

# Leo & Dottie Kolligian Library



The LEED Gold-rated Kolligian Library consists of two concrete and glass wings housing the library and meeting rooms in the four-story east wing, and administrative office and student services space in the three-story west wing. The two wings are joined by a four-story “lantern” space that contains large public gathering spaces on all floors. Sun-shaded windows provide panoramic views of the campus landscape. The building opened in 2005 and is a major hub of campus life.

At the annual UC/CSU/CC Sustainability Conference in 2008, the Kolligian Library received an Honorable Mention Award for Best Overall Sustainable Design from the Higher Education Energy Efficiency Partnership program.

## Size

178,818 square feet

## Construction Cost

\$38 million

## Completion Date

August 2005

## Awards

LEED-NC Gold

2008 UC/CSU/CC

Sustainability Conference

Honorable Mention, Best Practice Award

for Best Overall Sustainable Design

## Project Team

Campus Architect: Jim Smith

Project Director: Richard Schwarz

Campus LEED Coordinators: Cynthia  
Hughes and Mark Maxwell

Architect & Engineers:  
Skidmore Owings &  
Merrill, LLP & ARUP

Contractor: Swinerton Builders Inc

LEED Consultant: Lynn Simon & Associates

# Building Highlights

- UC Merced has set ambitious goals for a zero net energy and climate-neutral and climate-neutral campus by 2020. UC Merced is pursuing these goals with a heavy emphasis on energy efficiency in new building design. The Kolligian Library performs exceptionally, saving 51 percent in energy costs over comparable buildings that meet only California building code standards.
- The building achieves 42 percent lower water consumption than comparable buildings through the use of automated faucets, low flow toilets and waterless urinals.
- Carpet in the building contains 37 percent recycled content, including plastic beverage bottles and carpet. Ceiling tiles contain 66 percent recycled content that includes phone books and newspapers.
- 28 percent of the materials for the project were manufactured regionally, saving significant transportation energy costs and earning an extra LEED point for exemplary performance in this category.
- The roof is made up of highly solar reflective “cool roof” material, reducing the heat island effect on the surrounding campus by reflecting – rather than concentrating and collecting – unwanted heat.
- Carbon dioxide monitoring throughout the building controls ventilation, increasing fresh air when building occupants are present in a space and reducing air flow to save energy in unoccupied spaces.
- The building’s heating, ventilating, air conditioning (HVAC) and lighting systems have sophisticated controls to monitor and modulate energy use, and also provide a rich source of information for evaluating building performance and potential additional energy use reduction.

# Scorecard



6/30/2006

## LEED-NC Version 2.1 Registered Project Checklist

University of California, Merced Library

Application Guide Multiple Building and On-Campus Building Projects (AGMBC)

Y M N

### 8 Sustainable Sites 14 Points

Y	M	N	Item	Points
Y			Prereq 1 Erosion & Sedimentation Control <b>AGMBC Prototype Credit</b>	Required
			Credit 1 Site Selection	1
			Credit 2 Development Density	1
			Credit 3 Brownfield Redevelopment	1
X			Credit 4.1 Alternative Transportation, Public Trans. Access <b>AGMBC Prototype Credit</b>	1
X			Credit 4.2 Alternative Transportation, Bicycle Storage & Changing Rooms	1
			Credit 4.3 Alternative Transportation, Alternative Fuel Vehicles	1
X			Credit 4.4 Alternative Transportation, Park Cap & Carpool <b>AGMBC Prototype Credit</b>	1
			Credit 5.1 Reduced Site Disturbance, Protect or Restore Open Space	1
X			Credit 5.2 Reduced Site Disturbance, Develop Footprint <b>AGMBC Prototype Credit</b>	1
X			Credit 6.1 Stormwater Management, Rate and Quantity <b>AGMBC Prototype Credit</b>	1
X			Credit 6.2 Stormwater Management, Treatment <b>AGMBC Prototype Credit</b>	1
			Credit 7.1 Landscape & Exterior Design to Reduce Heat Islands, Non-Roof	1
X			Credit 7.2 Landscape & Exterior Design to Reduce Heat Islands, Roof	1
X			Credit 8 Light Pollution Reduction (Version 2.0) <b>AGMBC Prototype Credit</b>	1

Y M N

### 3 Water Efficiency 5 Points

Y	M	N	Item	Points
X			Credit 1.1 Water Efficient Landscaping, Reduce by 50% <b>AGMBC Prototype Credit</b>	1
			Credit 1.2 Water Efficient Landscaping, No Potable Use or No Irrigation	1
			Credit 2 Innovative Wastewater Technologies	1
X			Credit 3.1 Water Use Reduction, 20% Reduction	1
X			Credit 3.2 Water Use Reduction, 30% Reduction	1

