Colorado Solar Energy Education Directory

a cooperative effort by Solar Energy Research Institute and the Office of U.S. Congressman George E. Brown, Jr. produced from the Solar Energy Information Data Bank

February 1979
Colorado
Solar Energy Education Directory

INTRODUCTION

This state directory of solar-related courses, programs and curricula offered at post-secondary educational institutions was prepared from the National Solar Energy Education Directory, first edition, January 1979, produced by the Solar Energy Research Institute (SERI). Kevin O'Connor and George Corcoleotes of the Academic Programs Branch were responsible for program management, data collection, response editing, and interpretation. Jo Ann Silversmith and Katherine Kramer of the Data Base Systems Branch were responsible for designing and constructing the computerized Education Data Base from which the Directory was produced. The Education Data Base is part of the Solar Energy Information Data Bank, specified by the U.S. Congress in the Solar Energy Research, Development and Demonstration Act of 1974. The Directory has been produced with the cooperation and assistance of U.S. Congressman George E. Brown, Jr., his staff assistant John Kimball, and the Congressional Solar Coalition.

NOTE TO USERS

Information contained in this state directory is based upon responses to a national survey mailed to 3,200 post-secondary educational institutions and upon secondary sources of information. [Secondary sources are indicated by an asterisk (*) in the directory text.] The list of institutions to which the surveys were addressed was obtained from the National Center for Education Statistics. Revisions or additions to be included in future editions of this publication may be addressed to Academic Programs Branch, Attn: George Corcoleotes, Solar Energy Research Institute, 1536 Cole Blvd., Golden, CO 80401. Telephone (303) 231-1831.

DIRECTORY ORGANIZATION

The Directory lists institutions alphabetically by institution type. Each listing includes an institution address and telephone number, solar programs or curricula offered, and solar courses offered. Institutions included were those indicating current offerings of solar-related courses, programs, or curricula. Institutions only planning solar offerings were not included.

### Colorado

**Colleges/Universities**

**ADAMS STATE COLLEGE**

ALAMOSA, Colorado 81102  
(303) 589-7346

**SOLAR RELATED COURSES**

**Special Projects: Solar Heating**

- **Instructor:** Spannagel, Larry  
  (303) 589-3133
- **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
- **Number of Times Taught:** 3
- **Average Enrollment:** 13

**COLO TECHNICAL COLLEGE**

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  
  (303) 598-0200
- **Course Number:** SOL 250
- **Department:** Solar Engineering Technology
- **Program or Curriculum:** Solar Engineering Technology
- **Credits:** 1
- **Student Level:** Freshman or Sophomore
- **Duration:** 11 Weeks, 1.0 hrs per week
- **Contact Hours:** 11
- **Topics Covered Extensively:** Alternate Energy Sources

**Directed Practice**

- **Instructor:** Christensen, Edward  
  (303) 598-0200
- **Course Number:** SOL 299
- **Department:** Solar Engineering Technology
- **Program or Curriculum:** Solar Engineering Technology

**Introduction to Energy**

- **Instructor:** Sabo, Julius J.  
  (303) 598-0200
- **Course Number:** SOL 100
- **Department:** Solar Engineering Technology
- **Program or Curriculum:** Solar Engineering Technology
- **Credits:** 3
- **Student Level:** All levels
- **Duration:** 11 Weeks, 3.0 hrs per week
- **Contact Hours:** 33
- **Classroom:** 33
- **Laboratory:** 44
- **Topics Covered Extensively:** Alternate Energy Sources, Appropriate Technology
- **Number of Times Taught:** 10
- **Average Enrollment:** 15

**Solar Design I**

- **Instructor:** Christensen, Edward  
  (303) 598-0200
- **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:** Heat and Energy Transfer, Solar System Components, Solar Collector Evaluation/Design, Solar Systems Design, Space Heating
- **Number of Times Taught:** 9
- **Average Enrollment:** 8

**Solar Design II**

- **Instructor:** Christensen, Edward  
  (303) 598-0200
- **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
Colorado

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

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:  80
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:  80
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

COLORADO SPRINGS, U OF  (4509)
COLORADO SPRINGS, Colorado 80907  (303) 598-3737

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:  Wiener, R.
Students Taking or Completing Offering:  Solar Engineer
Methods of Energy Sciences 351
Instructor: Grogger, 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  
Contact Hours: 96  
Classroom: 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  
Contact Hours: 60  
Classroom: 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 & Energy Sci.  
Program or Curriculum: Solar Energy and Energy Sciences  
Credits: 3  
Student Level: Junior or Senior  
Duration: 16 Weeks, 6.0 hrs per week  
Contact Hours: 48  
Classroom: 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: 2  
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  
(303) 492-6787  
Students Taking or Completing Offering: Educator, Researcher, Solar Engineer

