PLAN, DESIGN & BUILD GREEN

Building for the future

The **Green Building and Sustainable Design Certificate Program** addresses the trend of developing healthier communities by defining effective ways to utilize energy and promote water efficiency. The program combines elements from architecture, civil engineering, landscape architecture, environmental and land use planning, and construction management. You will develop successful strategies for implementation of green building and sustainable design into site planning and design, building design and construction, and building management practices.

Started as a joint program between two of UC Davis Extension's most successful programs, the certificate program is now housed within the Land Use and Natural Resources (LUNR) department. From land use planning and water resources to green building and sustainable design, the LUNR department is committed to creating innovative and responsible courses, programs and conferences.

Achieve your goals

- Gain an in-depth understanding of the processes of incorporating social, economic and environmental issues into planning, design and construction.
- Learn green and sustainable design techniques for both commercial and residential buildings.
- Build your understanding of site analysis, construction management, water resources, planning and landscape architecture.
- Become better prepared to implement sustainable practices.

Designed for professionals like you

The program is designed for planners, architects, developers, contractors, landscape architects, interior designers and anyone interested in the implementation of sustainable building tools and strategies. It is also recommended for professionals moving into fields that require knowledge of green building or sustainable design, or anyone who recognizes the importance of green building and sustainable design.

For more information

For more information about the *Green Building and Sustainable Design Certificate Program* or open enrollment courses, please call (800) 752-0881, email greendesigninfo@ucde.ucdavis.edu or visit our website.

www.extension.ucdavis.edu/greenbldg

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Course descriptions and quarterly schedule are on the other side.

UC DAVIS EXTENSION
LAND USE AND NATURAL RESOURCES

CONTINUING AND PROFESSIONAL EDUCATION

The Green Building and Sustainable Design Certificate Program is comprised of seven required courses and three elective courses.

Sustainability and the Built Environment

2 quarter units academic credit.

This course is designed to provide you with an overview of sustainability, as it relates to the built environment, from the economic, environmental and social-equity development perspectives. Learn how researchers and analysts define sustainability, as well as how they measure and track progress. You will also be introduced to historical precursors of the current sustainability movement, and how this movement is translated into fields such as planning, engineering, architecture, landscape architecture, and construction. Participate in group discussions led by professionals currently engaged in sustainable building practices. The course highlights large-scale planned communities, infill sites and individual structures from the U.S. and other nations, as well as how these buildings are serviced and managed. At the end of this course you will know how to examine planning, design and building problems holistically, contrasting "cradle to cradle" life cycle analyses (economic and environmental) against the long-term costs of traditional development approaches.

Sustainable Planning, Design and Development

2 quarter units academic credit.

This course focuses on a number of related topics associated with the planning and site design of sustainability. Topics include: land use planning; smart growth and urban design; transportation policy and design; environmental site design; site assessment and selection; brownfield redevelopment strategies and infill development.

Green Architecture

2 quarter units academic credit.

This course will cover issues, challenges and opportunities associated with designing buildings using the principles of green building and sustainable design. Examine innovative, low and high density, residential, commercial, industrial, mixed use and specialty buildings. You will have the opportunity to evaluate the micro and macro-economic issues associated with green buildings.

UCDAVIS EXTENSION

LAND USE AND NATURAL RESOURCES

Green Building Materials and Construction Methods

2 quarter units academic credit.

This course will define and explore the use of sustainable materials used in the construction of today's green buildings. Life cycle assessments of materials will be studied to better inform designers and builders in their material selections. Sustainable construction methods in use in today's green commercial and residential buildings will be described in relation to their energy and environmental impacts and benefits. You will be introduced to the role of green building rating systems in the selection of healthy, durable and environmentally responsible building materials and methods, and become familiar with tools and resources to assist in their selection .

Sustainable Water Resources Management in Site Design and Development

2 quarter units academic credit.

This course will focus on how to plan, design and implement sustainable practices for integrating water resources into urban development at the planning, design and construction stages. It will address water use/demand, water conservation, water quality and wastewater treatment, use of recycled water, and storm water drainage as they relate to the planning and design of urban communities and project sites. It will also cover how to plan and design for natural or impacted water features that may be present on a site such as a creek, drainage ditch, culvert or wetland. Fundamental water resources policy issues and hydrologic processes, as they apply to community planning and design situations, will be introduced.

Energy Sources, End Uses and Impacts

2 quarter units academic credit.

This course takes a macro and micro look at energy flows associated with the built environment, including topics such as: bioclimatic design; thermal properties; heating and cooling; lighting and best energy practices and any attendant health risks; moisture and allergens; source control; ventilation effectiveness; and indoor air quality management. Practiced construction methods and materials are specified.

Green Building Case Studies/Studio

2 quarter units academic credit.

This final course in the program serves as a capstone and relies heavily on comparative case studies, examining the issues covered in previous courses, using actual examples of building projects completed. This course requires an interdisciplinary and capstone project in a studio environment.

Take as individual courses or as part of the *Green Building and Sustainable Design Certificate Program.*

QUARTERLY SCHEDULE OF COURSES	UNITS	F	W	SP	SU
REQUIRED COURSES (14 units)					
Sustainability and the Built Environment	2	■			
Sustainable Planning, Design and Development	2	■			
Green Architecture	2		■		
Green Building Materials and Construction Methods	2		■		
Sustainable Water Resources Management in Site Design and Development	2			■	
Energy Sources, End Uses and Impacts	2			■	
Green Building Case Studies / Studio	2				■
ELECTIVE COURSES (3 courses)					
Any courses in the Land Use and Natural Resources or Construction Management programs may apply with prior approval.					

Schedules are subject to change. Check our website for the latest schedule and course information: www.extension.ucdavis.edu. or call (800) 752-0881.