Y M N

### 12 Energy & Atmosphere 17 Points

Y	M	N	Item	Points
Y			Prereq 1 Fundamental Building Systems Commissioning	Required
Y			Prereq 2 Minimum Energy Performance	Required
Y			Prereq 3 CFC Reduction in HVAC&R Equipment	Required
10			Credit 1 Optimize Energy Performance	1 to 10
			Credit 2.1 Renewable Energy, 5%	1
			Credit 2.2 Renewable Energy, 10%	1
			Credit 2.3 Renewable Energy, 20%	1
X			Credit 3 Additional Commissioning	1
X			Credit 4 Ozone Depletion	1
			Credit 5 Measurement & Verification	1
			Credit 6 Green Power	1

Y M N

### 7 Materials & Resources 13 Points

Y	M	N	Item	Points
Y			Prereq 1 Storage & Collection of Recyclables	Required
			Credit 1.1 Building Reuse, Maintain 75% of Existing Shell	1
			Credit 1.2 Building Reuse, Maintain 100% of Shell	1
			Credit 1.3 Building Reuse, Maintain 100% Shell & 50% Non-Shell	1
X			Credit 2.1 Construction Waste Management, Divert 50%	1
X			Credit 2.2 Construction Waste Management, Divert 75%	1
			Credit 3.1 Resource Reuse, Specify 5%	1
			Credit 3.2 Resource Reuse, Specify 10%	1
X			Credit 4.1 Recycled Content, Specify 5% (post-consumer + 1/2 post-industrial)	1
X			Credit 4.2 Recycled Content, Specify 10% (post-consumer + 1/2 post-industrial)	1
X			Credit 5.1 Local/Regional Materials, 20% Manufactured Locally	1
X			Credit 5.2 Local/Regional Materials, of 20% Above, 50% Harvested Locally	1
			Credit 6 Rapidly Renewable Materials	1
X			Credit 7 Certified Wood	1

Y M N

### 12 Indoor Environmental Quality 15 Points

Y	M	N	Item	Points
Y			Prereq 1 Minimum IAQ Performance	Required
Y			Prereq 2 Environmental Tobacco Smoke (ETS) Control <b>AGMBC Prototype Credit</b>	Required
X			Credit 1 Carbon Dioxide (CO <sub>2</sub> ) Monitoring	1
X			Credit 2 Ventilation Effectiveness	1
X			Credit 3.1 Construction IAQ Management Plan, During Construction	1
X			Credit 3.2 Construction IAQ Management Plan, Before Occupancy	1
X			Credit 4.1 Low-Emitting Materials, Adhesives & Sealants	1
X			Credit 4.2 Low-Emitting Materials, Paints	1
X			Credit 4.3 Low-Emitting Materials, Carpet	1
X			Credit 4.4 Low-Emitting Materials, Composite Wood & Agrifiber	1
X			Credit 5 Indoor Chemical & Pollutant Source Control	1
			Credit 6.1 Controllability of Systems, Perimeter	1
			Credit 6.2 Controllability of Systems, Non-Perimeter	1
X			Credit 7.1 Thermal Comfort, Comply with ASHRAE 55-1992	1
X			Credit 7.2 Thermal Comfort, Permanent Monitoring System	1
X			Credit 8.1 Daylight & Views, Daylight 75% of Spaces	1
X			Credit 8.2 Daylight & Views, Views for 90% of Spaces	1

Y M N

### 4 Innovation & Design Process 5 Points

Y	M	N	Item	Points
X			Credit 1.1 I.D.: Campus as Teaching Tool <b>AGMBC Prototype Credit</b>	1
X			Credit 1.2 I.D.: Exemplary Perform. Max. Open Space <b>AGMBC Prototype Credit</b>	1
X			Credit 1.3 I.D.: Exemplary Performance In Water Use Reduction (42.44%)	1
			Credit 1.4 Innovation in Design: Provide Specific Title	1
X			Credit 2 LEED™ Accredited Professional <b>AGMBC Prototype Credit</b>	1

Y M N

### 46 Project Totals For AGMBC Prototype Credits 69 Points

Certified 26-32 points Silver 33-38 points Gold 39-51 points Platinum 52-69 points

# UC Merced's Triple Zero Commitment

Since its inception, UC Merced has been a leader in sustainable planning and environmental design.

As the campus grows, new development will be designed, planned and sited to demonstrate innovation and minimize impacts on the environment.

UC Merced's Long Range Development Plan establishes a "triple zero commitment" to eventually consume zero net energy, and produce zero waste and zero net emissions. For more details on the plan, visit <http://lrpd.ucmerced.edu>.

## **UC Merced's Triple Zero Commitment**

### **1. To consume zero net energy**

UC Merced's goal is to reach zero net energy through efficiency and renewable energy production.

### **2. To produce zero landfill waste.**

UC Merced's goal is to divert from landfill all campus waste by reducing excess consumption and recycling to the maximum extent feasible.

### **3. To produce zero net carbon emissions**

UC Merced's goal is to prevent as much carbon emissions as it produces.