Lab for Atmospheric and Space Phys  
Contact: Barth, Charles A.  
(303) 492-7677  
Students Taking or Completing Offering: Educator, Researcher, Solar Engineer

Solar/Appropriate Technology  
Degree: BA, MA, Environmental Design Architecture  
Contact: Holloway, Dennis R.  
(303) 492-7497  
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.  
(303) 492-7497  
Course Number: ENVD 333  
Department: Environmental Design  
Program or Curriculum: Solar/ Appropriate Technology
Colorado

Credits: 3
Student Level: Junior or Senior
Duration: 15 Weeks, 6.0 hrs per week
Contact Hours: 90
Classroom: 3
Laboratory: 8

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

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

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: 46
Classroom: 48

Topics Covered Extensively: Alternate Energy Sources; Appropriate Technology; Energy Conservation; Energy Conversion; Energy Storage; Solar System Components; Solar Systems Design
Number of Times Taught: 7
Average Enrollment: 50
Colorado School of Mines
GOLDEN, Colorado 80401
(303) 279-0300

SOLAR RELATED COURSES

** Principles of Solar Energy Systems **
Instructor: Mathews, Frank S.
(303) 279-0300
Course Number: PH419
Department: Physics
Credits: 3
Student Level: Junior or Senior
Duration: 16 Weeks, 3.0 hrs per week
Contact Hours: 48
Classroom: 48
Laboratory: 10
Topics Covered Extensively: Energy Conversion; Heat and Energy Transfer; Solar Energy; Materials Research; Passive Solar Technology; Solar Home Construction; Solar Systems Design; Solar Systems Installation; Domestic Hot Water; Space Heating
Number of Times Taught: 3
Average Enrollment: 20

** Renewable Energy Sources **
Instructor: Miller, Sam
(303) 279-0300
Course Number: BE479
Department: Basic Engineering
Credits: 3
Student Level: Junior or Senior
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 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

DENVER, UNIVERSITY OF
DENVER, Colorado 80210
(303) 753-1964

PROGRAMS AND CURRICULA

Solar Energy
Contact: Stonely, Paul J. (303) 753-2194
Students Taking or Completing Offering: Do-it-yourself Homeowner

SOLAR RELATED COURSES

Solar Energy: Some Like It Hot
Instructor: Vragel, Kurt
Course Number: 00-99.11
Department: Continuing Education
Program or Curriculum: Solar Energy
Student Level: All levels
Duration: 9 Weeks, 2.0 hrs per week
Contact Hours: 18
Number of Times Taught: 7
Average Enrollment: 22

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
PROGRAMS AND CURRICULA

Solar Power
Degree: NONE
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

Construction: Solar Systems Installation; Solar Systems Maintenance
Number of Times Taught: 3
Average Enrollment: 25

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

SOLAR RELATED COURSES

Alternate Energy Sources
Instructor: Leitz, Robert
(303) 629-3143
Course Number: 190
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: 1
Average Enrollment: 20

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: 2
Average Enrollment: 21

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

SOLAR RELATED COURSES

Applied Solar Energy
Instructor: Fachner, 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
US AIR FORCE ACADEMY

SOLAR RELATED COURSES

Solar Energy Applications
Instructor: Eden, Anthony
Course Number: CE495
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

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: 1
Average Enrollment: 5

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COMMUNITY/JUNIOR COLLEGES

COLO MTH COLLEGE WEST CAM

SOLAR RELATED COURSES

Design for Solar Energy in Your Home Heating
Instructor: Kowal, Jerry
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: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Space Heating

Number of Times Taught: 7
Average Enrollment: 30

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WESTERN ST COLLEGE COLO

SOLAR RELATED COURSES

Design for Solar Energy in Your Home Heating
Instructor: Shore, Ron
Course Number: BLO 205
Department: Industrial Arts
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

Number of Times Taught: 1
Average Enrollment: 1

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SOLAR AND WIND ENERGY SYMPOSIUM

Instructor: Dutmers, Gary
Course Number: GSC 270S1
Credits: 1
Student Level: All levels

