

**Solar Heating and Cooling**
- Instructor: Garrett, Ronald W.
  - (513) 475-6541
- Course Number: 32-105-467
- Program or Curriculum: Mechanical Engineering Technology
- Credits: 4
- Student Level: Junior or Senior
- Duration: 11 Weeks, 4.0 hrs per week
- Contact Hours: 44
- Classroom: 44
- Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
- Number of Times Taught: 1
- Average Enrollment: 35

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**DAYTON, UNIVERSITY OF**

**PROGRAMS AND CURRICULA**

#### Energy Conversion
- Degree: MS, BS, Mechanical Engineering
- Contact: Smith, Howard E.
  - (513) 229-2835
- Students Taking or Completing Offering: Educator, Researcher, Other

**SOLAR RELATED COURSES**

**Direct Energy Conversion**
- Instructor: Chuang, Henry N.
  - (513) 229-2835
- Course Number: MEE 514
- Department: Mechanical Engineering
- Program or Curriculum: Energy Conversion
- Credits: 3
- Student Level: Junior or Senior
- Duration: 15 Weeks, 3.0 hrs per week
- Contact Hours: 45
- Classroom: 45
- Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Photovoltaics; Electric Generation, Central; Electric Generation, Small Scale
- Number of Times Taught: 5
- Average Enrollment: 10

**Energy Conversion Systems**
- Instructor: Chuang, Henry N.
  - (513) 229-2835
- Course Number: MEE 462
- Department: Mechanical Engineering
- Program or Curriculum: Energy Conversion
- Credits: 3
- Student Level: Junior or Senior
- Duration: 15 Weeks, 3.0 hrs per week
- Contact Hours: 45
- Classroom: 45
- Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Intro. to Solar Energy
- Number of Times Taught: 4
- Average Enrollment: 25

**Solar Heating Analysis**
- Instructor: Chuang, Henry N.
  - (513) 229-2835
- Course Number: MEE 567
- Department: Mechanical Engineering
- Program or Curriculum: Energy Conversion
- Credits: 3
- Student Level: Junior or Senior
- Duration: 12 Weeks, 4.0 hrs per week
- Contact Hours: 48
- Classroom: 45
- Laboratory: 3
- Topics Covered Extensively: Energy
Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating
Number of Times Taught: 2
Average Enrollment: 12

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DEFIANCE COLLEGE (3041)
DEFIANCE, Ohio 43512
(419) 784-4010

SOLAR RELATED COURSES

Energy Alternatives
Instructor: Miller, Harry G.
(419) 784-4010
Course Number: 11-50
Department: Physics & Mathematics
Credits: 3
Student Level: Freshman or Sophomore
Duration: 4 Weeks, 15.0 hrs per week
Contact Hours: 60
Classroom: 50
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion
Number of Times Taught: 4
Average Enrollment: 12

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KENT STATE U MAIN CAMPUS (3051)
KENT, Ohio 44242
(216) 672-2121

PROGRAMS AND CURRICULA

Architects & Energy
Contact: Kremers
(216) 672-2789
Students Taking or Completing Offering: Architect, Do-it-yourself Homeowner

SOLAR RELATED COURSES

Architects & Energy 62598
Instructor: Kremers
(216) 672-2789
Course Number: 62598
Department: Architecture
Program or Curriculum: Architects & Energy
Credits: 3
Student Level: College Graduate
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 50
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Space Heating; Wind Power, Small Systems
Number of Times Taught: 2
Average Enrollment: 25

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Solar Energy Today
Instructor: Kremers
(216) 672-2789
Course Number: CONT.ED.
Department: Architecture
Program or Curriculum: Architects & Energy
Credits: 2
Student Level: All levels
Duration: 10 Weeks, 2.0 hrs per week
Contact Hours: 20
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Space Heating; Wind Power, Small Systems
Number of Times Taught: 2
Average Enrollment: 25

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## OHIO NORTHERN UNIVERSITY

**Address:** AUK, Ohio 45810  
**Phone:** (419) 634-9921

### SOLAR RELATED COURSES

**Solar Energy Engineering**

- **Instructor:** Farrington, Frank  
  **Phone:** (419) 634-9921
- **Course Number:** 204590.03
- **Department:** Mech. Engr.
- **Credits:** 3
- **Student Level:** Junior or Senior
- **Duration:** 10 Weeks, 3.0 hrs per week
- **Contact Hours:** 30
- **Classroom:** 30
- **Topics Covered Extensively:** Appropriate Technology; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar System Design and Space Heating
- **Number of Times Taught:** 1
- **Average Enrollment:** 26

### OHIO STATE U MANSFIELD BR

**Address:** MANSFIELD, Ohio 44906  
**Phone:** (419) 747-6561

### SOLAR RELATED COURSES

**Solar Energy**

- **Instructor:** Clark, D. L.  
  **Phone:** (419) 755-4011
- **Department:** Continuing Education
- **Student Level:** All levels
- **Duration:** 4 Weeks, 2.5 hrs per week
- **Contact Hours:** 10
- **Classroom:** 10
- **Topics Covered Extensively:** Energy Conservation; Intro. to Solar Energy; Solar Collector Evaluation/Design; Space Heating
- **Average Enrollment:** 65

**Wind Energy**

- **Instructor:** Clark, D. L.  
  **Phone:** (419) 755-4011
- **Department:** Continuing Education
- **Student Level:** All levels
- **Duration:** 4 Weeks, 2.5 hrs per week
- **Contact Hours:** 10
- **Classroom:** 10
- **Topics Covered Extensively:** Energy Conservation; Intro. to Solar Energy; Solar Collector Evaluation/Design; Space Heating; Wind Power, Small Systems
- **Average Enrollment:** 45

### TOLEDO, UNIVERSITY OF

**Address:** 10LBUU, Ohio 43606  
**Phone:** (419) 537-2072

### SOLAR RELATED COURSES

**Energy Conversion I**

- **Instructor:** Eltimsahy, Adel H.  
  **Phone:** (419) 537-2638
- **Course Number:** 436:361
- **Department:** Electrical Engineering
- **Credits:** 3
- **Student Level:** Junior or Senior
- **Duration:** 10 Weeks, 3.0 hrs per week
- **Contact Hours:** 30
- **Topics Covered Extensively:** Energy Conversion
- **Number of Times Taught:** 2
- **Average Enrollment:** 40

**Power: Electronics I**

- **Instructor:** Stuart, T.  
  **Phone:** (419) 537-2251
- **Course Number:** 436:468
- **Department:** Electrical Engineering
- **Credits:** 3
- **Student Level:** Junior or Senior
- **Duration:** 10 Weeks, 3.0 hrs per week
- **Contact Hours:** 30
- **Classroom:** 30
- **Topics Covered Extensively:** Energy Conversion

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- **Ohio**

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- **Ohio**
Number of Times Taught: 3
Average Enrollment: 10

Power: Electronics II
Instructor: Stuart, T.
(419) 537-2251
Course Number: 436/469
Department: Electrical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Energy Conversion
Number of Times Taught: 3
Average Enrollment: 10

Solar Energy Utilization
Instructor: Eltimsahy, Adel H.
(419) 537-2638
Course Number: 436/4/563
Department: Electrical Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 30
Topics Covered Extensively: Energy Storage, Intro to Solar Energy;
Photovoltaics; Solar System Components;
Solar Systems Design; Elec'1 Generation, Central; Elec'1 Generation,
Small Scale; Space Heating; Space Cooling
Number of Times Taught: 4
Average Enrollment: 15

Solar Heating and Cooling
Course Number: 484/661
Department: Mechanical Engineering
Credits: 3
Student Level: College Graduate
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer;
Intro. to Solar Energy; Passive Solar Technology; Solar System Components;
Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design;
Domestic Hot Water
Number of Times Taught: 1
Average Enrollment: 10

WALSH COLLEGE
CANTON, Ohio 44720
(216) 499-7090

SOLAR RELATED COURSES

Solar Heating
Instructor: Over, Calvin S.
Course Number: CE0109
Department: Continuing Education
Student Level: All levels

Duration: 5 Weeks, 1.0 hrs per week
Contact Hours: 5
Classroom: 5
Topics Covered Extensively: Intro. to Solar Energy
Number of Times Taught: 0

XAVIER UNIVERSITY
CINCINNATI, Ohio 45207
(513) 745-3000

SOLAR RELATED COURSES

Experiments in Physics
Instructor: Toepker, Terrence
(513) 745-3626
Course Number: PH330
Department: Physics
Credits: 3
Student Level: College Graduate
Duration: 5 Weeks, 7.5 hrs per week
Contact Hours: 30
Classroom: 12
Laboratory: 26
Number of Times Taught: 1
Average Enrollment: 3

YOUNGSTOWN ST UNIVERSITY
YOUNGSTOWN, Ohio 44555
(216) 746-1851

SOLAR RELATED COURSES

Instructor: Alexander, Charles
(216) 742-3013
Course Number: EE972
Department: Elec. Engineering
Credits: 4
Student Level: College Graduate
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Laboratory: 26
Topics Covered Extensively: Appropriate Technology; Energy Storage; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Elec'1 Generation, Central; Process Heat, Industrial; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 10
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Instructor</th>
<th>Course Number</th>
<th>Department</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
<th>Classroom</th>
<th>Topics Covered Extensively</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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<tr>
<td>Solar Energy Engineering</td>
<td>Alexander, Charles</td>
<td>EE971</td>
<td>Elec. Engineering</td>
<td>4</td>
<td>College Graduate</td>
<td>10 Weeks, 4.0 hrs per week</td>
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<td>Solar Energy Engineering</td>
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<td>EE 831</td>
<td>Elec. Engineering</td>
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<td>Junior or Senior</td>
<td>10 Weeks, 4.0 hrs per week</td>
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<td>40</td>
<td>Appropriate Technology; Energy Conversion; Heat and Energy Transfer; Photovoltaics; Solar System Components; Domestic Hot Water; Central; Space Heating</td>
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**Community/Junior Colleges**

**LAKELAND CITY COLLEGE**

MENTOR, Ohio 44060
(216) 951-1000

**SOLAR RELATED COURSES**

**Solar Heating**

Instructor: Susel, Frank
(216) 951-1000

Course Number: LL50558
Department: Lifelong Learning
Student Level: All levels
Duration: 10 Weeks, 2.0 hrs per week
Contact Hours: 20
Classroom: 104
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating
Number of Times Taught: 1
Average Enrollment: 7

**SINCLAIR CITY COLLEGE**

DAYTON, Ohio 45402
(513) 226-2500

**SOLAR RELATED COURSES**

**Intro to Solar Heating and Cooling**

Instructor: Nataraj, Nataraj S.
(513) 226-2835

Course Number: EGR 125
Department: Engineering and Indus. Tech
Credits: 3
Student Level: All levels
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 27
Laboratory: 6
Number of Times Taught: 2
Average Enrollment: 15

**Vocational/Technical Colleges**
SOLAR RELATED COURSES

Environmental Control
Instructor: Pond, Robert
(614) 366-1351
Course Number: 3443
Department: Division of Engineering Technologies
Credits: 3
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 5.0 hrs per week
Contact Hours: 60
Classroom: 24
Laboratory: 36
Topics Covered Extensively: Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Installation; Space Heating; Space Cooling

COLUMBUS TECHNICAL INST
COLUMBUS, Ohio 43216
(614) 221-6743

SOLAR RELATED COURSES

Solar Energy
Instructor: Pierce, David
(614) 221-6743
Department: Architecture
Credits: 3
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 4.0 hrs per week
Contact Hours: 44
Classroom: 22
Laboratory: 22
Topics Covered Extensively: Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

MUSKINGUM AREA TECH C
ZANESVILLE, Ohio 43701
(614) 454-2501

SOLAR RELATED COURSES

Solar Home Heating
Instructor: Goehring, C.
(216) 454-2501
Course Number: ACE 186
Department: Lifelong Learning
Student Level: All levels
Duration: 5 Weeks, 2.0 hrs per week
Contact Hours: 10
Classroom: 10
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Intro.
Colleges/Universities

OKLA STATE U MAIN CAMPUS
STILLWATER, Oklahoma 74074
(405) 624-5000

PROGRAMS AND CURRICULA

Electric Eng. Emphasis on Energy
Degree: FHD, MS, BS, Electrical Engineering
Contact: Bacon, C.M.
(405) 624-5156

SOLAR RELATED COURSES

Alternative Energy Systems
Instructor: Prope, Jody
(405) 624-6266
Department: Architecture Extension
Student Level: All levels
Duration: 1 Weeks, 7.0 hrs per week
Contact Hours: 7
Classroom: 7
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy; Passive Solar Technology

Des. and Cons. of Energy Sav. Homes
Instructor: Bose, Jim/ Irby, Dean
(405) 624-5630
Department: Technology Extension
Student Level: All levels
Duration: 1 Weeks, 16.0 hrs per week
Contact Hours: 16
Classroom: 16
Topics Covered Extensively: Alternate Energy Sources; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance
Number of Times Taught: 2
Average Enrollment: 25

Design of Solar Systems
Instructor: Dubensky, Robert
Department: Technology Extension
Student Level: All levels
Duration: 1 Weeks, 8.0 hrs per week
Contact Hours: 8
Classroom: 8
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Systems Design
Number of Times Taught: 1
Average Enrollment: 100

Direct Energy Conversion I
Instructor: Ramakumar, R.
(405) 624-5170
Course Number: 4133
Department: Electrical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conversion; Intro. to Solar Energy
Number of Times Taught: 17
Average Enrollment: 25

Direct Energy Conversion II
Instructor: Ramakumar, R.
(405) 624-5170
Course Number: 5153
Department: Electrical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conversion; Intro. to Solar Energy; Photovoltaics; Elec'1 Generation, Central; Elec'1 Generation, Small Scale; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 4
Average Enrollment: 11

Earth Sheltered Housing Design
Instructor: Prope, Jody
(405) 624-6266
Department: Architecture Extension
Student Level: All levels
Duration: 1 Weeks, 14.0 hrs per week
Contact Hours: 14
Classroom: 14
Number of Times Taught: 9
Average Enrollment: 70

Instructor: Hughes, W.L.
(405) 624-5168
Department: Cont. Education
Student Level: All levels
Duration: 1 Weeks, 7.0 hrs per week
Contact Hours: 7
Topics Covered Extensively: Energy Conversion; Fler'l Generation, Central; Elec'l Generation, Small Scale; Wind Power, Small Systems
Number of Times Taught: 9
Average Enrollment: 70

Energy Conservation and Management
Instructor: Turner, W.C.
(405) 624-6055
Department: Indus. Engr. and Management
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 30
Laboratory: 18
Topics Covered Extensively: Energy Conservation
Number of Times Taught: 4
Average Enrollment: 25

Energy Conservation and Management
Instructor: Turner, W.C.
(405) 624-6055
Course Number: INDEH923
Department: Indus. Engr. and Management
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
<table>
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<tr>
<th>Course Number</th>
<th>Instructor</th>
<th>Department</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
<th>Classroom</th>
<th>Topics Covered Extensively:</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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<tr>
<td>5763</td>
<td>Bryant, John</td>
<td>Architecture</td>
<td>3</td>
<td>College Graduate</td>
<td>16 Weeks, 3.0 hrs per week</td>
<td>48</td>
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<td>Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Storage; Solar Economics; Process Heat; Industrial; Space Heating; Space Cooling; Wind Power, Small Systems</td>
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<td>5724</td>
<td>Bose, Jim</td>
<td>Technology Extension</td>
<td>4</td>
<td>All levels</td>
<td>1 Weeks, 8.0 hrs per week</td>
<td>8</td>
<td>8</td>
<td>Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Systems</td>
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<td>5740</td>
<td>Dubensky, Robert</td>
<td>Technology Extension</td>
<td>3</td>
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<td>14 Weeks, 3.0 hrs per week</td>
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<td>Alternate Energy Sources; Energy Conservation; Energy Storage; Heat and Energy Transfer; Solar Systems</td>
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<td>5610</td>
<td>Parker, Jerald D.</td>
<td>Energy Tech. and Arch/ School of MAE</td>
<td>3</td>
<td>Junior or Senior</td>
<td>16 Weeks, 3.0 hrs per week</td>
<td>48</td>
<td>48</td>
<td>Alternate Energy Sources; Energy Conservation; Energy Storage; Heat and Energy Transfer; Solar Systems</td>
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</table>
### Solar Heating Appl.
**Instructor:** Bose, Jim  
**Department:** Technology Extension  
**Student Level:** All levels  
**Duration:** 1 Weeks, 8.0 hrs per week  
**Contact Hours:** 8  
**Topics Covered Extensively:** Alternate Energy Sources; Solar Economics; Solar Home Construction  
**Number of Times Taught:** 2  
**Average Enrollment:** 20

### Special Top-Physical Chemistry
**Instructor:** Murphy, George  
**Course Number:** 6670  
**Department:** Chemistry  
**Credits:** 2  
**Student Level:** College Graduate  
**Duration:** 2 Weeks, 13.0 hrs per week  
**Contact Hours:** 25  
**Classroom:** 25

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### SOLAR RELATED COURSES

#### Energy Conservation in Buildings - Seminar
**Instructor:** Calvert, Floyd N.  
**Course Number:** 6023  
**Department:** Architecture  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Energy Conservation; Passive Solar Technology  
**Number of Times Taught:** 4  
**Average Enrollment:** 20

#### Energy Conservation Seminar
**Instructor:** Calvert, Floyd N.  
**Course Number:** ARCH 6023  
**Department:** Architecture  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Energy Conservation; Passive Solar Technology  
**Number of Times Taught:** 4  
**Average Enrollment:** 20

#### Solar Energy Thermal Processes
**Instructor:** Turkington, O.B.  
**Course Number:** AME 6730  
**Department:** Aerospace, Mech. and Nuclear Engineering  
**Credits:** 3  
**Student Level:** College Graduate  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating  
**Number of Times Taught:** 2  
**Average Enrollment:** 13

