

## CCC Courses:

### AGR 116: Greenhouse Organic Growing

Learn various options for how to plan and set up a solar Greenhouse and maintain a balanced ecosystem within it. Topics include: Functions of a greenhouse, effects of relative shade, heat levels and seasonal changes, container and plant selection, soils, water, ventilation, light, sanitation, and organic fertilization.

### CTM 120: Building the Human Environment

Addresses architectural design and construction building practices, relating some of their psychological and environmental impacts. Historical, current and projected solutions to the human need for shelter and infrastructure is explored.

### CTM 236: Photovoltaics and Wind Power

This course will define the design and installation of photovoltaic and wind power systems. Topics covered: photovoltaic and wind power system plans, safety, electrical materials and fittings, solar cell panel and wind generator wiring techniques, battery systems, inverters and charge controllers.

See also:

CTM 139: Greywater Systems

CTM 235: Solar Home Design

AGR 111-113: A Living Soil Gardening Series

See CCC's Course Catalog at

[www.coconino.edu](http://www.coconino.edu) for more!

## ECOSA Offerings:

### Certificate in RE-Design

This program in Regenerative Ecological Design (RE-Design) is a rich, stimulating, cross-disciplinary semester-long experience created to give students the deepest and most current understanding of sustainable design. It is an in-depth immersion program that provides unique ways of gaining insights into the many facets of designing with nature. The RE-Design semester provides a foundational survey of the design field and sustainability with hands-on projects with real world clients.

### Masters in RE-Design

This program is 4-semesters long and immerses students in a living laboratory of the most current thinking and innovation in the field of sustainable design. Learn about biophilic design, construction methods, site survey and design, ecological ethics, design theory, community urban design issues, ecology and restoration, art and design in nature and much more. The second year is devoted to thesis work.

Visit [www.ecosainstitute.org](http://www.ecosainstitute.org) for more information.

## Educational Opportunities

# Northern Arizona Green Building Degrees and

Offered at these locations:

Northern Arizona University

Coconino Community College

ECOSA Institute



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Coconino County Sustainable Building Program in partnership with the Northern AZ Branch of the USGBC

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## Northern Arizona University Degree Offerings

### **BSE Degree in Environmental Engineering**

Upon successful completion of degree, students will be able to work within all the major recognized areas of environmental engineering but capable in the areas of water resources, water supply and treatment, wastewater management, air pollution control and treatment, and waste management. Minimum 130 units required. Visit [nau.edu/cefns](http://nau.edu/cefns) for more information.

### **Masters in Climate Science and Solutions**

Through the School of Earth Sciences and Environmental Sustainability, students can now study climate change and its effects not only on the environment, but business, politics, and other social realms. Learn how to develop greenhouse gas emissions testing, mitigation strategies, and obtain a summer internship in place of a thesis. This is a 36-unit program. Visit [nau.edu/envsci](http://nau.edu/envsci).

### **Minor in Sustainable Community Planning**

The Department of Geography, Planning and Recreation offers a minor in Sustainable Community Planning. Learn how to plan communities around the human condition, adaptability, and sustainability. Requires 18 units. Visit [nau.edu/sbs/gpr](http://nau.edu/sbs/gpr) for more information.

See also:

CM 403: Sustainable Design and Construction  
[nau.edu/cm](http://nau.edu/cm)

MA in Sustainable Communities  
[nau.edu/sus](http://nau.edu/sus)

## Coconino Community College Degree Offerings

### **AAS in Alternative Energy Technology**

The Associate in Applied Science in Alternative Energy Technology degree will provide students with the skills to pursue a career in the field. Students will understand and apply knowledge of solar photovoltaic systems, wind power, energy and heat transfer, and energy efficiencies. Students will learn how to use Computer Aided Design (CAD) software and employ critical thinking and evaluation skills to work with construction codes. 64 minimum hours required. See [www.coconino.edu](http://www.coconino.edu) Programs and Degrees website for more information.

### **AAS in Sustainable Green Building**

The Associate of Applied Science in Sustainable Green Building is designed to educate students on green building categories and related environmental and occupant issues, energy efficiencies, and sustainable building design considerations. Students can acquire knowledge of CAD, drafting, design and building layout, various solar systems, and be aware of industry related certifications. 68 minimum hours required. See [www.coconino.edu](http://www.coconino.edu) Programs and Degrees website for more information.

### **Certificate in Alternative Energy**

The Intermediate Certificate in Alternative Energy is designed to introduce the student to the construction and electrical industries and provide the foundations for hazard recognition and safety design issues associated with home construction, community development, and passive solar design. 28 credit hours. See [www.coconino.edu](http://www.coconino.edu) Certificates page for more information .

## Coconino Community College Course Offerings

### **CTM 131: Green Building Introduction**

Introduction to Green Building presents the Core Concepts and underlying reasons for approaching construction from a Sustainable methodology perspective. Several Categories of Green Building are introduced and explored. Categories include Building Site, Energy performance concepts & issues, Water Utilization, Indoor Environment, Materials resourcing and Recycling approaches. Green Building myths are dispelled.

### **CTM 250: Innovative and Alternative Building Systems**

Innovative and alternative building techniques such as steel framing, SIP, Integra or Rastra block, adobe, earth brick, rammed earth, cast earth, sand bag, papercrete, straw bale and earth ship will be presented along with environmental and aesthetic design considerations.

### **CTM 134: Rainwater Harvest Systems**

This class will introduce students to rain water as a source of water for domestic and/or landscape use. All system components for proper and safe use of rainwater will be presented and discussed . Components include: roofing materials, first flush diverters and downspouts, plumbing piping to and from tank, water purification, filtration and analysis issues, sources of contamination, water conservation strategies, and examples of rain water harvest systems will be shown.