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COMMUNITY/JUNIOR COLLEGES

COLO MTH COLLEGE WEST CAM

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

Topics Covered Extensively: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy; Wind Power, Central Systems; Wind Power, Small Systems

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COMMUNITY/JUNIOR COLLEGES

COLO MTH COLLEGE WEST CAM

SOLAR RELATED COURSES

Solar Energy in Your Home Heating
Instructor: Kowal, Jerry
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: Energy Conservation; Heat and Energy Transfer; Intro. to Solar Energy; Passive Solar Technology; Solar Home Construction; Space Heating

Number of Times Taught: 7
Average Enrollment: 30

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Solar and Wind Energy Symposium
Instructor: Dutmers, Gary
Course Number: GSC 270S1
Credits: 1
Student Level: All levels

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**Solar Energy**

**Instructor:** Kroll, Fred  
**Course Number:** SCI 120  
**Department:** Science/Math  
**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; Energy Conservation; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy

**Solar Related Courses**

**Basic Sheet Metal for Solar Energy**

**Instructor:** DuPriest, Don  
**Course Number:** SHM 100  
**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:** 30  
**Laboratory:** 30  
**Topics Covered Extensively:** Alternate Energy Sources

**Advanced Solar Controls**

**Instructor:** Klima, John  
**Course Number:** SOM 236  
**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:** 30  
**Laboratory:** 30  
**Topics Covered Extensively:** Solar System Components; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

**Altern. Backup Systems for Solar Energy**

**Instructor:** Hilton, Craig  
**Course Number:** SOM 238  
**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:** 30  
**Laboratory:** 30  
**Topics Covered Extensively:** Alternate Energy Sources

**DEPARTMENT OF ENERGY**

**PROGRAMS AND CURRICULUM**

**Solar Energy-Instl. and Main.**

**Degree:** AD, OTHER, Solar Energy-Instl. and Main.  
**Contact:** Hilton, Craig / Hilton, Robert  
**Course Number:** SOM 238  
**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:** 30  
**Laboratory:** 30  
**Topics Covered Extensively:** Solar System Components; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

**NUMBER OF TIMES TAUGHT:** 1  
**Average Enrollment:** 25

**DENVER RED ROCKS CAM, CC OF**

**GOLDEN, COLORADO 80401**  
**(303) 988-6160**

**SOLAR RELATED COURSES**

**Advance Solar Controls**

**Instructor:** Klima, John  
**Course Number:** SOM 236  
**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:** 30  
**Laboratory:** 30  
**Topics Covered Extensively:** Solar System Components; Solar Systems Testing and Evaluation; Domestic Hot Water; Swimming Pool Heating; Space Heating

**NUMBER OF TIMES TAUGHT:** 1  
**Average Enrollment:** 25

**Altern. Backup Systems for Solar Energy**

**Instructor:** Hilton, Craig  
**Course Number:** SOM 238  
**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:** 30  
**Laboratory:** 30  
**Topics Covered Extensively:** Alternate Energy Sources

**DENVER NORTH CAMPUS, CC OF**

**WESTMINSTER, COLORADO 80030**  
**(303) 287-3311**

**SOLAR RELATED COURSES**

**Solar Energy**

**Instructor:** Shore, Ron  
**Department:** Cont. Ed.  
**Student Level:** High School Graduate  
**Duration:** 10 Weeks, 5.0 hrs per week  
**Contact Hours:** 50  
**Topics Covered Extensively:** Alternate Energy Sources; Energy Conversion; 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 Architecture**

**Instructor:** Fanta, Greg  
**Course Number:** BLO 204  
**Credits:** 5  
**Student Level:** Freshman or Sophomore  
**Duration:** 10 Weeks, 1.0 hrs per week  
**Contact Hours:** 10  
**Topics Covered Extensively:** Passive Solar Technology; Photovoltaics; Solar Collector Evaluation/Design; Wind Power, Central Systems; Wind Power, Small Systems

**Solar Energy**

**Instructor:** Kroll, Fred  
**Course Number:** SCI 120  
**Department:** Science/Math  
**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; Energy Conversion; Energy Storage; Heat and Energy Transfer; Intro. to Solar Energy
Colorado

Topics Covered Extensively: Sheet Metal Techniques; Solar System Components
Number of Times Taught: 3
Average Enrollment: 25

Basic Solar Controls
Instructor: Hitz, Frank
(303) 988-6161
Course Number: SOM235
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 Testing and Evaluation
Number of Times Taught: 2
Average Enrollment: 30