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### SOLAR RELATED COURSES

#### Solar Energy Seminar
**Instructor:** Ketcham, Bruce V.  
**Course Number:** E.S. 3093  
**Department:** Engineering  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Topics Covered Extensively:** Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating  
**Number of Times Taught:** 1  
**Average Enrollment:** 35

#### Solar Heating and Cooling Fundamentals
**Instructor:** Ketcham, Bruce V.  
**Course Number:** E.S. 3093  
**Department:** Engineering  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Topics Covered Extensively:** Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating  
**Number of Times Taught:** 1  
**Average Enrollment:** 35
Oregon Solar Energy Research Institute

COLLEGES/UNIVERSITIES

OREGON INST OF TECHNOLOGY (3211)
KLAMATH FALLS, Oregon 97601 (503) 882-6321

SOLAR RELATED COURSES

Seminar (Solar Heating)
Instructor: King, William N. (503) 882-6321
Course Number: MET 207
Department: Mechanical Engineering Technology
Credits: 1
Student Level: All levels
Duration: 5 Weeks, 2.0 hrs per week
Contact Hours: 10
Classroom: 10
Topics Covered Extensively: Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Collector Evaluation/Design; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 74

OREGON MAIN CAMPUS, U OF EUGENE, Oregon 97403 (503) 686-3111

PROGRAMS AND CURRICULA

Solar Energy Center
Degree: no.
Contact: Reynolds, John S. (503) 686-3631
Students Taking or Completing Offering: Architect, Educator, Researcher, Solar Technician

SOLAR RELATED COURSES

Environmental Control Systems 321
Instructor: Reynolds, John S. (503) 686-3631
Course Number: ARCH 321
Department: Architecture
Program or Curriculum: Solar Energy Center
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 5
Average Enrollment: 140

Environmental Control Systems 322
Instructor: Reynolds, John S. (503) 686-3631
Course Number: ARCH 322
Department: Architecture
Program or Curriculum: Solar Energy Center
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 5
Average Enrollment: 140

Environmental Control Systems 323
Instructor: Reynolds, John S. (503) 686-3631
Course Number: ARCH 323
Department: Architecture
Program or Curriculum: Solar Energy Center
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 5
Average Enrollment: 140

Sun as a Future Energy Source
Instructor: McDaniels, D. K. (503) 686-4765
Course Number: PH. 116
Department: Physics
Program or Curriculum: Solar Energy Center
Credits: 3
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30

- 202 -

Number of Times Taught: 10
Average Enrollment: 200

OREGON STATE UNIVERSITY
CORVALLIS, Oregon 97331
(503) 754-1133

SOLAR RELATED COURSES

Atmospheric Radiative Processes
Instructor: Rao, C.R.N.
(503) 754-4557
Course Number: 560/561
Department: Atmospheric Sciences
Credits: 3
Student Level: College Graduate
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 30
Topics Covered Extensively: Heat and Energy Transfer

Solar Structures 361
Instructor: Hellickson, Martin L.
(503) 754-2041
Course Number: AE 361
Department: Agricultural Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 9 Weeks, 5.0 hrs per week
Contact Hours: 45
Classroom: 27
Laboratory: 18
Average Enrollment: 25

Solar Structures 461
Instructor: Hellickson, Martin L.
(503) 754-2041
Course Number: AE 461
Department: Agricultural Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 9 Weeks, 5.0 hrs per week
Contact Hours: 45
Classroom: 27
Laboratory: 18
Average Enrollment: 25

Solar Energy Thermal Processes
Instructor: Larson, Milton B.
(503) 754-6446
Course Number: ME 446
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Collector Maintenance; Solar Collector Testing and Evaluation; Domestic Hot Water; Space Heating.

Number of Times Taught: 1
Average Enrollment: 12

PACIFIC UNIVERSITY
FOREST GROVE, Oregon 97116
(503) 357-6151

SOLAR RELATED COURSES

Energy Conservation in the Residential Sector
Instructor: Griffith, Tom/ Story, Joe
(503) 357-6151
Course Number: 555
Department: Science/Social Science
Credits: 3
Student Level: College Graduate
Duration: 3 Weeks, 15.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Collector Maintenance; Solar Collector Testing and Evaluation; Domestic Hot Water; Space Heating.

Number of Times Taught: 1
Average Enrollment: 30
Solar Energy Research Institute

Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating
Number of Times Taught: 1

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Community/Junior Colleges

CLACKAMAS CITY COLLEGE
OREGON CITY, Oregon 97045
(503) 656-2631

SOLAR RELATED COURSES

Introduction to Appropriate Energy
Instructor: Aronson, Mike
(503) 656-2631
Department: Physical Science
Credits: 3
Student Level: All levels
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 22
Laboratory: 11
Topics Covered Extensively: Intro. to Solar Energy; Passive Solar Technology; Solar Systems Design; Space Heating

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LINN-BENTON CITY COLLEGE
ALBANY, Oregon 97321
(503) 928-2361

PROGRAMS AND CURRICULA

Engineering Tech.-Solar Energy Option
Degree: AD, Engineering Tech
Contact: Miller, Dave
(503) 928-2361

SOLAR RELATED COURSES

Alternative Energy Sources
Course Number: 3.527
Department: Engineering Technology
Program or Curriculum: Engineering Tech.-Solar Energy Option
Credits: 4
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 33
Classroom: 33
Laboratory: 33
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion;

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Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Elec'l Generation, Small Scale; Wind Power, Small Systems
Number of Times Taught: 4
Average Enrollment: 15

Energy Systems Management
Course Number: 6.220
Department: Engineering Technology
Program or Curriculum: Engineering Tech.-Solar Energy Option
Credits: 3
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33
Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Elec'l Generation, Central; Elec'l Generation, Small Scale; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

Solar Energy
Course Number: 6.221
Department: Engineering Technology
Program or Curriculum: Engineering Tech.-Solar Energy Options
Credits: 3
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33
Topics Covered Extensively: Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Small Scale; Space Heating; Wind Power, Small Systems
Number of Times Taught: 2
Average Enrollment: 12

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ROGUE COMMUNITY COLLEGE
GRANTS PASS, Oregon 97526
(503) 479-5541

SOLAR RELATED COURSES

Instructor: Lilly, Joseph
(503) 479-5541
Course Number: 642
Department: Science and Small Farm Management
Credits: 3
Student Level: All levels
Duration: 14 Weeks, 5.0 hrs per week
Contact Hours: 70

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage, Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Law/Legislation; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating

Number of Times Taught: 4
Average Enrollment: 14

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Pennsylvania Solar Energy Research Institute

Colleges/Universities

CALIFORNIA STATE COLLEGE
CALIFORNIA, Pennsylvania 15419
(412) 938-4000

SOLAR RELATED COURSES

Energy and Power
Instructor: Hallidy, William
Department: Physical Science
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 42
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Elec'I Generation, Central; Elec'I Generation; Small Scale
Number of Times Taught: 2
Average Enrollment: 25

DICKINSON COLLEGE
CARLISLE, Pennsylvania 17013
(717) 243-5121

SOLAR RELATED COURSES

Appro. Tech-Is Small Beautiful?
Instructor: Krozkowski, F.
Course Number: ES112
Department: Environmental Science
Credits: 4
Student Level: All levels
Duration: 3 Weeks, 15.0 hrs per week
Contact Hours: 45
Classroom: 42
Topics Covered Extensively: Appropriate Technology
Number of Times Taught: 1
Average Enrollment: 25

Environmental Economics
Instructor: Houston, C.
Course Number: ECON 222
Department: Economics
Credits: 4
Student Level: All levels
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Classroom: 39
Topics Covered Extensively: Appropriate Technology; Marketing/Market Analysis
Number of Times Taught: 2
Average Enrollment: 35

Meteorology
Instructor: Laws, K.
Course Number: PHS 202

DREXEL UNIVERSITY
PHILADELPHIA, Pennsylvania 19104
(215) 895-2000

SOLAR RELATED COURSES

Solar Energy
Instructor: Larson, Donald C.
Course Number: N775
Department: Science/Physics
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating
Number of Times Taught: 3

Solar Heating and Cooling
Instructor: Larson, Donald
Department: Continuing Professional Education
Student Level: College Graduate
Duration: 8 Weeks, 2.5 hrs per week
Contact Hours: 20
Classroom: 18
Laboratory: 2
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating
Number of Times Taught: 4
Average Enrollment: 30

Topics in Contemporary Physics
Instructor: Long, H.
Course Number: PHS 461
Department: Physics & Astronomy
Credits: 4
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy
Number of Times Taught: 2
Average Enrollment: 7

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- 206 -
GANNON COLLEGE  
ERIE, Pennsylvania 16501  
(814) 456-7523  

SOLAR RELATED COURSES  

Design Project for Solar Heat  
Instructor: Dowell, Milt  
Course Number: E160  
Department: Engineering  
Credits: 3  
Student Level: Junior or Senior  
Duration: 14 Weeks, 6.0 hrs per week  
Contact Hours: 64  
Topics Covered Extensively: Space Heating  
Average Enrollment: 18  

GETTYSBURG COLLEGE  
GETTYSBURG, Pennsylvania 17325  
(717) 334-3131  

SOLAR RELATED COURSES  

Energy and Environment  
Instructor: Cowan, David J.  
Course Number: 440  
Department: Physics  
Credits: 3  
Student Level: All levels  
Duration: 12 Weeks, 3.0 hrs per week  
Contact Hours: 36  
Classroom: 36  
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology  
Number of Times Taught: 4  
Average Enrollment: 35  

INDIANA U OF PENNSYLVANIA  
INDIANA, Pennsylvania 15701  
(412) 357-2100  

SOLAR RELATED COURSES  

Solar Energy  
Instructor: Hershman, K.E.  
Course Number: PHYS 296  
Department: Physics  
Credits: 2  
Student Level: Freshman or Sophomore  
Duration: 10 Weeks, 2.0 hrs per week  
Contact Hours: 20  
Classroom: 15  
Laboratory: 5  
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Heating and Cooling Technology  
Number of Times Taught: 4  
Average Enrollment: 4
Pennsylvania

Cooling; Wind Power, Central Systems
Number of Times Taught: 2
Average Enrollment: 12

Intro.
Topics Covered Extensively: Intro. to Solar Energy; Space Heating; Wind Power, Central Systems

Intro. to Solar Energy
Instructor: Houlihan, John F.
(412) 981-1640
Course Number: PHYS. 297
Department: Physics
Program or Curricular: Solar Heating and Cooling Technology
Credits: 2
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 20
Laboratory: 2
Topics Covered Extensively: Intro. to Solar Energy; Space Heating; Wind Power, Central Systems
Number of Times Taught: 2
Average Enrollment: 15

Solar Heating and Cooling Technology
Instructor: Houlihan, J. F.
(412) 981-1640
Course Number: PHYS. 297
Department: Physics
Program or Curricular: Solar Heating and Cooling Technology
Credits: 1
Student Level: All levels
Duration: 2 Weeks, 40.0 hrs per week
Contact Hours: 60
Classroom: 60
Laboratory: 12
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 1
Average Enrollment: 30

*Solar Workshop-Domestic Hot Water Sys.
Topics Covered Extensively: Domestic Hot Water

Topics Covered Extensively: Passive Solar Technology

*Solar Workshop-Solar Space Heat. Sys:
Topics Covered Extensively: Space Heating

PA STATE U MAIN CAMPUS
UNIVERSITY PARK, Pennsylvania 16802
(814) 865-4700

SOLAR RELATED COURSES

Solar Energy Building System Design
Instructor: Gilmour, Stanley F.
(814) 865-6394
Course Number: AE-497
Department: Architectural Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks; 7.0 hrs per week
Contact Hours: 70
Classroom: 40
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 4
Average Enrollment: 21

PA STATE U ALLENTOWN CAM
FOGELSVILLE, Pennsylvania 18051
(215) 265-4811

SOLAR RELATED COURSES

*Solar Workshop-Cooling for Homes
Topics Covered Extensively: Space Cooling

*Solar Workshop-Domestic Hot Water Sys.
Topics Covered Extensively: Domestic Hot Water

Topics Covered Extensively: Passive Solar Technology

*Solar Workshop-Solar Space Heat. Sys:
Topics Covered Extensively: Space Heating

PA STATE U MAIN CAMPUS
PHILADELPHIA, Pennsylvania 19104
(215) 243-5000

PROGRAMS AND CURRICULI

Energy Engineering
Degree: MS, Science in Engineering
Contact: Eisenberg; Larry
(215) 243-8507
Students Taken or Completing Offering: Educator, Researcher, Solar Engineer

SOLAR RELATED COURSES

Energy Conversion
Instructor: Fegley; Ken
Course Number: 566
Department: Systems Engineering
Program or Curricular: Energy Engineering
Credits: 3
Student Level: College Graduate
Duration: 14 Weeks, 3.0 hrs per week
**Contact Hours:** 42
**Classroom:** 42
**Topics Covered Extensively:** Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer
**Number of Times Taught:** 4
**Average Enrollment:** 15

**Materials for Energy Engineering**
**Instructor:** Laird, Campbell
**Course Number:** 555
**Department:** Material Science
**Program or Curriculum:** Energy Engineering
**Credits:** 3
**Student Level:** College Graduate
**Duration:** 14 Weeks, 3.0 hrs per week
**Contact Hours:** 42
**Classroom:** 42
**Topics Covered Extensively:** Energy Storage; Materials Research
**Number of Times Taught:** 4
**Average Enrollment:** 15

**Prin. of Solar Energy Utilization**
**Instructor:** Lior, Noam
**Course Number:** 591
**Department:** Mechanical Engineering
**Program or Curriculum:** Energy Engineering
**Credits:** 3
**Student Level:** College Graduate
**Duration:** 14 Weeks, 3.0 hrs per week
**Contact Hours:** 42
**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology
**Number of Times Taught:** 4
**Average Enrollment:** 15

**Solid State Energy Conversion**
**Instructor:** Wolf, Martin
**Course Number:** EES 524
**Department:** Electrical Eng. 
**Program or Curriculum:** Energy Engineering
**Credits:** 3
**Student Level:** College Graduate
**Duration:** 14 Weeks, 3.0 hrs per week
**Contact Hours:** 42
**Topics Covered Extensively:** Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Elec.'l Generation, Central; Elec.'l Generation, Small Scale
**Number of Times Taught:** 3
**Average Enrollment:** 15

**PHILA COLLEGE OF ART**
(PHILADELPHIA, Pennsylvania 19102)
(215) 893-3100

**SOLAR RELATED COURSES**

Alternate Energy-Solar
**Instructor:** Andrews, Jack
(215) 893-3170
**Course Number:** EN 212
**Department:** Industrial and Environmental Design
**Credits:** 2
**Student Level:** All levels
**Duration:** 16 Weeks, 3.0 hrs per week
**Contact Hours:** 48
**Topics Covered Extensively:** Energy Conservation, Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction
**Number of Times Taught:** 3
**Average Enrollment:** 18

**SAINT VINCENT COLLEGE**
(LATROBE, Pennsylvania 15650)
(412) 339-9761

**SOLAR RELATED COURSES**

Solar Energy
**Instructor:** Heid, Roland L.
(412) 339-9761
**Department:** Physics
**Student Level:** All levels
**Duration:** 6 Weeks, 3.0 hrs per week
**Contact Hours:** 18
**Classroom:** 18

**SWARTHMORE COLLEGE**
(SWARTHMORE, Pennsylvania 19081)
(215) 544-7900

**SOLAR RELATED COURSES**

Alternate Energy Technologies
**Instructor:** Bowler, D. L./ Barns, C./ Orthlieb, F.
(215) 544-7900
**Course Number:** E 7
**Department:** Engineering
**Credits:** 1
**Student Level:** Freshman or Sophomore
**Duration:** 14 Weeks, 3.0 hrs per week
**Contact Hours:** 70
**Classroom:** 52
**Laboratory:** 10
**Number of Times Taught:** 3
**Average Enrollment:** 6

**Solar Heating-Design**
**Instructor:** Bowler, D. L./ Barns, C./ Orthlieb, F.
(215) 544-7900
**Course Number:** E 90
SOLAR RELATED COURSES

TEMPLE UNIVERSITY (3371)
PHILADELPHIA, Pennsylvania 19122
(215) 787-7000

SOLAR RELATED COURSES

Energy & Building Design
Instructor: Ridenour, Steve
Department: Architecture
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Passive Solar Technology; Solar Systems Design; Space Heating; Wind Power; Small Systems

WESTMINSTER COLLEGE (3392)
NEW WILMINGTON, Pennsylvania 16142
(412) 946-7761

SOLAR RELATED COURSES

Energy Use and Alternate Energy Sources
Instructor: Zehr, Floyd J.
Course Number: SC 14
Department: Physics
Credits: 4
Student Level: All levels
Duration: 14 Weeks, 5.0 hrs per week
Contact Hours: 70
Classroom: 49
Laboratory: 21
Topics Covered Extensively: Alternate Energy Sources
Average Enrollment: 6

WIDENER COLLEGE (3313)
CHESTER, Pennsylvania 19013
(215) 876-5551

SOLAR RELATED COURSES

Energy I
Instructor: Madonna, L.A.
Course Number: 437
Department: Center of Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 14 Weeks, 4.0 hrs per week
Contact Hours: 56
Classroom: 42
Laboratory: 14
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology
Average Enrollment: 15

Energy II
Instructor: Madonna, L.A.
(215) 876-5551
Course Number: 438
Department: Center of Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 14 Weeks, 4.0 hrs per week
Contact Hours: 56
Classroom: 42
Laboratory: 14
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer

WILKES COLLEGE (3394)
WILKES-BARRE, Pennsylvania 18703
(717) 824-4651

SOLAR RELATED COURSES

Alternate Energy Sources
Instructor: Nejib, U.R.
(717) 824-4651
Course Number: EE390
Department: Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 46
Classroom: 14
Laboratory: 21
Topics Covered Extensively: Alternate Energy Sources; Heat and Energy Transfer; Passive Solar Technology; Photovoltaics; Elec't Generation, Central; Wind Power, Small Systems
Number of Times Taught: 2
Average Enrollment: 15