Basic Solar Systems
Instructor: Hilton, Craig
(303) 988-6161
Course Number: SOM220
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: Alternate Energy Sources; Energy Conservation; Intro. to Solar Energy; Plumbing Techniques; Solar Home Construction; Solar Systems Installation; Domestic Hot Water; Swimming Pool Heating; Space Heating
Number of Times Taught: 6
Average Enrollment: 20

Blueprint Reading For Constr. Trades
Instructor: Feister, Clarence
(303) 988-6161
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
(303) 988-6161
Course Number: BRI120
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: 20
Average Enrollment: 25

Domestic Hot Water Heating-Instal. and Main.
Instructor: Hilton, Robert
(303) 988-6161
Course Number: PLU 206
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 Systems Installation; Domestic Hot Water
Number of Times Taught: 4
Average Enrollment: 25

Carpentry for Construction Trades
Instructor: Hinz, Tim
(303) 988-6161
Course Number: CAR 120
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: Intro. to Solar Energy
Number of Times Taught: 8
Average Enrollment: 20

Hot Water Heating-Instal. and Main.
Instructor: Hilton, Robert
(303) 988-6161
Course Number: PLU 206
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
Intro. to Photovoltaic and Wind Energy  
Course Number: SOM 239  
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: 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-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  

Passive Solar Systems  
Instructor: Shippee, Paul  
Course Number: SOM 237  
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: 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-Instal. 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 222  
Department: Industrial Occupations  
Program or Curriculum: Solar Energy-Instal. and Main.  
Credits: 4  
Student Level: All levels  
Duration: 15 Weeks, 4.5 hrs per week  
Contact Hours: 68  
Classroom: 45  
Laboratory: 45  
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 226  
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  
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-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 Home Construction; Solar Systems Installation  

Solar System Design and Layout  
Instructor: Hilton, Craig  
(303) 988-6161

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 222  
Department: Industrial Occupations  
Program or Curriculum: Solar Energy-Instal. and Main.  
Credits: 4  
Student Level: All levels  
Duration: 15 Weeks, 4.5 hrs per week  
Contact Hours: 68  
Classroom: 45  
Laboratory: 45  
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 226  
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  
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-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 Home Construction; Solar Systems Installation  

Solar System Design and Layout  
Instructor: Hilton, Craig  
(303) 988-6161
### Colorado

<table>
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<tr>
<th>Course Number</th>
<th>Department</th>
<th>Program or Curriculum</th>
<th>Credits</th>
<th>Student Level</th>
<th>Duration</th>
<th>Contact Hours</th>
<th>Classroom</th>
<th>Laboratory</th>
<th>Topics Covered Extensively</th>
<th>Number of Times Taught</th>
<th>Average Enrollment</th>
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<td>Industrial Occupations</td>
<td>Solar Energy-Instal. and Main.</td>
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<td>BT 280</td>
<td>Building Trades</td>
<td>Solar Home Construction</td>
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<td>10 Weeks, 3.0 hrs per week</td>
<td>60</td>
<td>15</td>
<td>45</td>
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### 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
- Average Enrollment: 0

**TRINIDAD STATE JR COLLEGE**

**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

### Other Educational Institutions

**OTERO JUNIOR COLLEGE**
- Address: LA JUNTA, Colorado 81050
- Telephone: (303) 384-4443

**PROGRAMS AND CURRICULA**

**Arch. Tech. - Solar Heating Option**
- Degree: A.S., Applied Science
- Contact: Nilsen, E. W. (303) 384-4443
- Students Taking or Completing Offering: Solar Technician, Trade Specialty
COLORADO COLLEGE OF SOLAR ENERGY  
Box 397  
Nederland, Colorado 80466  

SOLAR RELATED COURSES  
*Solar Related Courses  
* * * * * * * * * 

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

SOLAR RELATED COURSES  
*Solar Energy Workshops  
* * * * * * * * * 

DOMESTIC TECHNOLOGY INSTITUTE  
Box 2043  
Evergreen, Colorado 80439  

SOLAR RELATED COURSES  
*Solar Energy Workshops  
Instructor: Lillywhite, Malcolm  
* * * * * * * * * 

THE ALTERNATE ENERGY INSTITUTE  
Box 3100  
Estes Park, Colorado 80517  

SOLAR RELATED COURSES  
*Solar Saturday  
Topics Covered Extensively: Alternate Energy Sources  
* * * * * * * * *