Energy Cons.-Alts. and Methods
Instructor: Nejib, U.R.
(717) 824-4651
Course Number: ED594
Department: Engineering
Credits: 3
Student Level: College Graduate
Duration: 3 Weeks, 38.0 hrs per week
Contact Hours: 114
Classroom: 36
Laboratory: 24
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Solar Energy Policy Development; Elec't Generation, Central
Number of Times Taught: 1
Average Enrollment: 32
SOLAR RELATED COURSES

Understanding Solar Energy
Instructor: Greenough, Sam
Department: Science
Student Level: All levels
Duration: 7 Weeks, 3.0 hrs per week
Contact Hours: 21
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar System Design; Domestic Hot Water
Number of Times Taught: 1
Average Enrollment: 35

Conserving Energy Saves Consumer Dollars
Instructor: Mabrey, Harjorie
Department: Community Education
Student Level: All levels
Duration: 2 Weeks, 10.0 hrs per week
Contact Hours: 20

SOLAR RELATED COURSES

SOLAR RELATED COURSES

Department: Community Resources Institute
Program or Curriculum: Solar Heat
Student Level: All levels
Duration: 3 Weeks, 3.0 hrs per week
Contact Hours: 9
Classroom: 9
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar System Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating
Number of Times Taught: 2
Average Enrollment: 20

KEYSTONE JUNIOR COLLEGE
LA PLUME, Pennsylvania 18440
(717) 945-5141
PROGRAMS AND CURRICULA

Solar Engineering Technology
Contact: Kutch, Dennis/ Cupilli, Tom
(717) 945-5141
Students Taking or Completing Offering: Solar Technician

SOLAR RELATED COURSES

Instructor: Kutch, Dennis
Program or Curriculum: Solar Engineering Technology
Student Level: All levels
Duration: 2 Weeks, 36.0 hrs per week
Contact Hours: 72
Classroom: 30
Laboratory: 42
Topics Covered Extensively: Energy Conservation; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Home Construction; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating
Pennsylvania Solar Energy Research Institute

Solar Hydronic Systems/Solar Air Systems
Instructor: Kutch, Dennis
Course Number: Solar Energy Study & Res. Cnt.
Department: 220
Program or Curriculum: Solar Engineering Technology
Credits: 3
Student Level: All levels
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 30
Laboratory: 18

Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Economics; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

Instructor: Kutch, Dennis
Program or Curriculum: Solar Engineering Technology
Student Level: Junior or Senior
Duration: 2 Weeks, 36.0 hrs per week
Contact Hours: 72
Classroom: 42
Laboratory: 30

Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

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LEHIGH CO CNTY COLLEGE (6810)
SCHNECKSVILLE, Pennsylvania 18078
(215) 799-2121

PROGRAMS AND CURRICULA

Alternate Energy Technologies
Degree: AD, Applied Science
Contact: Walker, J. Robert
(215) 799-1515

SOLAR RELATED COURSES

Alternate Energy Technologies
Instructor: Walker, J. Robert
Course Number: 842
Department: Building Technology, Plumbing and Heating
Program or Curriculum: Plumbing and Heating
Student Level: Freshman or Sophomore  
Duration: 8 Weeks, 25.0 hrs per week  
Contact Hours: 200  
Classroom: 64  
Laboratory: 136  
Number of Times Taught: 4  
Average Enrollment: 18  

Vocational/Technical Colleges  

PENNSYLVANIA INSTITUTE OF TECHNOLOGY (90180)  
416 Sansom St.  
Uppert Norby, Pennsylvania 19082  

PROGRAMS AND CURRICULA  

Energy Technology  
Degree: AD, Specialized Technology  
Contact: Thomas, Richard B.  
Students Taking or Completing Offering:  
Solar Technician, Electrician  

SOLAR RELATED COURSES  

Advanced Solar Design  
Instructor: Thomas, Richard  
(215) 352-7100  
Course Number: K  
Program or Curriculum: Energy Technology  
Credits: 2  
Student Level: High School Graduate  
Duration: 12 Weeks, 40.0 hrs per week  
Contact Hours: 48  
Topics Covered Extensively: Solar Collector Evaluation/Design; Solar System Design  
Number of Times Taught: 1  
Average Enrollment: 35  

Basic Solar Design  
Instructor: Thomas, Richard B.  
(215) 352-7100  
Course Number: D  
Program or Curriculum: Energy Technology  
Credits: 1  
Student Level: High School Graduate  
Duration: 12 Weeks, 5.0 hrs per week  
Contact Hours: 60  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Solar Collector Evaluation/Design  
Number of Times Taught: 1  
Average Enrollment: 35  

Energy Conversion  
Instructor: Thomas, Richard  
(215) 352-7100  
Course Number: B  

Program or Curriculum: Energy Technology  
Credits: 4  
Student Level: High School Graduate  
Duration: 12 Weeks, 5.0 hrs per week  
Contact Hours: 60  
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Intro. to Solar Energy; Wind Power, Small Systems  
Number of Times Taught: 1  
Average Enrollment: 35  

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Other Educational Institutions  

NEW ENGLAND FUEL INSTITUTE (90230)  
20 Summer St. Box 888  
Watertown, Pennsylvania 02172  

SOLAR RELATED COURSES  

*Basic Solar Heating Tech.  
Topics Covered Extensively: Space Heating  

*Solar Installation and Maintenance  
Instructor: Tavino, R./ Taylor, R.  
(617) 924-1000  
Student Level: All levels  
Duration: 4 Weeks, 40.0 hrs per week  
Contact Hours: 160  
Classroom: 60  
Laboratory: 60  
Topics Covered Extensively: Solar System Components; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating  

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PA STATE U CAPITOL CAMPUS (6814)  
MIDDLETOWN, Pennsylvania 17057  
(717) 787-7737  

SOLAR RELATED COURSES  

Solar Energy-Practical Applications  
Instructor: Aumst, William K.  
(717) 787-7956  
Course Number: MET 420  
Department: Mechanical Design Engineering Technology  
Credits: 4  
Student Level: Junior or Senior  
Duration: 10 Weeks, 5.0 hrs per week  
Contact Hours: 50  
Classroom: 50  
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components;
Pennsylvania Solar Energy Research Institute

Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 33

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THE SCHOOL OF LIVING (90290)
P.O. Box 3233
York, Pennsylvania 17402

SOLAR RELATED COURSES

Alternative Energy
Topics Covered Extensively: Alternate Energy Sources

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TRIANGLE INSTITUTE OF TECHNOLOGY, INC (90110)
635 Smithfield St.
Pittsburgh, Pennsylvania 15222
(412) 255-6170

PROGRAMS AND CURRICULA

Solar Energy Systems
Degree: AD, Specialized Technology
Contact: Knoyer, Ralph
(412) 255-6170
Students Taking or Completing Offering:
Solar Technician, Electrician, Plumber,
Sheet Metal Worker

SOLAR RELATED COURSES

Solar Energy Systems
Instructor: Knoyer, Ralph
(412) 255-6170
Course Number: 400.0
Department: Refrig., Heat., Vent., and Air Cond.
Program or Curriculum: Solar Energy Systems
Credits: 10
Student Level: High School Graduate
Duration: 16 Weeks, 25.0 hrs per week
Contact Hours:
Classroom: 390
Laboratory: 300

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Colleges/Universities

PR MAYAGUEZ, U OF
MAYAGUEZ, Puerto Rico
(809) 832-4040

PROGRAMS AND CURRICULA

Research in Solar Energy-Related Areas
Degree: PHD, MS, OTHER, Sciences
Contact: Rodríguez, Pablo
(809) 832-4040

Students Taking or Completing Offering:
Educator, Researcher

SOLAR RELATED COURSES

Physics of Energy Systems
Instructor: Azziz, Nestor
(809) 832-4040
Course Number: PHYS 428
Department: Physics/Arts and
Sciences
Program or
Curriculum: Research in Solar
Energy-Related Areas
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 5.0 hrs per week
Contact Hours: 75
Classroom: 30
Laboratory: 45
Topics Covered Extensively: Alternate
Energy Sources; Appropriate Technology;
Energy Conversion; Heat and Energy
Transfer
Number of Times Taught: 2
Average Enrollment: 6

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Rhode Island Solar Energy Research Institute

Colleges/Universities

BROWN UNIVERSITY
PROVIDENCE, Rhode Island
(401) 663-1000

SOLAR RELATED COURSES

Photovoltaic Solar Cells
Instructor: Loferski, Joseph J.
(401) 863-2671
Course Number: EN 292
Department: Engineering
Credits: 4
Student Level: College Graduate
Duration: 20 Weeks, 3.0 hrs per week
Contact Hours: 60
Classroom: 60
Topics Covered Extensively:
Photovoltaics
Number of Times Taught: 1
Average Enrollment: 10

RHODE ISLAND, U OF
KINGSTON, Rhode Island
(401) 792-1000

SOLAR RELATED COURSES

Residential Solar Heating
Instructor: Wilson, C. J.
(401) 792-2186
Course Number: EXT 913
Department: Engineering (Extension)
Student Level: All levels
Duration: 8 Weeks, 3.0 hrs per week
Contact Hours: 24
Topics Covered Extensively:
Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Space Heating
Number of Times Taught: 3
Average Enrollment: 50

Vocational/Technical Colleges

HALL INSTITUTE
330 Harborside Blvd.
Providence, Rhode Island 02905

PROGRAMS AND CURRICULA

Solar Energy Seminar
Degree: Certificate of Completion
Contact: Rogers, Charles K.
(401) 461-6000
Students Taking or Completing Offering:
Colleges/Universities

**CENTRAL WESLEYAN COLLEGE** (3422)
CENTRAL, South Carolina 29630
(803) 639-2453

**SOLAR RELATED COURSES**

**Energy**
Instructor: Schmutz, J. L.
(803) 639-2453
Department: Science/Social Science
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 20
Laboratory: 15
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Solar Economics

**Solar Energy**
Instructor: Schmutz, J. L.
(803) 639-2453
Course Number: 400
Department: Science
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 20
Laboratory: 15
Topics Covered Extensively: Solar Collector Evaluation/Design; Solar Systems Design; Space Heating

**Clemson University** (3435)
CLEMSON, South Carolina 29631
(803) 656-3311

**PROGRAMS AND CURRICULA**

**Energy Systems**
Degree: PhD, MS, Science, Philosophy, Mechanical Engineering
Contact: Bishop, Eugene II.
(803) 656-3470

Students Taking or Completing Offering: Researcher, Solar Engineer, Mechanical or Electrical Contractor, Contractor

**SOLAR RELATED COURSES**

**Energy Conversion**
Instructor: Lathrop, J. W.
(803) 656-3371
Course Number: 403
Department: Electrical and Computer Engineering
Program or Curriculum: Energy Systems
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 42

Topics Covered Extensively: Energy Conversion; Energy Storage; Intro. to Solar Energy; Photovoltaics; Solar Systems Design; Elec'l Generation, Small Scale

Number of Times Taught: 3
Average Enrollment: 30

**Energy Sources for the Future**
Instructor: Mckelvey, John P.
(803) 656-3417
Course Number: PHYS 245
Department: Physics and Astronomy
Program or Curriculum: Energy Systems
Credits: 3
Student Level: All levels
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 42

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design

Number of Times Taught: 5
Average Enrollment: 50

SC MAIN CAMPUS, U OF (3448)
COLUMBIA, South Carolina 29208
(803) 777-0411

**SOLAR RELATED COURSES**

**Solar Heating and Cooling**
Instructor: McMillan
(803) 777-2252
Course Number: 536
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 20

Topics Covered Extensively: Solar Collector Evaluation/Design; Solar Systems Design; Space Heating
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Systems Design

Number of Times Taught: 3
Average Enrollment: 40

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Community/Junior Colleges

MIDLANDS TECH COLLEGE
COLUMBIA, South Carolina 29250
(803) 794-1266

SOLAR RELATED COURSES

Air Conditioning
Instructor: Sallman, John B.
(803) 782-5471
Course Number: HET 232
Department: Mechanical Engineering
Credits: 4
Student Level: All levels
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 66
Classroom: 33
Laboratory: 33
Number of Times Taught: 3
Average Enrollment: 25

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PIEDMONT TECH COLLEGE
GREENWOOD, South Carolina 29646
(803) 223-8377

SOLAR RELATED COURSES

Solar Energy for Climate Control
Instructor: Ledford, John
(803) 223-8357
Course Number: ACR 204
Department: Heating and Air Conditioning
Credits: 4
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 4.0 hrs per week
Contact Hours: 44
Classroom: 44

Topics Covered Extensively: Energy Conservation; Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 25

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TRI-COUNTY TECH COLLEGE
PENDLETON, South Carolina 29670
(803) 646-3227

SOLAR RELATED COURSES

Solar Energy and The Home Owner
Instructor: Fairey, Philip W.
(803) 646-3227
Course Number: ACR-240
Department: Continuing Education
Student Level: All levels
Duration: 12 Weeks, 2.0 hrs per week
Contact Hours: 24

Solar Energy Applications
Instructor: Edwards, Joe
Course Number: ACR-240
Department: Air Conditioning and Refrigeration
Credits: 4
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 8.0 hrs per week
Contact Hours: 66
Classroom: 66
Laboratory: 66

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water

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YORK TECHNICAL COLLEGE
ROCK HILL, South Carolina 29730
(803) 328-3843

PROGRAMS AND CURRICULA

Conversion of Solar Energy
Degree: Air Conditioning, Refrigeration, and Heating
Contact: White, Lacy
(803) 324-3130
Students Taking or Completing Offering: Installer-Residential (Solar System), Installer-Commercial (Solar System), Trade Specialty

SOLAR RELATED COURSES

Conversion of Solar Energy
Instructor: White, Lacy
Course Number: ACR 204
Department: Air Conditioning
Program or Curriculum: Conversion of Solar Energy
Credits: 4
Student Level: High School Graduate
Duration: 11 Weeks, 8.0 hrs per week
Contact Hours: 88
Classroom: 88
Laboratory: 88

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Topics Covered Extensively: Plumbing Techniques; Solar Systems Installation; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 10

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Vocational/Technical Colleges

BEAUFORT TECH ED CENTER
BEAUFORT, South Carolina 29902
(803) 524-3300

PROGRAMS AND CURRICULA

Refrigeration and Air Conditioning - Solar Energy Appl.
Degree: A0, Refrigeration and Air Conditioning, General Tech.
Contact: Spivey, Edward F.
(803) 524-0148
Students Taking or Completing Offering:
Installer-Residential (Solar System), Solar Technician, Trade Specialty

SOLAR RELATED COURSES

Solar Energy Application
Instructor: Spivey, E. F.
(803) 524-0148
Course Number: ARC 240
Department: Refrigeration and Air Conditioning
Program or Curriculum: Refrigeration and Air Conditioning - Solar Energy Appl.
Credits: 4
Student Level: High School Graduate
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 66
Classroom: 33
Laboratory: 33
Topics Covered Extensively: Heat and Energy Transfer

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CHESTERFIELD-MARBORO TECH
CHERAH, South Carolina 29520
(803) 537-5286

SOLAR RELATED COURSES

Climate Control Technology
Instructor: Smith, Donald R.
(803) 537-5206
Course Number: 204
Department: Air Cond., Ref. and Heating
Credits: 4
Student Level: Freshman or Sophomore

Duration: 11 Weeks, 4.0 hrs per week
Contact Hours: 44
Classroom: 44

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FLORENCE DARLINGTON TECH
FLORENCE, South Carolina 29502
(803) 662-8151

PROGRAMS AND CURRICULA

Conversion of Solar Energy
Degree: Climate Control
Contact: Jackson, Edward
(803) 662-8151

SOLAR RELATED COURSES

Conversion of Solar Energy
Instructor: Jackson, Edward
Course Number: ARC 204
Department: Industrial Trades - Climate Control
Program or Curriculum: Conversion of Solar Energy
Credits: 4
Student Level: High School Graduate
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 66
Classroom: 33
Laboratory: 33
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water
Number of Times Taught: 4
Average Enrollment: 25

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GREENVILLE TECH COLLEGE
GREENVILLE, South Carolina 29606
(803) 242-3170

SOLAR RELATED COURSES

#Refrigeration Tech. Courses
Department: Refrigeration Tech.

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# Solar Energy Research Institute

**HORRY-GEORGETOWN TECH C**
CONWAY, South Carolina 29526
(803) 347-3186

**SOLAR RELATED COURSES**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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</thead>
<tbody>
<tr>
<td>Air Conditioning Courses</td>
<td>4</td>
<td>17</td>
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**SPARTANBURG TECH COLLEGE**
SPARTANBURG, South Carolina 29303
(803) 576-5770

**SOLAR RELATED COURSES**

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<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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<tbody>
<tr>
<td>Air Conditioning Courses</td>
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<td>35</td>
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**SUMTER AREA TECH COLLEGE**
SUMTER, South Carolina 29150
(803) 773-9371

**SOLAR RELATED COURSES**

<table>
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<tr>
<th>Course Title</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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<tbody>
<tr>
<td>Air Conditioning Courses</td>
<td>2</td>
<td>35</td>
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**TRIDENT TECHNICAL COLLEGE**
P O BOX 10367
CHARLESTON, South Carolina 29411
(803) 553-2375

**PROGRAMS AND CURRICULA**

<table>
<thead>
<tr>
<th>Program</th>
<th>Degree</th>
<th>Contact</th>
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<tr>
<td>Air Conditioning-Refrigeration</td>
<td>Air Conditioning-Refrigeration</td>
<td>Moore, James L. (803) 572-6180</td>
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</table>

**Other Educational Institutions**

**SC AT SUMTER, U OF**
SUMTER, South Carolina 29150
(803) 777-6865

**SOLAR RELATED COURSES**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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<tr>
<td>Introduction to Engineering</td>
<td>2</td>
<td>35</td>
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**Course Details**

- **Instructor:** Nerburn, R.C.
- **Course Number:** ENGR110
- **Department:** Engineering
- **Credits:** 3
- **Student Level:** High School Graduate
- **Duration:** 15 Weeks, 3.0 hrs per week
- **Contact Hours:** 45
- **Classroom:** 45
Colleges/Universities

SD MAIN CAMPUS, U OF
VERMILLION, South Dakota 57069
(605) 677-5641

SOLAR RELATED COURSES

The Energy Crisis
Instructor: Jones, Robert W.
(605) 624-5649
Course Number: ESC/PHY 385
Department: Earth Science/Physics
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion
Number of Times Taught: 5
Average Enrollment: 11

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SD SCH MINES & TECHNOLOGY
RAPID CITY, South Dakota 57701
(605) 394-2411

SOLAR RELATED COURSES

Energy Conversion Technology
Instructor: Cheung
(605) 394-2408
Course Number: ME 499
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 2
Average Enrollment: 13

Solar Energy
Instructor: Chiang, C. W.
(605) 394-2401
Course Number: ME 619
Department: Mechanical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 2
Average Enrollment: 11

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Tennessee State University
MEMPHIS, Tennessee 38152
(901) 454-2000

SOLAR RELATED COURSES

Fundamentals of Solar Engineering
Instructor: Perry, Edward H.
(901) 454-2174
Course Number: MECH 4317
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 4
Average Enrollment: 20

Middle Tenn St University
MURFREESBORO, Tennessee 37130
(615) 898-2300

SOLAR RELATED COURSES

Solar Home Design
Instructor: Mathis, William H.
(615) 898-2778
Course Number: 470C
Department: Industrial Studies
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 40
Laboratory: 8
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Space Heating
Number of Times Taught: 2
Average Enrollment: 17

Tennessee Knoxville, U Of
KNOXVILLE, Tennessee 37916
(615) 974-2591

SOLAR RELATED COURSES

Solar Energy Utilization
Course Number: EN5740
Department: Mech. & Aero Eng'
Credits: 3
Student Level: Junior or Senior
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Space Heating; Space Cooling

Tennessee Nashvile, U Of
NASHVILLE, Tennessee 37203
(615) 251-1111

SOLAR RELATED COURSES

Energy Conversion Systems
Instructor: Knight, Charles V.
(615) 251-1341
Course Number: ME4150
Department: Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 8
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy
Number of Times Taught: 5
Average Enrollment: 22

Tennessee Technological U
COOKEVILLE, Tennessee 38501
(615) 520-3241

SOLAR RELATED COURSES

Solar Energy Processes and Systems
Instructor: Hewitt, Jr. Hudy C.
(615) 520-3269
Course Number: ME541
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 36
Topics Covered Extensively: Energy Storage; Intro to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 4
Average Enrollment: 12

VANDERBILT UNIVERSITY (3535)
NASHVILLE, Tennessee 37240
(615) 322-7311

PROGRAMS AND CURRICULA

Electrical Eng'r.

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Community/Junior Colleges

CLEVELAND ST CMTY COLLEGE (3999)
CLEVELAND, Tennessee 37311
(615) 472-7141

PROGRAMS AND CURRICULA

Fac. Dev. Workshop in Energy Alternatives
Contact: Guy, Buford
(615) 472-7141
Students Taking or Completing Offering: Educator

SOLAR RELATED COURSES

Fac. Dev. Workshop in Energy Alternatives
Instructor: Guy, Buford
(615) 472-7141
Department: Community Services and Continuing Education
Program or Curriculum: Fac. Dev. Workshop in Energy Alternatives
Credits: 6
Student Level: College Graduate
Duration: 2 Weeks, 30.0 hrs per week
Contact Hours: 60
Classroom: 50
Laboratory: 10
Topics Covered Extensively: Alternate Energy Sources

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MOTLOW STATE CMTY COLLEGE (6836)
TULLAHO, Tennessee 37388
(615) 455-8511

PROGRAMS AND CURRICULA

Energy Engineering Technology
Contact: Thornton, Otis B.
(615) 455-8511
Students Taking or Completing Offering: Installer-Residential (Solar System), Researcher, Solar Technician

SOLAR RELATED COURSES

Solar Energy Applications
Instructor: Lowndes, Richard
(615) 455-8511
Course Number: ERG 205
Department: Career Education
Program or Curriculum: Energy Engineering Technology
Credits: 3
Student Level: All levels
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 50
Classroom: 20
Laboratory: 30
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

Solar Energy Theory
Instructor: Lowndes, Richard
(615) 455-8511
Course Number: ERG 204
Department: Career Education
Program or Curriculum: Energy Engineering Technology
Credits: 4
Student Level: All levels
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 50
Classroom: 20
Laboratory: 30
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

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Texas Solar Energy Research Institute

Colleges/Universities

AMERICAN TECHNOLOGICAL UNIVERSITY (11854)
KILLEEN, Texas 76541
(817) 526-1261

PROGRAMS AND CURRICULA

Energy Management Sciences
Degree: MS, Science
Contact: Smith, Robin/ Kincel, John
(817) 526-1171
Students Taking or Completing Offering:
Educator, Researcher, Solar Engineer, Other

SOLAR RELATED COURSES

Alternative Energy Sources
Program or Curriculum: Energy Management Sciences
Student Level: College Graduate
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conversion; Wind Power; Small Systems

Applied Solar Energy
Program or Curriculum: Energy Management Sciences
Student Level: College Graduate
Topics Covered Extensively: Solar Technology; Photovoltaics; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Process Heat; Industrial; Space Heating; Space Cooling

Basics of Solar Energy
Program or Curriculum: Energy Management Sciences
Student Level: College Graduate
Topics Covered Extensively: Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling

Computer Simulation
Program or Curriculum: Energy Management Sciences
Student Level: College Graduate

Direct Energy Conversion
Program or Curriculum: Energy Management Sciences

Economics of Alt. Ener. Sources
Program or Curriculum: Energy Management Sciences
Student Level: College Graduate
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Solar Economics

Legislative Aspects of Solar Tech.
Program or Curriculum: Energy Management Sciences
Student Level: College Graduate
Topics Covered Extensively: Solar Law/Legislation

MS in Energy Res. and Development
Instructor: French, Robert L.
Course Number: MSBA5382
Program or Curriculum: Energy Management Sciences
Credits: 3
Student Level: College Graduate
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Solar Economics
Number of Times Taught: 1
Average Enrollment: 15

Passive Systems Design
Program or Curriculum: Energy Management Sciences
Student Level: College Graduate
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Passive Solar Technology; Solar Home Construction; Space Heating; Space Cooling

Solar Agricultural Applns.
Program or Curriculum: Energy Management Sciences
Student Level: College Graduate
Topics Covered Extensively: Solar Technology; Process Heat, Agricultural

Solar Heating and Cooling
Program or Curriculum: Energy Management Sciences

NORTH TEXAS ST UNIVERSITY (3594)
DENTON, Texas 76203
(817) 788-2026

SOLAR RELATED COURSES

Energy and Physical Environment
Instructor: Hehn, Jack
(817) 788-2626
Course Number: PHYS 308
Department: Arts & Sciences, Physics
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Passive Solar Technology; Photovoltaics; Solar Energy Policy Development; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Central; Elec'l Generation, Small Scale; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 5
Average Enrollment: 21

OUR LADY OF LAKE U (3598)
SAN ANTONIO, Texas 78285
(512) 434-6711

SOLAR RELATED COURSES

Owner Built Solar Air Heaters
Instructor: Naurock, David
(512) 822-9935
Department: Continuing Education
Student Level: All levels
Duration: 1 Weeks, 5.0 hrs per week
Contact Hours: 5
Classroom: 2
Laboratory: 3

RICE UNIVERSITY (3604)
HOUSTON, Texas 77001
(713) 527-8101

PROGRAMS AND CURRICULA

Space Solar Power Research
Degree: PhD, MS
Contact: Freeman, John W.
(713) 527-8101
Students Taking or Completing Offering: Researcher

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## SOLAR RELATED COURSES

### Solar Power
**Instructor:** Bayazitoglu, Yildiz  
**Course Number:** 531  
**Department:** Mechanical Engineering, Materials Science  
**Program or Curriculum:** Space Solar Power Research  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 14 Weeks, 3.0 hrs per week  
**Contact Hours:** 42  
**Classroom:** 42  
**Topics Covered Extensively:** Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar System Design; Domestic Hot Water; Electric Generation, Small Scale; Space Heating; Space Cooling  
**Number of Times Taught:** 1  
**Average Enrollment:** 22  
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### Space Util. and Industrialization
**Instructor:** Freeman, J.  
**Course Number:** 488  
**Department:** Space Physics  
**Program or Curriculum:** Space Solar Power Research  
**Credits:** 3  
**Student Level:** Junior or Senior  
**Duration:** 12 Weeks, 3.0 hrs per week  
**Contact Hours:** 36  
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### SOUTHERN METHODIST UNIVERSITY
**DALLAS, Texas 75275**  
**PHONE:** (214) 692-2000  
**SOLAR RELATED COURSES**

#### Photovoltaic Solar Energy Conversion
**Instructor:** Chu, Ting L.  
**Course Number:** EE 6395  
**Department:** Electrical Engineering  
**Credits:** 3  
**Student Level:** College Graduate  
**Duration:** 15 Weeks, 3.0 hrs per week  
**Contact Hours:** 45  
**Classroom:** 45  
**Topics Covered Extensively:** Energy Conversion; Materials Research; Photovoltaics  
**Number of Times Taught:** 2  
**Average Enrollment:** 8  

#### Solar Energy Applications
**Instructor:** Blum, Harold  
**Course Number:** TF 4391  
**Department:** Chemical Engineering  
**Number of Times Taught:** 2  
**Average Enrollment:** 8  
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### TEXAS A & I UNIVERSITY
**KINGSVILLE, Texas 78363**  
**PHONE:** (512) 592-2111  
**SOLAR RELATED COURSES**

#### Environmental Chemistry
**Instructor:** Borom, J. A.  
**Course Number:** 304  
**Department:** Chemistry  
**Credits:** 3  
**Duration:** 14 Weeks, 3.0 hrs per week  
**Contact Hours:** 42  
**Number of Times Taught:** 4  
**Average Enrollment:** 15  
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TEXAS


Texas

TEXAS A&M U MAIN CAMPUS
COLLEGE STATION, Texas 77843
(713) 845-3211

PROGRAMS AND CURRICULA

Graduate Program- Undergraduate Program

Degree: PhD, MS, Mechanical Engineering

Contact: Jenkins, Peter E.
(713) 845-1251

Students Taking or Completing Offering:
Eductor, Researcher, Solar Engineer

SOLAR RELATED COURSES

Advanced Solar Thermal Processes
Instructor: Jenkins, Peter E.
(713) 845-1251

Course Number: 609
Department: Mechanical Engineering
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45

Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Elec'l Generation, Central; Elec'l Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 1
Average Enrollment: 25

Alternative Architecture
Instructor: Zweig, Peter
(713) 845-1015

Course Number: 605
Department: Architecture
Credits: 3
Student Level: College Graduate
Duration: 3 Weeks, 16.0 hrs per week
Contact Hours: 40
Number of Times Taught: 2
Average Enrollment: 15

Applied Solar Energy
Instructor: Jenkins, Peter E.
(713) 845-1251

Course Number: ME 462
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar

Energy: Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'l Generation, Small Scale; Space Heating; Space Cooling
Number of Times Taught: 3
Average Enrollment: 45

Direct Energy Conversion
Instructor: Jenkins, Peter E.
(713) 845-1251

Course Number: ME 473
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45

Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'l Generation, Central; Elec'l Generation, Small Scale; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 3
Average Enrollment: 32

Energy Optimization Techniques
Instructor: Degelman, Larry O.
(713) 845-1015

Course Number: ARCH 689
Department: Architecture
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 40
Laboratory: 5

Topics Covered Extensively: Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Solar Economics; Solar Collector Evaluation/Design; Space Heating
Number of Times Taught: 2
Average Enrollment: 8

Environmental Control Systems
Instructor: Trost, F. J.
(713) 845-1017

Course Number: APCH 633
Department: Architecture
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 40
Laboratory: 5

Topics Covered Extensively: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Space Heating

= 227 =
Average Enrollment: 15

TEXAS AT ARLINGTON, U OF
ARLINGTON, Texas 76019
(817) 273-2011

SOLAR RELATED COURSES

Solar and Direct Energy Conversion
Instructor: Darkazalli, Ghazi
(817) 273-2561
Course Number: 6319/4391
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Economics; Solar Collector
Evaluation/Design; Solar Systems
Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 2
Average Enrollment: 20

TEXAS AT AUSTIN, U OF
AUSTIN, Texas 78712
(512) 471-3434

PROGRAMS AND CURRICULA

Solar-related Courses
Degree: PhD, MA, BA, Architecture related
Contact: Arumi-Noe, Francisco
(512) 471-4911
Students Taking or Completing Offering: Architect

SOLAR RELATED COURSES

Applied Solar Energy
Instructor: Vliet, Gary C.
(512) 471-7571
Course Number: ME 394J
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Classroom: 33
Laboratory: 6
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 5
Average Enrollment: 20

Appropriate Technology
Instructor: Garrison, Michael
(512) 471-1922
Course Number: A 355
Department: Architecture
Program or Curriculum: Solar-related Courses
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 6.0 hrs per week
Contact Hours: 90
Classroom: 72
Laboratory: 18
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Systems Design; Space Heating
Number of Times Taught: 2
Average Enrollment: 20

Energy Reporting
Instructor: Steenhiste, Richard Van
(512) 471-7700
Course Number: J365
Department: Journalism
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology
Number of Times Taught: 1
Average Enrollment: 8

Energy Simulation in Architecture
Instructor: Arumi-Noe, Francisco
(512) 471-4911
Course Number: 360M
Department: Architecture
Program or Curriculum: Solar-related Courses
Credits: 3
Student Level: Junior or Senior
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Systems Design; Space Heating; Space Cooling
Average Enrollment: 10

Env. Conv. Syst.-Environ. Cons. Design
Instructor: Arumi-Noe, Francisco
(512) 471-4911
Course Number: 363
Department: Architecture
Program or Curriculum: Solar-related Courses
Credits: 3
Student Level: Junior or Senior
Duration: 13 Weeks, 6.0 hrs per week
Contact Hours: 78
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology;
Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating; Elec't Generation, Central; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

Average Enrollment: 10

Department: Continuing Engineering Education
Student Level: All levels
Contact Hours: 26
Classroom: 26
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 4
Average Enrollment: 15

Solar Energy Instructor: Amstead, R. H. (512) 471-1331
Course Number: ME 378 M
Department: ME
Credits: 3
Student Level: Junior or Senior
Duration: 17 Weeks, 3.0 hrs per week
Contact Hours: 51
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy
Number of Times Taught: 3
Average Enrollment: 20

Solar Thermal Power Instructor: Amstead, R. H. (512) 471-1331
Course Number: ME 379 M
Department: ME
Credits: 3
Student Level: Junior or Senior
Duration: 17 Weeks, 3.0 hrs per week
Contact Hours: 51
Topics Covered Extensively: Appropriate Technology; Intro. to Solar Energy; Elec't Generation, Central; Elec't Generation, Small Scale
Number of Times Taught: 30
Average Enrollment: 28

Survey: Environmental Control Systems Instructor: Armi-Nee, Francismom (512) 471-4911
Course Number: 340M
Department: Architecture
Program or Curriculum: Solar-related courses
Credits: 3
Student Level: Junior or Senior
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Home Construction; Space Heating; Space Cooling
Number of Times Taught: 8
Average Enrollment: 25

Texas at Dallas, U of Richardson, Texas 75080 (214) 690-2111

Programs and Curricula

Sol. Ener. in Environ. Studs. Degree: PHD, MS, Environmental Sciences
Contact: Moore, Joe E. (214) 690-2970

Students Taking or Completing Offering: Researcher, Solar Engineer

Solar Related Courses

Advanced Solar Energy Instructor: Rapp, D. (214) 690-2974
Course Number: ENEG6355
Department: NSM/ES
Program or Curriculum: Sol. Ener. in Environ. Studs.
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Economics; Solar Systems Design; Electric Generation, Central; Electric Generation, Small Scale; Space Heating; Space Cooling

Number of Times Taught: 3
Average Enrollment: 8

Energy
Instructor: Rapp, D./Fenyves, E. (214) 690-2970
Course Number: E55354
Department: NSM/ES
Program or Curriculum: Sol. Ener. in Environ. Studs.
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Number of Times Taught: 1
Average Enrollment: 30

Energy Consumption-Resources & Impact
Instructor: Fenyves, E.
Course Number: ENES5330
Department: NSM/ES
Program or Curriculum: Sol. Ener. in Environ. Studs.
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Intro. to Solar Energy
Number of Times Taught: 5
Average Enrollment: 20

Solar Energy
Instructor: Rapp, D. (214) 690-2974
Course Number: ENEG6347
Department: NSM/ES
Program or Curriculum: Sol. Ener. in Environ. Studs.
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Intro. to Solar Energy
Number of Times Taught: 4
Average Enrollment: 15

Solar Energy Laboratory
Instructor: Rapp, D. (214) 690-2970
Course Number: ENEG6356

Department: NSM/ES
Program or Curriculum: Sol. Ener. in Environ. Studs.
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45

Thermodynamics and Energy Conversion
Instructor: Rapp, D. (214) 690-2970
Course Number: ENEG6349
Department: NSM/ES
Program or Curriculum: Sol. Ener. in Environ. Studs.
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Energy Conservation; Energy Conversion; Heat and Energy Transfer; Solar Energy Policy Development; Solar Systems Design; Electric Generation, Central; Electric Generation, Small Scale; Space Cooling
Number of Times Taught: 1
Average Enrollment: 11

** ** ** ** ** ** ** ** ** **

TEXAS AT EL PASO, U OF
EL PASO, Texas 79968
(915) 747-5000

PROGRAMS AND CURRICULA

Solar Energy Engineering
Degree: MS, Science
Contact: Whitacre, John (915) 747-5809
Students Taking or Completing Offering: Solar Engineer

SOLAR RELATED COURSES

Applications of Solar Energy
Instructor: Whitacre, John (915) 747-5450
Course Number: ME356
Department: Mechanical Engineering
Program or Curriculum: Solar Energy Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Heat and Energy Transfer; Solar System Components; Solar Systems Design; Space Heating; Space Cooling

TEXAS CHRISTIAN U
FORT WORTH, Texas 76129
(817) 926-2461

SOLAR RELATED COURSES

Energy and the Future
Instructor: Quarles, C. A.
(817) 921-7375
Course Number: 6413
Department: Physics
Credits: 3
Student Level: All levels
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Solar Economics; Solar Collector Evaluation/Design
Number of Times Taught: 2
Average Enrollment: 60

TEXAS TECH UNIVERSITY
LUBBOCK, Texas 79409
(806) 742-2011

PROGRAMS AND CURRICULUM

Interdisciplinary Engineering
Degree: PhD, Philosophy-Inter. Engin. Contact: Gully, A. J. (806) 742-3456
Students Taking or Completing Offering: Researcher, Solar Engineer

SOLAR RELATED COURSES

Energy and Housing
Instructor: Kiesling, E. W.
1806) 742-3472
Department: Cat., Ener. Res. and Coll. of Engin.
Program or Curriculum: Interdisciplinary Engineering
Student Level: College Graduate
Duration: 1 Weeks, 32.0 hrs per week
Contact Hours: 32
Classroom: 32
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Space Heating

Instructor: Parker, Harry W.
(806) 742-3553
Course Number: CH.E. 4333
Department: Chemical Engineering
Program or Curriculum: Interdisciplinary Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion
Number of Times Taught: 4
Average Enrollment: 12

Housing and Energy as Consumer Issues
Instructor: McKown, Cara
(806) 742-3153
Course Number: 518
Program or Curriculum: Interdisciplinary Engineering
Credits: 3
Student Level: College Graduate
Duration: 1 Weeks, 45.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Energy Conservation; Marketing/Market Analysis
Number of Times Taught: 1
Average Enrollment: 25

Instructor: McKown, Cara
(806) 742-3153
Course Number: 1518
Program or Curriculum: Interdisciplinary Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 3 Weeks, 15.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Energy; Marketing/Market Analysis; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Systems Design; Solar Systems Installation

** ** ** ** ** **
Texas Solar Energy Research Institute

TRINITY UNIVERSITY
SAN ANTONIO, Texas 78284
(512) 736-7011

PROGRAMS AND CURRICULA

Solar Energy Graduate Prog.
Contact: Clark, Eugene
(512) 736-7504

Students Taking or Completing Offering:
Researcher, Solar Engineer, Solar Technician

SOLAR RELATED COURSES

Economic Analysis of Energy and Capital Projects
Instructor: Dorner, Fred H.
(512) 736-7238
Course Number: ENS 390
Department: Business Administration
Program or Curriculum: Solar Energy Graduate Prog.
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively:
Energy Sources; Solar Economics; Elec'l Generation, Central; Space Cooling
Number of Times Taught: 1
Average Enrollment: 18

Heat Transfer and Thermodynamics
Instructor: Andrews, Robert
(512) 736-7512
Course Number: ENGR 3695
Department: Engineering Science
Program or Curriculum: Solar Energy Graduate Prog.
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively:
Energy Conversion; Heat and Energy Transfer
Number of Times Taught: 3
Average Enrollment: 18

Intro. to Solar Energy Applications
Instructor: Clark, Eugene
(512) 736-7504
Course Number: PHY 119
Department: Physics
Program or Curriculum: Solar Energy Graduate Prog.
Credits: 1
Student Level: College Graduate
Duration: 15 Weeks, 1.0 hrs per week
Contact Hours: 15
Classroom: 15
Topics Covered Extensively:
Energy Sources; Appropriate Technology; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Solar System Components; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 15

Modeling and Computer Analysis
Instructor: Treat, C. H.
(512) 736-7512
Course Number: ENGR 3835
Department: Engineering Science
Program or Curriculum: Solar Energy Graduate Prog.
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively:
Energy Conversion; Process Heat, Industrial; Space Cooling
Number of Times Taught: 2
Average Enrollment: 15

Photovoltaics
Instructor: Loxsom, Fred
(512) 736-7421
Course Number: PHYS 3506
Department: Physics
Program or Curriculum: Solar Energy Graduate Prog.
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively:
Energy Conversion; Photovoltaics; Solar Systems Design; Elec'l Generation, Small Scale
Number of Times Taught: 3
Average Enrollment: 15

Physics of Solar Collectors
Instructor: Clark, Eugene
(512) 736-7504
Course Number: PHYS 356
Department: Physics
Program or Curriculum: Solar Energy Graduate Prog.
Credits: 3
Student Level: College Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively:
Energy Sources; Appropriate Technology; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Elec'l Generation, Central; Elec'l Generation,
**Small Scale: Process Heat, Agricultural: Process Heat, Industrial; Space Heating: Space Cooling**

- **Number of Times Taught:** 2
- **Average Enrollment:** 15

**Solar and Atmospheric Radiation**

- **Instructor:** Clark, Eugene
- **Course Number:** PHYS 307
- **Department:** Physics
- **Program or Curriculum:** Solar Energy Graduate Program
- **Credits:** 3
- **Student Level:** College Graduate
- **Duration:** 15 Weeks, 3.0 hrs per week
- **Contact Hours:** 45
- **Classroom:** 45

**Topics Covered Extensively:**
- Alternate Energy Sources; Intro. to Solar Energy; Solar Energy Policy Development; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Swimming Pool Heating; Elec'1 Generation, Central; Elec'1 Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling
- **Number of Times Taught:** 2
- **Average Enrollment:** 13

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**Solar Energy System Components**

- **Instructor:** Treat, C. H.
- **Course Number:** ENGR 3626
- **Department:** Engineering Science
- **Program or Curriculum:** Solar Energy Graduate Program
- **Credits:** 3
- **Student Level:** Junior or Senior
- **Duration:** 14 Weeks, 3.0 hrs per week
- **Contact Hours:** 42
- **Classroom:** 42

**Topics Covered Extensively:**
- Heat and Energy Transfer; Marketing/Market Analysis; Materials Research; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Elec'1 Generation, Central; Elec'1 Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling
- **Number of Times Taught:** 3
- **Average Enrollment:** 15

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**U OF HOUSTON CEN CAMPUS**

**Man, Architecture and Energy**

- **Instructor:** Way, George E.
- **Course Number:** 430T
- **Department:** Architecture
- **Credits:** 3
- **Student Level:** Junior or Senior
- **Duration:** 14 Weeks, 3.0 hrs per week
- **Contact Hours:** 42
- **Classroom:** 42

**Topics Covered Extensively:**
- Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Space Heating; Space Cooling
- **Number of Times Taught:** 3
- **Average Enrollment:** 15

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**WEST TEXAS ST UNIVERSITY**

**SOLAR RELATED COURSES**

**Solar Energy: Res. and Rural Systems**

- **Instructor:** Nelson, Vaughn
- **Course Number:** 39901-1
- **Department:** Physics
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 17 Weeks, 3.0 hrs per week
- **Contact Hours:** 51
- **Classroom:** 51

**Topics Covered Extensively:**
- Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Domestic Hot Water; Space Heating; Wind
Texas Solar Energy Research Institute

Power, Small Systems

Wind Energy and Wind Turbines
Instructor: Nelson, Vaughn
Course Number: 39902-1
Department: Physics
Credits: 3
Student Level: All levels
Duration: 17 weeks, 3.0 hrs per week
Contact Hours: 51
Classroom: 51
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Solar Systems Design; Wind Power, Small Systems

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Community/Junior Colleges

CENTRAL TEXAS COLLEGE (4003)
KILLEEN, Texas 76541
(817) 526-1211

PROGRAMS AND CURRICULA

Solar Energy Systems Specialist
Degree: Certificate of Completion
Contact: Tresler, Clarence
(817) 526-1236
Students Taking or Completing Offering:
Installer-Residential (Solar System), Installer-Commercial (Solar System), Solar Technician, Trade Specialty

Solar Energy Systems Technology
Degree: AA, Applied Science
Contact: Tresler, Clarence
(817) 526-1236
Students Taking or Completing Offering:
Installer-Residential (Solar System), Installer-Commercial (Solar System), Solar Technician, Trade Specialty

SOLAR RELATED COURSES

Principles of Solar Energy
Instructor: Tresler, Clarence
Course Number: SESY 1314
Department: Industrial Technology
Program or Curriculum: Solar Energy Systems Technology/ Solar Energy Systems Specialist
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Intro. to

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Solar Energy
Number of Times Taught: 2
Average Enrollment: 25

Solar Cooling Systems
Instructor: Tresler, Clarence
Course Number: SESY 241
Department: Industrial Technology
Program or Curriculum: Solar Energy Systems Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 16 weeks, 6.0 hrs per week
Contact Hours: 96
Classroom: 48
Laboratory: 48

Solar Energy Special Projects
Instructor: Tresler, Clarence
Course Number: SESY 231
Department: Industrial Technology
Program or Curriculum: Solar Energy Systems Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 weeks, 6.0 hrs per week
Contact Hours: 96
Classroom: 16
Laboratory: 80
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

Solar Heating Systems
Instructor: Tresler, Clarence
Course Number: SESY 141
Department: Industrial Technology
Program or Curriculum: Solar Energy Systems Technology/ Solar Energy Systems Specialist
Credits: 4
Student Level: Freshman or Sophomore
Duration: 16 weeks, 6.0 hrs per week
Contact Hours: 96
Classroom: 48
Laboratory: 48
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating
Number of Times Taught: 2
Average Enrollment: 25

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GRAYSON CO JUNIOR COLLEGE (3570)
DENISON, Texas 75020
(214) 465-6030

SOLAR RELATED COURSES

Energy Resources
Instructor: Roberts, John H.
(214) 456-6030
Course Number: SCI 134
Department: Engineering/Science
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Intro. to Solar Energy
Number of Times Taught: 1
Average Enrollment: 15

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LIFE COLLEGE (3583)
DAYTON, Texas 77539
(713) 427-5611

SOLAR RELATED COURSES

Environmental Science
Instructor: Lohrberg, Verne
(713) 427-5691
Course Number: B10 413
Department: Science
Credits: 4
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 6.0 hrs per week
Contact Hours: 96
Classroom: 45
Laboratory: 45
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Solar Collector Evaluation/Design

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Economics, Codes, Legal, Consumerism

Instructor: Myers, Arthur
(214) 874-6501
Department: Solar Energy
Course Number: SE1034
Duration: 16 Weeks, 2.0 hrs per week
Contact Hours: 32
Classroom: 32
Laboratory: 8

Topics Covered Extensively: Alternate
- Energy Sources; Appropriate Technology
- Marketing/Market Analysis; Solar Economics
- Solar Home Construction
- Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating; Space Cooling

Energy Science I

Instructor: Myers, Arthur
(214) 874-6501
Department: Solar Energy
Program or Course Number: SE1034
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Laboratory: 48

Topics Covered Extensively: Alternate
- Energy Sources; Appropriate Technology
- Energy Conservation; Energy Conversion
- Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy
- Plumbing Techniques; Sheet Metal Techniques; Solar System Components
- Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling

Energy Science II

Instructor: Myers, Arthur
(214) 874-6501
Department: Solar Energy
Program or Course Number: SE1034
Credits: 4
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 6.0 hrs per week
Contact Hours: 96
Classroom: 48
Laboratory: 48

Topics Covered Extensively: Alternate
- Energy Sources; Appropriate Technology
- Energy Conservation; Energy Conversion
- Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy
- Plumbing Techniques; Sheet Metal Techniques; Solar System Components
- Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling

Intro. to Solar Heating and Cooling

Instructor: Norman, Albian
(214) 874-6501
Department: Occupational Education
Program or Course Number: SE1013
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Laboratory: 48

Topics Covered Extensively: Alternate
- Energy Sources; Appropriate Technology
- Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy
- Passive Solar Technology; Plumbing Techniques; Solar System Components
- Solar Home Construction; Solar Systems Design; Domestic Hot Water; Elec'I Generation, Small Scale; Space Heating; Space Cooling

Materials and Fabrication

Instructor: Vaughn, Ralph
(214) 874-6501
Department: Occupational Education
Program or Course Number: SE1034
Credits: 4
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 6.0 hrs per week
Contact Hours: 96
Classroom: 32
Laboratory: 64

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Materials Research; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

Materials and Material Handling

Instructor: Myers, Arthur
(214) 874-6501
Program or Course Number: SE1034
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 5.0 hrs per week

- 236 -
Solar Systems Installation: Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

Solar Heating and Cooling Systems
Instructor: Myers, Arthur
(214) 874-6501
Course Number: SE1064
Department: Occupational Education
Program or Curriculum: Solar Energy Installers/ Mechanics
Credits: 4
Student Level: Freshman or Sophomore
Duration: 16 Weeks; 6.0 hrs per week
Contact Hours: 96
Classroom: 32
Laboratory: 64
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Process Heat; Agricultural; Process Heat, Industrial; Space Heating; Space Cooling
Average Enrollment: 15

Solar Practicum
Instructor: Myers, Arthur
(214) 874-6501
Department: Solar Energy
Program or Curriculum: Solar Engineering Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks; 3.0 hrs per week
Contact Hours: 48
Laboratory: 48
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Materials Research; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Process Heat; Agricultural; Process Heat, Industrial; Space Heating; Space Cooling

Technical Surveys of Energy Sources
Instructor: Myers, Arthur
(214) 874-6501
Department: Solar Energy
Program or Curriculum: Solar Engineering Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks; 3.0 hrs per week
Contact Hours: 48
Texas Solar Energy Research Institute

Classroom: 48
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Domestic Hot Water; Swimming Pool Heaters; Elec't Generation, Central; Elec't Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling; Wind Power, Central Systems; Wind Power, Small Systems

NORTH LAKE COLLEGE
IRVING, Texas 75062
(214) 255-5229

PROGRAMS AND CURRICULA

Solar Energy Technician
Degree: AD, Solar Technology
Contact: Knowles, Jim (214) 255-5325
Students Taking or Completing Offering: Solar Technician

SOLAR RELATED COURSES

Energy Science I
Instructor: Knowles, Jim (214) 255-5260
Department: Science/Math/Technology
Program or Curriculum: Solar Energy Technician
Credits: 4
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 6.0 hrs per week
Contact Hours: 96
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer

Future Technology
Instructor: Knowles, Jim (214) 255-5260
Department: Science/Math/Technology
Program or Curriculum: Solar Energy Technician
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Domestic Hot Water; Swimming Pool Heating; Elec't Generation, Central; Elec't Generation, Small Scale; Process Heat, Agricultural; Process Heat, Industrial; Space Cooling

Introduction to Solar
Instructor: Knowles, Jim (214) 255-5260
Department: Science/Math/Technology

Program or Curriculum: Solar Energy Technician
Credits: 2
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 2.0 hrs per week
Contact Hours: 32
Classroom: 32
Topics Covered Extensively: Energy Conservation; Passive Solar Technology

Materials/Material Handling
Instructor: Knowles, Jim (214) 255-5260
Department: Science/Math/Technology
Program or Curriculum: Solar Energy Technician
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 5.0 hrs per week
Contact Hours: 80
Classroom: 16
Laboratory: 64
Topics Covered Extensively: Plumbing Techniques; Sheet Metal Techniques

Operational Diagnosis
Instructor: Knowles, Jim (214) 255-5260
Department: Science/Math/Technology
Program or Curriculum: Solar Energy Technician
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Classroom: 32
Laboratory: 32

Sizing Design and Retrofit
Instructor: Knowles, Jim (214) 255-5260
Department: Science/Math/Technology
Program or Curriculum: Solar Energy Technician
Credits: 5
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 7.0 hrs per week
Contact Hours: 112
Classroom: 48
Laboratory: 64
Topics Covered Extensively: Solar Systems Design; Solar Systems Installation

Solar Codes and Consumerism
Instructor: Knowles, J. (214) 255-5260
Department: Science/Math/Technology
Program or Curriculum: Solar Energy Technician
Credits: 2
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 2.0 hrs per week
Contact Hours: 32
Classroom: 32

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Topics Covered Extensively:
- Marketing/Market Analysis; Solar Energy
- Policy Development; Solar Economics
- Solar Law/Legislation

Solar Practicum
Instructor: Knowles, Jim
Department: Science/Math/Technology
Program or Curriculum: Solar Energy Technician
Credits: 5
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 5.0 hrs per week
Contact Hours: 60

Technical Survey of Energy Sources
Instructor: Knowles, J.
Department: Science/Math/Technology
Program or Curriculum: Solar Energy Technician
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Wind Power, Central Systems

ODESSA COLLEGE
ODESSA, Texas 79760
(915) 337-5331

PROGRAMS AND CURRICULA

Solar Power
Contact: Witcher, Norman
(915) 337-5381
Students Taking or Completing Offering: Solar Technician

SOLAR RELATED COURSES

Solar Power
Instructor: Witcher, Norman
(915) 337-5381
Course Number: AR 281
Department: Air Cond. C Refrigeration
Program or Curriculum: A/C and Refrigeration
Credits: 6
Student Level: Freshman or Sophomore
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intern. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling

RANGER JUNIOR COLLEGE
RANGER, Texas 76470
(817) 647-3234

PROGRAMS AND CURRICULA

A/C and Refrigeration
Degree: A.A.D.O., Applied Science
Contact: Stiles, Alton
(817) 647-3234

Students Taking or Completing Offering: Solar Technician

SOLAR RELATED COURSES

Air Cond. and Ref. VII
Course Number: AR 263
Department: Air Cond. C Refrigeration
Program or Curriculum: A/C and Refrigeration
Credits: 6
Student Level: Freshman or Sophomore
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intern. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling

Fundamentals of Solar Heating and Cooling
Course Number: AR 264
Department: Air Conditioning/Refrigeration
Program or Curriculum: A/C and Refrigeration
Credits: 6
Student Level: Freshman or Sophomore
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intern. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Space Cooling

Solar Thermal Energy Systems
Instructor: Stiles, Alton
(817) 647-3234
Course Number: AR 265
Department: Air Conditioning
Program or Curriculum: A/C and Refrigeration
Credits: 6
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 10.0 hrs per week
Contact Hours: 160
Classroom: 32
Laboratory: 128
Topics Covered Extensively: Plumbing Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Maintenance; Space Heating; Space Cooling

Number of Times Taught: 1
Average Enrollment: 30

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Texas Solar Energy Research Institute

Installation; Solar Systems
Maintenance; Solar Systems Testing and
Evaluation; Domestic Hot Water; Elec'tl
Generation, Small Scale; Space Heating;
Space Cooling

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TYLER JUNIOR COLLEGE
TYLER, Texas 75701
(214) 597-4281

PROGRAMS AND CURRICULUM

Air Conditioning & Refriger. Tech.

Degree: AD, Applied Science
Contact: Minter, Richard T.
(214) 593-4401

Students Taking or Completing Offering:
Trade Specialty

SOLAR RELATED COURSES

Introduction to Solar Systems
Instructor: Robinson, Carol T.
(214) 592-8619
Course Number: AC 1135
Department: Technology
Program or Curriculum: Air Conditioning & Refriger. Tech.
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Intro. to Solar Energy
Average Enrollment: 31

Solar Systems Installation
Instructor: Robinson, Carol T.
(214) 592-8619
Course Number: AC 2235
Department: Technology
Program or Curriculum: Air Conditioning & Refriger. Tech.
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 6.0 hrs per week
Contact Hours: 96
Classroom: 32
Laboratory: 64
Topics Covered Extensively: Solar System Components; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating
Average Enrollment: 18

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Vocational/Technical Colleges

TEXAS STATE TECHNICAL INSTITUTE
HARLINGEN, Texas 78550
(512) 425-4922

SOLAR RELATED COURSES

Solar Receivers
Instructor: Vogel, Harold
(512) 425-4922
Course Number: ACT 214
Department: Air Cond. and Refrigeration Tech.
Credits: 2
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 2.0 hrs per week
Contact Hours: 24
Classroom: 12
Laboratory: 12
Topics Covered Extensively: Energy Conversion; Energy Storage; Plumbing Techniques; Solar System Components; Solar Systems Installation; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 18

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TEXAS STATE TECHNICAL INSTITUTE
Sweetwater, Texas 79556

SOLAR RELATED COURSES

*Training Course
Department: Continuing Education
Contact Hours: 48
Topics Covered Extensively: Solar System Components; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating

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Other Educational Institutions

TRI-COLLEGE CONTINUING EDUCATION/VOCATIONAL TECHNICAL TRAINING
Abilene, Texas 79604

SOLAR RELATED COURSES

Solar Energy
Instructor: Hodgson, John
(915) 698-3096
Department: Continuing Education
Student Level: All levels
Duration: 7 Weeks, 2.0 hrs per week
Contact Hours: 14
Classroom: 14
Topics Covered Extensively: Energy

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Conservation; Intro. to Solar Energy;
Passive Solar Technology; Solar System
Components; Solar Systems Design; Solar
Systems Installation; Solar Systems
Maintenance; Space Heating
Number of Times Taught: 1
Average Enrollment: 11
Colleges/Universities

UTAH STATE UNIVERSITY
LOGAN, Utah 84322
(801) 752-4100

SOLAR RELATED COURSES

Biometeorology Instruments
Instructor: Dirmhirn
(801) 752-4100
Course Number: 709
Department: Agri/Soil Sci. and Biometeorology
Credits: 3
Student Level: College Graduate
Duration: 2 Weeks, 3.0 hrs per week
Contact Hours: 27
Classroom: 9
Laboratory: 27
Topics Covered Extensively: Appropriate Technology; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics
Number of Times Taught: 5
Average Enrollment: 9

Biometeorology
Instructor: Dirmhirn/Hanks/Woldridge
(801) 752-4100
Course Number: 652
Department: Agri/Soil Sci. and Biometeorology
Credits: 3
Student Level: College Graduate
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 9
Topics Covered Extensively: Appropriate Technology; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics
Number of Times Taught: 4
Average Enrollment: 9

Environmental Remote Sensing
Instructor: Dirmhirn, I./Baker, K.
(801) 725-7100
Course Number: 707
Department: Soil Sci. & Biomet.
Credits: 3
Student Level: College Graduate
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 35
Topics Covered Extensively: Appropriate Technology; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics
Number of Times Taught: 5
Average Enrollment: 10

Environmental Field Experiments
Instructor: Dirmhirn
(801) 752-4100
Course Number: 693
Department: Agri/Soil Sci. and Biometeo
Credits: 3
Student Level: College Graduate
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 9
Laboratory: 27
Topics Covered Extensively: Appropriate Technology; Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics
Number of Times Taught: 4
Average Enrollment: 8

Solar Energy Systems
Instructor: Phillips, W.F.
(801) 752-4100
Course Number: ME546
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 40
Classroom: 40
Number of Times Taught: 1
Average Enrollment: 12

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UTAH, UNIVERSITY OF
SALT LAKE CITY, Utah 84112
(801) 581-7211

SOLAR RELATED COURSES

Energy Conversion
Instructor: Boehm, R.F.
(801) 581-6441
Course Number: ME 561
Department: Engin., Mech. and Indus. Engineering
Credits: 4
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion
Number of Times Taught: 10
Average Enrollment: 35
Solar Building Design
Instructor: Boehm, R. F.
Department: Engin., Mech. and Indus. Engineering
Student Level: College Graduate
Duration: 1 Weeks; 10.0 hrs per week
Contact Hours: 10
Classroom: 10
Topics Covered Extensively: Energy Conservation; Energy Storage; Passive Solar Technology; Solar Systems Design; Space Heating

Thermal Applications of Solar Energy
Instructor: Boehm, R. F.
Department: Engin., Mech. and Indus. Engineering
Course Number: ME 563
Credits: 4
Student Level: Junior or Senior
Duration: 9 Weeks; 4.0 hrs per week
Contact Hours: 36
Classroom: 36
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Solar Collector Evaluation/Design
Number of Times Taught: 1
Average Enrollment: 25

Thermal Systems Design
Instructor: Boehm, R. F.
Department: Engin., Mech. and Indus. Engineering
Course Number: ME 562
Credits: 4
Student Level: Junior or Senior
Duration: 9 Weeks; 4.0 hrs per week
Contact Hours: 36
Classroom: 36
Number of Times Taught: 6
Average Enrollment: 21

DIXIE COLLEGE
SAINT GEORGE, Utah 84770
(801) 673-4811

PROGRAMS AND CURRICULA
Solar Technology
Degree: Certificate of Completion
Contact: Hacking, John
(801) 673-4811

SOLAR RELATED COURSES
Intro. to Applied Solar Energy
Instructor: Tait, Don
(801) 673-4811
Course Number: ST 150
Department: Engineering Tech.
Program or Curriculum: Solar Technology
Credits: 4
Student Level: Freshman or Sophomore
Duration: 11 Weeks; 5.0 hrs per week
Contact Hours: 55
Classroom: 55
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Marketing/Market Analysis; Materials Research; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 12
Average Enrollment: 20

Instructor: Tait, Don
(801) 673-4811
Course Number: ST 123
Department: Engineering Tech.
Program or Curriculum: Solar Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 11 Weeks; 3.0 hrs per week
Contact Hours: 33
Classroom: 16
Laboratory: 15
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 9
Average Enrollment: 18

COMMUNITY/JUNIOR COLLEGES
Utah

Solar Energy Research Institute

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Vocational/Technical Colleges

UTAH TECH COLLEGE SALT LK (5220)
SALT LAKE CITY, Utah 84107
(801) 299-3411

SOLAR RELATED COURSES

Alternate Energy
Instructor: Ingram, William W.
(801) 969-3411
Course Number: ADT 057E
Department: Architect
Student Level: All levels
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 50
Classroom: 20
Laboratory: 20
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Process Heat, Agricultural; Process Heat, Industrial
Number of Times Taught: 2
Average Enrollment: 22

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Colleges/Universities

GODDARD COLLEGE
PLAINFIELD, Vermont
(802) 454-8311

PROGRAMS AND CURRICULA

#Social Ecology
Contact: Brookchin, Murray

SOLAR RELATED COURSES

#Dwelling Solar Processes
Instructor: Park, J./ Troia, G.
Program or Curriculum: #Social Ecology
Duration: 11 Weeks, 6.0 hrs per week
Contact Hours: 6
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating

#Energy Efficient Shelter
Instructor: Langdon, Bill
Program or Curriculum: #Social Ecology
Duration: 11 Weeks, 2.0 hrs per week
Contact Hours: 22
Topics Covered Extensively: Solar Collector Evaluation/Design; Solar Systems Design

#Shelter Workshop
Instructor: Langdon, B./ Higgins, A.
Program or Curriculum: #Social Ecology
Duration: 11 Weeks, 4.0 hrs per week
Contact Hours: 44
Topics Covered Extensively: Solar Home Construction

#Solar Workshop
Instructor: Troia, Gene
Program or Curriculum: #Social Ecology
Duration: 11 Weeks, 2.0 hrs per week
Contact Hours: 22

MARLBORO COLLEGE
MARLBORO, Vermont
(802) 254-2393

PROGRAMS AND CURRICULA

Solar Energy Program
Degree: BS, Environmental Science
Contact: Hayes, John W.
(802) 254-2393

SOLAR RELATED COURSES

Solar Energy & Building Design
Instructor: Hayes, John W.
(802) 254-2393

Department: Science
Program or Curriculum: Solar Energy Program
Credits: 3
Student Level: Freshman or Sophomore
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 42
Topics Covered Extensively: Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 25

MIDDLEBURY COLLEGE
MIDDLEBURY, Vermont
(802) 388-4948

PROGRAMS AND CURRICULA

Senior Work in Solar Energy
Degree: BA, Physics, Environmental Studies, Physics
Contact: Wolfson, Richard
(802) 388-7956
Students Taking or Completing Offering: Educator, Researcher

SAINT MICHAEL'S COLLEGE
WINDSOR, Vermont
(802) 655-2000

SOLAR RELATED COURSES

The Energy Crisis
Instructor: Casavant, Dominique P.
(802) 655-2000
Course Number: 131
Department: Physics
Credits: 3
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 36

Community/Junior Colleges
SOLAR RELATED COURSES

Alternative Energy
Student Level: All levels
Duration: 3 Weeks, 12.0 hrs per week
Contact Hours: 36
Topics Covered Extensively: Alternate Energy Sources; Intro. to Solar Energy; Passive Solar Technology
Number of Times Taught: 3
Average Enrollment: 10

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### Colleges/Universities

<table>
<thead>
<tr>
<th>College</th>
<th>City, State</th>
<th>Phone</th>
<th>Programs and Curricula</th>
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</thead>
<tbody>
<tr>
<td><strong>FERRUM COLLEGE</strong></td>
<td>Ferrum, VA 24068</td>
<td>(703) 365-2121</td>
<td>Energy Technology: BS, Contact: Bier, James, Talbert, Roy (703) 365-2121. Students Taking or Completing Offering: Solar Technician.</td>
</tr>
</tbody>
</table>
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 39
Laboratory: 0

Energy Systems
Instructor: Deal, Walter F.
Course Number: 263
Department: Vocational and Industrial Arts Education
Program or Curriculum: Power/ Energy Conversion Option
Credits: 3

Environmental Control
Instructor: Roberts, A.S.
Course Number: ENME4/512
Department: Mechanical Engineering and Mechanics
Program or Curriculum: Power/ Energy Conversion Option
Credits: 3

Power and Energy Laboratory
Instructor: Crossman, G.R.
Course Number: MET 465/465
Program or Curriculum: Solar Energy Systems
Credits: 2

Refrigeration Systems
Instructor: Kovner, E.A.
Course Number: MET 460

Solar Energy Systems 490
Instructor: Crossman, G.R.
Course Number: ENME 4/516
Department: Mechanical Engineering and Mechanics
Program or Curriculum: Power/ Energy Conversion Option
Credits: 3

Solar Power Engineering
Instructor: Roberts, A. Sidney
Course Number: ENME 4/516
Department: Mechanical Engineering and Mechanics
Program or Curriculum: Power/ Energy Conversion Option
Credits: 3
Thermal Power Systems
Instructor: Kovner, E.A.
Course Number: MET 450
Department: Engineering/Mechan.
Program or Curriculum: Solar Energy Systems
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Heat and Energy Transfer
Number of Times Taught: 10
Average Enrollment: 20

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VA POLY INST AND STATE U (3754)
BLACKSBURG, Virginia 24061
(703) 951-6000

SOLAR RELATED COURSES

Building Systems Technology
Instructor: Schubert, B.P.
Course Number: EDU 651
Department: Architecture and Urban Studies
Credits: 3
Student Level: College Graduate
Duration: 27 Weeks, 3.0 hrs per week
Contact Hours: 81
Classroom: 54
Laboratory: 27
Number of Times Taught: 2
Average Enrollment: 40

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VIRGINIA COMMONWEALTH U (3735)
RICHBORD, Virginia 23264
(804) 770-6427

SOLAR RELATED COURSES

General Energy Education Workshop
Instructor: Honnold, J. A./ Nelson, L. D.
Course Number: SOC 335
Department: Sociology and Anthropology
Credits: 3
Student Level: Sophomore
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources
Number of Times Taught: 1
Average Enrollment: 10

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VIRGINIA MAIN CAMPUS, U OF (6968)
CHARLOTTESVILLE, Virginia 22903
(804) 924-0311

SOLAR RELATED COURSES

Solar Energy - The Ultimate Resource
Instructor: Lilleleh, L.U.
Course Number: ENGR 120
Credits: 3
Student Level: Freshman or Sophomore
Duration: 7 Weeks, 6.0 hrs per week
Contact Hours: 42
Classroom: 7
Laboratory: 35
Number of Times Taught: 2
Average Enrollment: 35

Solar Energy Conversion and Appl.
Instructor: Tachetta, T. A.
Course Number: ME 520
Department: Mech. and Aerospace Engr.
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 42
Topics Covered Extensively: Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 23

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Solar Energy Research Institute

VIRGINIA MILITARY INST
LEXINGTON, Virginia 24450
(703) 463-6311

SOLAR RELATED COURSES

Advanced Thermodynamics
Instructor: Trandel, R.S.
(703) 463-6308
Course Number: ME 408
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 4.0 hrs per week
Contact Hours: 56
Classroom: 28
Laboratory: 28
Number of Times Taught: 1
Average Enrollment: 13

COMMUNITY/JUNIOR COLLEGES

BLUE RIDGE CMTY COLLEGE
WEYERS CAVE, Virginia 24486
(703) 234-2461

SOLAR RELATED COURSES

Introduction to Solar Technology
Instructor: Chandler, Rupert P.
(703) 234-2461
Course Number: ENVR 154
Department: Engineering & Technologies
Credits: 3
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Intro. to Solar Energy
Number of Times Taught: 3
Average Enrollment: 25

DANVILLE CMTY COLLEGE
DANVILLE, Virginia 24541
(804) 797-3553

SOLAR RELATED COURSES

A Survey of Alternate Energy
Instructor: Solomon, Michael
(703) 797-3553
Course Number: PH103
Department: Physics
Credits: 3
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36

SOLAR RELATED COURSES

COMMUNITY/JUNIOR COLLEGES

BYUFAIRFAX CMTY COLLEGE
MIDDLETON, Virginia 22645
(703) 869-1120

SOLAR RELATED COURSES

Alternative Home Systems
Instructor: Nesbitt, Patti
Course Number: ENV 156
Department: Continuing Education
Credits: 3
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33

NORTHERN VA CMTY COLLEGE
ANNANDALE, Virginia 22003
(703) 323-3000

SOLAR RELATED COURSES

Solar Seminar & Project
Instructor: Nasseri, Kourosh H.
(202) 692-7591
Course Number: 198
Department: Environmental & Natural Science
Credits: 3
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Plumbing Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Space Cooling
Number of Times Taught: 2
Average Enrollment: 17
SOUTHSIDE VA CNTY COLLEGE
ALBERTA, Virginia 23821
(804) 949-7111

PROGRAMS AND CURRICULA

Air Cond. Heat. & Refrig.
Degree: A.C. Heat. & Refrig.
Contact: Varyhan, C.G.
(804) 949-7111
Students Taking or Completing Offering:
Contractor, Installer-Residential
(Solar System), Installer-Commercial
(Solar System)

THOMAS NELSON CNTY COLLEGE
HAMPTON, Virginia 23670
(804) 826-4800

SOLAR RELATED COURSES

Solar Energy
Instructor: Pegg, Robert
(804) 827-3691
Department: Continuing Education
Student Level: All levels
Duration: 3 Weeks, 10.0 hrs per week
Contact Hours: 30
Classroom: 30
Topics Covered Extensively: Appropriate Technology; Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance
Number of Times Taught: 4
Average Enrollment: 15

VA WESTERN CNTY COLLEGE
ROANOKE, Virginia 24015
(703) 344-2031

SOLAR RELATED COURSES

Solar Energy Systems Design
Instructor: Arminio, Robert
(703) 982-7395
Course Number: ARCG167
Department: Arch. Technology
Credits: 3
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
Topics Covered Extensively: Solar Systems Design
### SOLAR RELATED COURSES

#### Thermal Systems
- **Instructor:** Plumb, G. A./Englund, J. S.
- **Course Number:** ME 435
- **Department:** Mechanical Engineering
- **Credits:** 3
- **Student Level:** Junior or Senior
- **Duration:** 16 Weeks, 3.0 hrs per week
- **Contact Hours:** 48
- **Classroom:** 48

**Topics Covered Extensively:** Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design

**Number of Times Taught:** 1
**Average Enrollment:** 35

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### SOLAR RELATED COURSES

#### Architectural Studies Options
- **Instructor:** Heerwagen, Dean R.
- **Course Number:** 502/3/4/5
- **Department:** Architecture
- **Credits:** 3
- **Student Level:** College Graduate
- **Duration:** 9 Weeks, 12.0 hrs per week
- **Contact Hours:** 108
- **Laboratory:** 108

**Number of Times Taught:** 1
**Average Enrollment:** 11

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- **Instructor:** Heerwagen, Dean R.
- **Course Number:** 432
- **Department:** Architecture
- **Credits:** 3
- **Student Level:** Junior or Senior
- **Duration:** 10 Weeks, 4.0 hrs per week
- **Contact Hours:** 40
- **Classroom:** 40

**Number of Times Taught:** 3
**Average Enrollment:** 30

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### Programs and Curricula

#### Energy Engineering
- **Degree:** Ph.D., M.S. Science in Engineering
- **Contact:** Decher, R.
- **(206) 543-6067**

**Students Taking or Completing Offering:** Researcher, Solar Engineer

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### Energy-Conscious Design Studio
- **Instructor:** Millet, Marietta
- **Course Number:** 502/498
- **Department:** Architecture
- **Credits:** 6
- **Student Level:** Junior or Senior
- **Duration:** 11 Weeks, 12.0 hrs per week
- **Contact Hours:** 132
- **Laboratory:** 132

**Topics Covered Extensively:** Appropriate Technology; Energy Conservation; Energy Storage

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### Studies in the Science of the Built Environment
- **Instructor:** Millet, Marietta S.
- **Course Number:** 531/498
- **Department:** Architecture
- **Credits:** 3
- **Student Level:** Junior or Senior
- **Duration:** 10 Weeks, 5.0 hrs per week
- **Contact Hours:** 50
- **Classroom:** 40

**Topics Covered Extensively:** Energy Conservation

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### The Promise of Solar Energy
- **Instructor:** Hyman, Barry
- **Course Number:** SH7503
- **Department:** Prog. in Social Management of Tech.
- **Credits:** 3
- **Student Level:** College Graduate
- **Duration:** 10 Weeks, 3.0 hrs per week
- **Contact Hours:** 30
Topics Covered Extensively: Energy Storage; Intro. to Solar Energy; Marketing/Market Analysis; Passive Solar Technology; Solar Energy Policy Development; Solar Economics; Solar Law/Legislation

Number of Times Taught: 5
Average Enrollment: 20

Thermal Performance of Buildings
Instructor: Heerwagen, Dean R.
(206) 543-2132
Course Number: 431
Department: Architecture
Credits: 3
Student Level: Junior or Senior
Duration: 10 Weeks, 4.0 hrs per week
Contact Hours: 40
Classroom: 40
Number of Times Taught: 1
Average Enrollment: 45

Community/Junior Colleges

FORT STEILACOOM CC
TACOMA, Washington 98498
(206) 552-3948

SOLAR RELATED COURSES

Environmental Science
Instructor: Harding, Karen
(206) 964-6674
Course Number: 120
Department: Physical Science
Credits: 5
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 5.0 hrs per week
Contact Hours: 50
Classroom: 50
Number of Times Taught: 1
Average Enrollment: 25

NORTH SEATTLE CC
SEATTLE, Washington 98103
(206) 634-4444

PROGRAMS AND CURRICULA

Heating-Solar Energy
Contact: Swenson, Don
(206) 634-4419
Students Taking or Completing Offering: Sheet Metal Worker

SOLAR RELATED COURSES

Heating-Solar Energy
Instructor: Swenson, Don
(206) 634-4419
Program or Curriculum: Heating-Solar Energy
Student Level: High School Graduate
Duration: 6 Weeks, 15.0 hrs per week
Contact Hours: 90
Classroom: 45
Laboratory: 45

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

Solar Energy
Instructor: Stepnich, Ivan
(206) 634-4423
Course Number: ECT 207
Department: Engineering Related Technologies
Program or Curriculum: Heating-Solar Energy
Credits: 3
Student Level: Freshman or Sophomore
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar System Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water; Elec'tl Generation, Central; Process Heat, Industrial; Space Heating

Number of Times Taught: 1
Average Enrollment: 25

PENINSULA COLLEGE
PORT ANGELES, Washington 98362
(206) 452-9277

SOLAR RELATED COURSES

Residential Solar Heating Systems
Instructor: VanDeusen, George
(206) 452-9277
Course Number: T.E.275
Department: Engineering Technology
Credits: 3
Student Level: All levels
Duration: 10 Weeks, 3.0 hrs per week
Contact Hours: 30
SOLAR RELATED COURSES

HOW TO BLD. YOUR OWN SOL. H/W HEATER
Instructor: Roscher, Ted
Department: Evening/Adult Continuing Edu.
Student Level: All levels
Duration: 10 Weeks, 3 hrs per week
Contact Hours: 30
Classroom: 10
Laboratory: 20
Topics Covered Extensively: Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Materials Research; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water
Number of Times Taught: 1
Average Enrollment: 40

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SPokane FSU CnTY COLLEGE (9544)
SPokane, Washington 99204
(509) 456-2810

SOLAR RELATED COURSES

Energy: Past-Present-Future
Course Number: ENCR 120
Department: Engineering
Credits: 2
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 2.0 hrs per week
Contact Hours: 20
Classroom: 20
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology
Number of Times Taught: 1
Average Enrollment: 20

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VOCATIONAL/TECHNICAL COLLEGES

OLYMPIA TECH CNTY COLLEGE (5372)
OLYMPIA, Washington 98502
(206) 753-3000

SOLAR RELATED COURSES

Solar Energy for Space Heating and Hot Water
Instructor: Oatman, Martin
Course Number: CONS 190
Department: Continuing Education
Student Level: College Graduate
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Testing and Evaluation; Domestic Hot Water
Number of Times Taught: 1
Average Enrollment: 20

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TACOMA COMMUNITY COLLEGE (3796)
TACOMA, Washington 98405
(206) 756-5100

SOLAR RELATED COURSES

Energy: Past-Present-Future
Course Number: ENCR 120
Department: Engineering
Credits: 2
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 2.0 hrs per week
Contact Hours: 20
Classroom: 20
Topics Covered Extensively: Alternate Energy Sources; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology
Number of Times Taught: 1
Average Enrollment: 20

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**Colleges/Universities**

**WEST VIRGINIA UNIVERSITY**

MORGANTOWN, West Virginia 26506
(304) 293-0114

**SOLAR RELATED COURSES**

**Aerospace Problems**

**Instructor:** Toth, John
(304) 293-5339

**Course Number:** AE280

**Department:** Engineering Aerospace

**Credits:** 3

**Student Level:** All levels

**Duration:** 16 Weeks, 4.0 hrs per week

**Contact Hours:** 64

**Classroom:** 48

**Laboratory:** 16

**Topics Covered Extensively:** Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Testing and Evaluation

**Number of Times Taught:** 4

**Average Enrollment:** 15

**Appropriate Technology Seminar**

**Instructor:** Devore, Paul W.
(304) 293-3803

**Course Number:** 390

**Department:** Technology Education

**Credits:** 3

**Student Level:** Junior or Senior

**Duration:** 15 Weeks, 3.0 hrs per week

**Contact Hours:** 45

**Topics Covered Extensively:** Alternate Energy Sources; Appropriate Technology; Intro. to Solar Energy; Passive Solar Technology

**Number of Times Taught:** 2

**Average Enrollment:** 15

**Energy and Society**

**Instructor:** Depue, David
(304) 293-3803

**Course Number:** 260

**Department:** Technology Education

**Credits:** 3

**Student Level:** College Graduate

**Duration:** 15 Weeks, 3.0 hrs per week

**Contact Hours:** 45

**Classroom:** 45

**Laboratory:** 16

**Topics Covered Extensively:** Alternate Energy Sources; Bioenergy Conversion; Energy Conservation; Energy Conversion; Passive Solar Technology

**Number of Times Taught:** 1

**Average Enrollment:** 12

**Production Systems - Technical**

**Instructor:** Pytlick, Edward
(304) 293-3803

**Course Number:** 321

**Department:** Technology Education

**Credits:** 3

**Student Level:** College Graduate

**Duration:** 15 Weeks, 4.0 hrs per week

**Contact Hours:** 60

**Classroom:** 60

**Topics Covered Extensively:** Energy Conversion; Energy Storage; Marketing/Market Analysis; Materials Research; Passive Solar Technology

**Number of Times Taught:** 10

**Average Enrollment:** 10

**Technology - History and Development**

**Instructor:** Pytlick, Edward
(304) 293-3803

**Course Number:** 400

**Department:** Technology Education

**Credits:** 3

**Student Level:** College Graduate

**Duration:** 15 Weeks, 3.0 hrs per week

**Contact Hours:** 45

**Classroom:** 45

**Number of Times Taught:** 12

**Average Enrollment:** 12

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**Community/Junior Colleges**

**PARKERBURG CNTY COLLEGE**

PARKERSBURG, West Virginia 26101
(304) 424-8000

**SOLAR RELATED COURSES**

**Spec. Top. in Air Cond./Refrig. Solar Heat**

**Instructor:** Schmidt, Larry
(304) 424-8256

**Course Number:** ACR 299

**Department:** Air Cond./Refrig. Technology

**Credits:** 4

**Student Level:** Freshman or Sophomore

**Duration:** 15 Weeks, 6.0 hrs per week

**Contact Hours:** 90

**Topics Covered Extensively:** Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating

**Number of Times Taught:** 1

**Average Enrollment:** 13

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POTOMAC STATE COLLEGE
KEYSER, West Virginia 26726
(304) 788-3011

SOLAR RELATED COURSES

Engineering Design II
Instructor: Mor, Gordon
Course Number: II
Department: Engineering
Credits: 3
Student Level: Freshman or Sophomore
Duration: 15 Weeks, 6.0 hrs per week
Contact Hours: 90
Classroom: 45
Laboratory: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion;
Energy Storage; Intro. to Solar Energy; Solar Home Construction; Solar Collector Evaluation/Design
Number of Times Taught: 2
Average Enrollment: 45

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COLLEGES/UNIVERSITIES

LAURENCE UNIVERSITY
APPLETON, Wisconsin 54911
(414) 739-3681

SOLAR RELATED COURSES

Energy and the Environment
Instructor: Joel, Peteranne
(414) 739-3681
Course Number: CHEM 9
Department: Chemistry
Credits: 3
Student Level: All levels
Duration: 10 Weeks, 3.5 hrs per week
Contact Hours: 35
Classroom: 35
Number of Times Taught: 6
Average Enrollment: 22

HARQUETTE UNIVERSITY
1516 CI. Milwaukee, Wisconsin 53233
(414) 224-7700

PROGRAMS AND CURRICULA

Energy Engineering
Degree: AD, Engineering
Contact: Jaskovski, S.V.
(414) 224-6820
Students Taking or Completing Offering: Solar Engineer

SOLAR RELATED COURSES

Solar Energy Engineering, II
Instructor: Jaskovski, S.V.
(414) 224-6820
Course Number: 129
Department: Elect. Eng.
Program or Curriculum: Energy Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 42
Number of Times Taught: 4
Average Enrollment: 22

MARRIOTT UNIVERSITY
1518 N. Wisconsin Ave.
MILWAUKEE, Wisconsin 53233
(414) 224-7700

SOLAR RELATED COURSES

Solar Energy Engineering, I
Instructor: Jaskovski, S.V.
(414) 224-6820
Course Number: 128
Department: Elect. Eng.
Program or Curriculum: Energy Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 14 Weeks, 3.0 hrs per week
Contact Hours: 42
Classroom: 42
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Elec'1 Generation, Central; Elec'1 Generation, Small Scale; Process Heat; Agricultural; Process Heat; Industrial; Space Heating; Space Cooling; Wind Power; Central Systems; Wind Power, Small Systems
Number of Times Taught: 4
Average Enrollment: 22

HILLAUKEE SCHOOL ENGINEERING
MILWAUKEE, Wisconsin 53201
(414) 272-8720

SOLAR RELATED COURSES

Solar Energy
Instructor: Mallmann, A. James
(414) 272-8720
Course Number: PH-320
Department: Physics
Credits: 3
Student Level: Junior or Senior
Duration: 11 Weeks, 3.0 hrs per week
Contact Hours: 33
Classroom: 33
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating; Wind Power, Small Systems
Number of Times Taught: 4
Average Enrollment: 20

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SOLAR RELATED COURSES

Wisconsin Solar Energy Research Institute

NICOLET COLLEGE - TECH INST
RHINEELANDER, Wisconsin 54501
(715) 369-4410

SOLAR RELATED COURSES

Consumer Awareness-Solar Energy
Instructor: Horstketter, John J.
(715) 369-4424
Course Number: 421-2144
Department: Tech. Ed. Division
Student Level: All levels
Duration: 10 Weeks, 2.5 hrs per week
Contact Hours: 25
Classroom: 25
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 35

WISCONSIN GREEN BAY, U OF
GREEN BAY, Wisconsin 54302
(414) 465-2121

SOLAR RELATED COURSES

Introduction to Solar Energy
Instructor: Norman, Jack
(414) 465-2276
Course Number: 662/483X
Department: Science & Environmental Change
Credits: 3
Student Level: Freshman or Sophomore
Duration: 8 Weeks, 5.2 hrs per week
Contact Hours: 42
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Photovoltaics; Solar Energy Policy Development; Solar System Components; Solar Systems Design; Domestic Hot Water; Space Heating; Wind Power, Small Systems
Number of Times Taught: 1
Average Enrollment: 5

Wisconsin Solar Energy Research Institute

RIPON COLLEGE
RIPON, Wisconsin 54971
(414) 748-8118

SOLAR RELATED COURSES

Topics in Physics/Energy Resources
Instructor: Broshar, Wayne
(414) 748-5377
Course Number: 100
Department: Physics
Credits: 4
Student Level: All levels
Duration: 14 Weeks, 4.0 hrs per week
Contact Hours: 56
Classroom: 56
Number of Times Taught: 2
Average Enrollment: 40

WISCONSIN EAU CLAIRE, U OF
EAU CLAIRE, Wisconsin 54701
(715) 836-0123

SOLAR RELATED COURSES

Solar Energy
Instructor: Janke, Robert
(715) 836-3716
Course Number: 336
Department: Geography
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 70

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WISCONSIN LA CROSSE, U OF
LA CROSSE, Wisconsin 54601
(608) 785-8000

SOLAR RELATED COURSES

Energy Problems-Solar Options
Instructor: Egbert, G./ Gystrom, D.
(608) 785-8431
Department: University Outreach and Physics
Introduction to Solar Energy
Instructor: Egbert, G. Fystrom, D. 
(608) 785-8431
Course Number: 105
Department: Arts, Letters & Science - Physics
Credits: 2
Student Level: All levels
Duration: 16 Weeks, 2.0 hrs per week
Contact Hours: 32
Classroom: 26
Laboratory: 6
Topics Covered Extensively: Alternate Energy Sources; Heat and Energy Transfer; Intro. to Solar Energy
Number of Times Taught: 1
Average Enrollment: 17

Wisconsin Madison, U of 
(MADISON, Wisconsin 53706 
(608) 262-1234)
Programs and Curricula
Solar Energy Research Program
Contact: Duffie, J.A. 
(608) 263-1587
Students Taking or Completing Offering: Researcher, Solar Engineer

SOLAR RELATED COURSES
Solar Energy Technology
Instructor: Duffie, J. A. 
(608) 263-1587
Course Number: ME/CH 567
Department: Engineering
Program or Curriculum: Solar Energy Research Program
Student Level: Junior or Senior
Duration: 16 Weeks, 2.0 hrs per week
Contact Hours: 32
Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design
Number of Times Taught: 10
Average Enrollment: 40

Solar Radiation and Wind Energy
Instructor: Stearns, Charles R. 
(608) 262-0760
Course Number: 330
Department: L and S Meteorology
Credits: 3

Wisconsin Milwaukee, U of 
(MILWAUKEE, Wisconsin 53201 
(414) 963-4444)
Programs and Curricula
Solar Architecture
Degree: Architecture
Contact: Catanzas, Anthony James 
(414) 963-4016
Students Taking or Completing Offering: Architect

SOLAR RELATED COURSES
Energy Conscious Design
Instructor: Dent, S./ Ollwang, J./ Schade, J. 
(414) 963-5650
Course Number: 470/770
Department: Architecture and Urban Planning
Program or Curriculum: Solar Architecture
Credits: 9
Student Level: Junior or Senior
Duration: 16 Weeks, 16.0 hrs per week
Contact Hours: 256
Classroom: 52
Laboratory: 204
Topics Covered Extensively: Energy Conservation; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Systems Design; Space Heating; Space Cooling
Number of Times Taught: 6
Average Enrollment: 10

Energy Design Fundamentals
Instructor: Shada, John 
(414) 963-4014
Course Number: ARCH 497
Department: Architecture
Program or Curriculum: Solar Architecture
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Systems Design; Domestic Hot Water; Space Heating
### Solar Related Courses

**Wisconsin Solar Energy Research Institute**

#### Wisconsin Oshkosh, U of

Contact Hours: 45

Duration: 4 Weeks, 10.0 hrs per week

Number of Times Taught: 1

Average Enrollment: 25

**Solar Engineering**

Instructor: Neusen, K.F.

Course Number: 330-436

Credit: 3

Student Level: Junior or Senior

#### Solar Dwelling Design

Instructor: Schade, John

Course Number: 497

Department: Architecture and Urban Planning

Credits: 3

Student Level: Junior or Senior

Duration: 15 Weeks, 9.0 hrs per week

Contact Hours: 135

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation/Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar System Components; Domestic Hot Water; Space Heating

Number of Times Taught: 3

Average Enrollment: 30

**Solar Heating**

Instructor: Passow, M.W.

Course Number: 82-355

Department: Physics

Credits: 3

Student Level: Freshman or Sophomore

Duration: 14 Weeks, 10.0 hrs per week

Contact Hours: 40

Classroom: 42

Laboratory: 42

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar System Components; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

Number of Times Taught: 1

Average Enrollment: 18

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Number of Times Taught: 3

Average Enrollment: 30

**Energy Design Fundamentals II**

Instructor: Dent, Stephen D.

Course Number: 497

Department: Architecture and Urban Planning

Program or Curriculum: Solar Architecture

Credits: 3

Student Level: Junior or Senior

Duration: 16 Weeks, 3.0 hrs per week

Contact Hours: 48

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating

Number of Times Taught: 2

Average Enrollment: 18

**Opt. in Energy-conscious Design**

Instructor: Schade, John

Course Number: ARC470/770

Department: Architecture

Program or Curriculum: Solar Architecture

Credits: 9

Student Level: Junior or Senior

Duration: 15 Weeks, 9.0 hrs per week

Contact Hours: 135

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation/Energy Storage; Intro. to Solar Energy; Passive Solar Technology; Solar Economics; Solar Home Construction; Solar System Components; Domestic Hot Water; Space Heating

Number of Times Taught: 3

Average Enrollment: 30

Solar Home Heating
Instructor: Passow, M. W.
Department: Physics-Continuing Ed.
Student Level: All levels
Duration: 4 Weeks, 3.0 hrs per week
Contact Hours: 12
Classroom: 12
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 2
Average Enrollment: 75

Wisconsin Parkside, U of
Kenosha, Wisconsin 53141
(414) 553-2121

Solar Related Courses

Energy Alternatives
Instructor: Firebaugh, Morris
Course Number: 67-140
Department: Physics
Credits: 1
Student Level: All levels
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15
Classroom: 15
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy
Number of Times Taught: 6
Average Enrollment: 25

Wisconsin Platteville, U of
Platteville, Wisconsin 53818
(608) 342-1234

Solar Related Courses

Solar Heating Applications
Instructor: Fiedler, Ross A.
Course Number: ME 460
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Topics Covered Extensively: Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating

Wisconsin Stevens Pt, U of
Stevens Point, Wisconsin 54481
(715) 346-6123

Solar Related Courses

Energy in Today's World
Instructor: Taylor, Allen G.
Course Number: 100
Department: Physics
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 64
Classroom: 32
Laboratory: 32
Number of Times Taught: 1
Average Enrollment: 22

Wisconsin Stout, U of
Menomonie, Wisconsin 54751
(715) 323-0123

Solar Related Courses

Alternative Energy
Instructor: Rhoads, Charles
Course Number: 110-596
Credits: 2
Student Level: Junior or Senior
Duration: 9 Weeks, 6.0 hrs per week
Contact Hours: 54
Classroom: 27
Laboratory: 27
Number of Times Taught: 1
Average Enrollment: 25

Energy in Industry
Instructor: Rhoads, Charles
Course Number: 110-101
Department: Industry and Technology
Credits: 2
Student Level: Freshman or Sophomore
Duration: 9 Weeks, 6.0 hrs per week
Contact Hours: 54
Classroom: 27
Laboratory: 27
Number of Times Taught: 20
Average Enrollment: 50
SOLAR RELATED COURSES

Residential Solar Heating
Instructor: Shinners, Carl W.  (414) 472-2247
Course Number: 82/490-690
Department: Physics
Credits: 3
Student Level: College Graduate
Duration: 2 Weeks, 30.0 hrs per week
Contact Hours: 60
Classroom: 20
Laboratory: 0
Topics Covered Extensively: Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 25

Solar Energy Applications
Instructor: Shinners, Carl  (414) 472-1075
Course Number: 82460
Department: Physics
Credits: 3
Student Level: All levels
Duration: 17 Weeks, 3.0 hrs per week
Contact Hours: 51
Classroom: 36
Laboratory: 36
Topics Covered Extensively: Biomass Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating; Wind Power, Small Systems
Number of Times Taught: 6
Average Enrollment: 40

Solar Home Heating
Instructor: Shinners, Carl W.  (414) 472-1075
Department: Physics
Student Level: High School Graduate
Duration: 6 Weeks, 3.0 hrs per week
Contact Hours: 18
Classroom: 15
Laboratory: 3
Topics Covered Extensively: Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 35

Vocational/Technical Colleges

DISTRICT ONE TECH INST
EAU CLAIRE, Wisconsin 54701
(715) 836-3975
SOLAR RELATED COURSES

Alternate Energy Systems
Instructor: Dougherty, Thomas A.  (705) 836-2828
Department: Air Conditioning Technology
Credits: 3
Student Level: High School Graduate
Duration: 18 Weeks, 4.0 hrs per week
Contact Hours: 72
Classroom: 36
Laboratory: 36
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Home Construction; Solar Law/Legislation; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Space Heating; Space Cooling
Solar Energy
Department: Evening College
Student Level: All levels
Duration: 6 Weeks, 2.0 hrs per week
Contact Hours: 12
Topics Covered Extensively: Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design

MILWAUKEE AREA TECH C
MILWAUKEE, Wisconsin 53203
(414) 278-6600
SOLAR RELATED COURSES

#Ener. Cons. & Alt. Ener. Sources

MORAZINE PARK TECH INST
FOND DU LAC, Wisconsin 54935
(414) 922-8611
PROGRAMS AND CURRICULA
Solar Energy
Contact: Pasch, Rodney  (414) 922-8611
Students Taking or Completing Offering: Contractor, Do-it-yourself Homeowner, Electrician, Plumber, Sheet Metal Worker
### SOLAR RELATED COURSES

#### Solar Heat & Wind
- **Instructor:** Pasch, Rodney
- **Course Number:** 401-680
- **Department:** Trade & Technical
- **Program or Curriculum:** Solar Energy
- **Credits:** 5
- **Student Level:** All levels
- **Duration:** 2 Weeks, 10.0 hrs per week
- **Contact Hours:** 20
- **Topics Covered Extensively:** Space Heating; Wind Power, Small Systems
- **Number of Times Taught:** 5
- **Average Enrollment:** 17

#### Wind Energy App.
- **Instructor:** Pasch, R.
- **Course Number:** 401-644
- **Department:** Trade & Technical
- **Program or Curriculum:** Solar Energy
- **Credits:** 2
- **Student Level:** All levels
- **Duration:** 2 Weeks, 6.0 hrs per week
- **Contact Hours:** 6
- **Topics Covered Extensively:** Electric Generation; Small Scale; Wind Power, Small Systems
- **Number of Times Taught:** 1
- **Average Enrollment:** 40

### NORTH CENTRAL TECH INST

#### SOLAR RELATED COURSES

#### Principles of Solar
- **Instructor:** Beckman, Ronald
- **Course Number:** 614
- **Department:** Technical Education
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 18 Weeks, 3.0 hrs per week
- **Contact Hours:** 94
- **Classroom:** 54
- **Topics Covered Extensively:** Appropriate Technology; Energy Conservation; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Solar System Components; Solar Economics; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Solar Systems Testing and Evaluation; Domestic Hot Water; Space Heating; Space Cooling

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WISCONSIN INDIAN VOCATIONAL, TECH., AND ADULT EDUCATION
600 North 21 Street
Superior, Wisconsin 54880

PROGRAMS AND CURRICULA

Facility Engineering Technician
Degree: AA, Engineering
Contact: Bergstrom, Robert
(715) 394-6677

Students Taking or Completing Offering:
Solar Technician

SOLAR RELATED COURSES

Evaluating Alternate Energy Sources
Instructor: Ziesler, Anton
(715) 394-6677
Department: Technical Institute
Program or Curriculum: Facility Engineering Technician
Credits: 6
Student Level: High School Graduate

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WISCONSIN COUNTY TECH INST (9258)
PEWAUKEE, Wisconsin 53072
(414) 691-3200

SOLAR RELATED COURSES

Solar Energy
Student Level: All levels
Contact Hours: 12
Classroom: 8
Laboratory: 4
Number of Times Taught: 2
Average Enrollment: 37

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WESTERN WIS TECH INST (3840)
LA CROSSE, Wisconsin 54601
(608) 782-6236

SOLAR RELATED COURSES

Solar Energy for Homes
Instructor: Witt, Don
(608) 785-9200
Course Number: 601/164
Department: Trade & Industry
Credits: 3
Student Level: Freshman or Sophomore
Duration: 12 Weeks, 3.0 hrs per week
Contact Hours: 36
Classroom: 36

Topics Covered Extensively: Energy Storage; Heat and Energy Transfer; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Space Heating
Number of Times Taught: 1
Average Enrollment: 25

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COLLEGES/UNIVERSITIES

WYOMING UNIVERSITY OF
LARAMIE, WYOMING 82071
(307) 766-4121

SOLAR RELATED COURSES

Alternative Sources of Energy
Instructor: Hill, John
Course Number: CE692TL
Department: Civil Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 35
Laboratory: 10
Topics Covered Extensively: Appropriate Technology; Energy Conversion; Energy Storage; Intro. to Solar Energy; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Testing and Evaluation; Elecﾒr Generation, Central; Elecﾒr Generation, Small Scale; Space Heating; Wind Power, Central Systems; Wind Power, Small Systems
Number of Times Taught: 3
Average Enrollment: 10

Atmos. Sci. Prob.: Atmospheric Radiation
Instructor: Veal, Donald L.
Course Number: 890M
Department: Engineering/Atmospheric Science
Credits: 3
Student Level: College Graduate
Duration: 13 Weeks, 3.0 hrs per week
Contact Hours: 39
Classroom: 39
Number of Times Taught: 2
Average Enrollment: 3

Conservation of Natural Resources
Instructor: Eisele, Ron
Course Number: 6040
Department: Geography
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 54
Topics Covered Extensively: Appropriate Technology
Number of Times Taught: 14
Average Enrollment: 80

Energy Activities for Teachers I
Instructor: Sindt, Vince
Course Number: NS 413M
Department: Nat. Sci.
Credits: 1
Student Level: All levels
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Wind Power, Small Systems
Number of Times Taught: 5
Average Enrollment: 20

Energy Activities for Teachers II
Instructor: Sindt, Vince
Course Number: NS679M
Department: Nat. Sci.
Credits: 2
Student Level: Junior or Senior
Duration: 2 Weeks, 25.0 hrs per week
Contact Hours: 50
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Wind Power, Small Systems
Number of Times Taught: 5
Average Enrollment: 20

Energy Conversion
Instructor: Amr, Abdel-Fattah
Course Number: 602
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Intro. to Solar Energy; Solar Systems Components
Number of Times Taught: 4
Average Enrollment: 20

Environmental Education for Teachers
Instructor: Eisele, Ron
Course Number: 6710
Department: Ed. Curriculum and Inst.
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 72
Classroom: 36
Laboratory: 36
Number of Times Taught: 14
Average Enrollment: 15

COMMUNITY/JUNIOR COLLEGES

Topics Covered Extensively: Appropriate Technology; Energy Conversion; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Wind Power, Small Systems

Number of Times Taught: 5
Average Enrollment: 20

Energy Activities for Teachers I
Instructor: Sindt, Vince
Course Number: NS 413M
Department: Nat. Sci.
Credits: 1
Student Level: All levels
Duration: 5 Weeks, 3.0 hrs per week
Contact Hours: 15

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Wind Power, Small Systems
Number of Times Taught: 5
Average Enrollment: 20

Energy Activities for Teachers II
Instructor: Sindt, Vince
Course Number: NS679M
Department: Nat. Sci.
Credits: 2
Student Level: Junior or Senior
Duration: 2 Weeks, 25.0 hrs per week
Contact Hours: 50
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Intro. to Solar Energy; Materials Research; Passive Solar Technology; Wind Power, Small Systems
Number of Times Taught: 5
Average Enrollment: 20

Energy Conversion
Instructor: Amr, Abdel-Fattah
Course Number: 602
Department: Mechanical Engineering
Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 45
Topics Covered Extensively: Alternate Energy Sources; Energy Conversion; Intro. to Solar Energy; Solar Systems Components
Number of Times Taught: 4
Average Enrollment: 20

Environmental Education for Teachers
Instructor: Eisele, Ron
Course Number: 6710
Department: Ed. Curriculum and Inst.
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 4.0 hrs per week
Contact Hours: 72
Classroom: 36
Laboratory: 36
Number of Times Taught: 14
Average Enrollment: 15

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CASPER COLLEGE
CASPER, Wyoming 82601
(307) 268-2610

SOLAR RELATED COURSES

Residential Energy Conservation
Instructor: Hartman, Paul
(307) 268-2604
Course Number: 73-070
Department: Construction Ed.
Credits: 1
Student Level: Freshman or Sophomore
Duration: 10 Weeks, 1.5 hrs per week
Contact Hours: 15
Classroom: 15
Number of Times Taught: 6
Average Enrollment: 6

CENTRAL WYOMING COLLEGE
RIVERTON, Wyoming 82501
(307) 856-9291

SOLAR RELATED COURSES

Solar Energy
Instructor: Hansen, M. R.
(307) 856-9291
Course Number: ENGR 240
Department: Life & Physical Sciences
Credits: 1
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 40
Laboratory: 40
Topics Covered Extensively: Intro. to Solar Energy; Solar Collector Evaluation/Design; Solar Systems Testing and Evaluation; Domestic Hot Water
Number of Times Taught: 1
Average Enrollment: 6

LARAMIE CO CMY COLLEGE
CHEYENNE, Wyoming 82001
(307) 634-5653

SOLAR RELATED COURSES

Energy and Man
Instructor: Edwards, William C.
Course Number: SCI103
Department: Science
Credits: 3
Student Level: Freshman or Sophomore
Duration: 18 Weeks, 3.0 hrs per week
Contact Hours: 54
Classroom: 40
Topics Covered Extensively: Alternate Energy Sources; Energy Conservation
Number of Times Taught: 2
Average Enrollment: 12

NORTHWEST CMTY COLLEGE
POWELL, Wyoming 82435
(307) 754-6111

SOLAR RELATED COURSES

Energy & the Future
Instructor: Eager, John
(307) 754-6957
Course Number: 31-170
Department: General Science
Credits: 2
Student Level: Freshman or Sophomore
Duration: 17 Weeks, 2.0 hrs per week
Contact Hours: 34
Classroom: 34
Number of Times Taught: 6
Average Enrollment: 20

Energy from the Sun
Instructor: Eager, John
(307) 754-6457
Course Number: 34-280
Department: Physics
Credits: 2
Student Level: All levels
Duration: 17 Weeks, 2.0 hrs per week
Contact Hours: 34
Classroom: 24
Laboratory: 10
Topics Covered Extensively: Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar System Components; Solar Economics; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Space Heating
Number of Times Taught: 1
Average Enrollment: 20

SHERIDAN COLLEGE
SHERIDAN, Wyoming 82801
(307) 674-6446

PROGRAMS AND CURRICULA

Solar Energy Technology
Degree: AD, Engineering Technology - Solar Option
Contact: Ohm, Kenneth R.
(307) 674-6446
Students Taking or Completing Offering:
Installer-Residential (Solar System), Installer-Commercial (Solar System), Solar Technician, Do-it-yourself Homeowner
SOLAR RELATED COURSES

Energy Storage
Course Number: 152
Program or Curriculum: Solar Energy Technology
Student Level: Freshman or Sophomore
Topics Covered Extensively: Energy Storage; Photovoltaics; Wind Power, Small Systems

Installation and Service - Solar System
Course Number: 158
Program or Curriculum: Solar Energy Technology
Student Level: Freshman or Sophomore
Topics Covered Extensively: Solar System Components; Solar Collector Evaluation/Design; Solar Systems Installation; Maintenance; Solar Systems Testing and Evaluation; Space Heating; Space Cooling

Intro. to Solar Heat. and Cool.
Course Number: 150
Program or Curriculum: Solar Energy Technology
Student Level: Freshman or Sophomore
Topics Covered Extensively: Intro. to Solar Energy; Materials Research; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Electrical Generation, Small Scale; Space Heating; Space Cooling

Solar Collectors
Course Number: 151
Program or Curriculum: Solar Energy Technology
Student Level: Freshman or Sophomore

Solar Energy Fundamentals
Instructor: Ohm, Kenneth R.
(307) 674-4646
Course Number: 191-190
Department: Career/Technical
Program or Curriculum: Solar Energy Technology
Credits: 3
Student Level: Freshman or Sophomore
Duration: 16 Weeks, 6.0 hrs per week
Contact Hours: 60
Classroom: 60
Laboratory: 12
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Storage, Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Home Construction; Solar Collector Evaluation/Design; Solar Systems Design; Solar Systems Installation; Solar Systems Maintenance; Domestic Hot Water; Process Heat, Industrial; Space Heating; Space Cooling; Space Power, Small Systems

Number of Times Taught: 2
Average Enrollment: 35

Solar Heating and Cooling Systems
Course Number: 155
Program or Curriculum: Solar Energy Technology
Student Level: Freshman or Sophomore
Topics Covered Extensively: Energy Storage; Solar System Components; Solar Collector Evaluation/Design; Solar Systems Design; Domestic Hot Water; Process Heat, Agricultural; Process Heat, Industrial; Space Heating; Space Cooling

Wind Systems
Course Number: 153
Program or Curriculum: Solar Energy Technology
Student Level: Freshman or Sophomore
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage, Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating; Space Cooling; Space Power, Small Systems

Number of Times Taught: 4
Average Enrollment: 35

WESTERN WYO CTY COLLEGE
(1933)
ROCK SPRINGS, Wyoming 82901
(307) 382-2121

SOLAR RELATED COURSES

Solar Home Planning
Instructor: Bowles, Marv
(307) 382-2121
Course Number: 152-299
Department: Building Trades
Credits: 3
Student Level: High School Graduate
Duration: 15 Weeks, 3.0 hrs per week
Contact Hours: 45
Classroom: 15
Laboratory: 15
Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Biomass Conversion; Energy Conservation; Energy Conversion; Energy Storage, Heat and Energy Transfer; Intro. to Solar Energy; Photovoltaics; Plumbing Techniques; Sheet Metal Techniques; Solar System Components; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating; Space Cooling; Space Power, Small Systems

Number of Times Taught: 4
Average Enrollment: 35

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