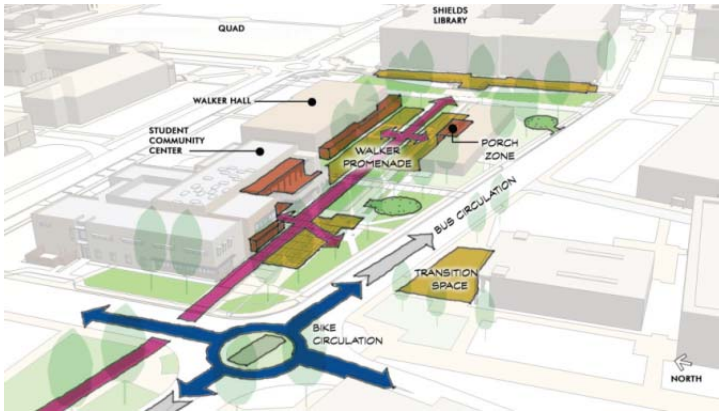
Project Narrative

The 43,000 square foot Student Community Center fulfills a vision of UC Davis students to build a facility to demonstrate and actualize the University's Principles of Community – "a commitment to being a learning environment that values diversity and is characterized by understanding and acceptance of all people." In 1999 and 2002 referenda, students approved additional fees for this purpose. As a student fee funded project, three student members participated on the Project Advisory Committee from the very start of the project. Students helped select the architect and fully participated in all phases of project programming, design and construction as well as finish and furniture selection. What was highly desired by the students was a comfortable, warm non-academic atmosphere where they could coordinate educational programs, socialize, eat and study.

The major tenants in the building include the Cross Cultural Center, the Student Recruitment and Retention Center, the Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual Resource Center, the Undergraduate Research Center and satellite offices for the Women's Center and Community Outreach. Campus leadership made it possible to partner with other groups on campus to make this building large enough for a prominent site in the heart of the campus. A computer lab and classrooms, study lounges, and undergraduate research and graduate school pipeline programs as well as a student-run Café were among the partners. The support of these partnerships made it possible to create a seamless system of support for students from recruitment to student retention, development and preparation for graduate school, which is something special and unique across institutions of higher education in our nation. This unique configuration enhances the concept of academic collaborations with Student Affairs and supports students holistically with the right combination of resources to be successful in college and beyond.

The Center is a new point of pride for the campus, a popular campus tour stopping point as well as a strong recruitment and retention tool for students. From the first day the center opened, it was immediately embraced by students. It became a home away from home for students that had never entered the old centers hidden away in basements, back annexes or temporary structures where the previous centers were located. Interest in volunteering at the center tripled in the quarter after the center opened and use of the computer lab and classrooms has increased as well.



The Student Community Center building was the first step in implementing a master plan for the neighborhood which was the vision of campus leadership. This master plan features a pedestrian promenade through the campus core - from the main bus terminal to the Campus Library - connecting the smaller Silo Student Union to the main Memorial Union and Quad lined with buildings that serve student programs. The location of this new building allowed for the creation of a plaza along the promenade creating a lively public place where students and faculty can meet and gather. The campus has a goal to connect indoor and outdoor spaces which were affectively achieved by taking advantage of our climate and with landscaping that incorporates existing mature trees to create outdoor "rooms" where more intimate meetings can occur in a natural serene setting. A Reflection Room with an outdoor garden and fountain was provided on the north side of the building for meditation, and thoughtful quieter activities.

The building replaced a cluster of 15 very old "temporary" buildings in the core of the campus, taking advantage of the campus's dense community and amenities, pedestrian and bike friendly areas, as well as the excellent access to public transportation. There is no parking at this building, only bike racks.

Feedback from occupant surveys from previous projects indicated that we should focus on better acoustics, natural lighting and ventilation. Operable windows were provided for natural ventilation and occupant control. The ceiling tiles were upgraded to a high CAC acoustic tile and extra insulation was added. The two story layout around an open lobby with natural day lighting through nine large skylights creates a warm and inviting place where the various groups cross paths and fosters collaboration. Natural daylighting was an important factor to the students and campus, so The University retained Loisos + Ubbelohde Architecture + Energy to perform a peer review of the Daylighting, Shading and Electric Lighting Design Integration w/ Daylighting & Controls to not only help us achieve several LEED credits, but to make sure that we did not have issues with glare. Sunscreens and long overhangs help with solar gains and the use of colored glass in the clerestories reduce the sky glare.

Project Images

Energy Performance Data

The percentage of annual energy reduction was calculated to be better than 33.5% of a baseline building. The energy savings were estimated utilizing a whole building energy model using the EnergyPro Software. The benchmark for comparison was a T24 Part 6 (California Energy Code) compliant building.

Building orientation, location of windows, sunshades and long overhangs were well considered to improve performance. High efficiency lighting fixtures were selected with input from the California Lighting Technology Center, and lighting levels were minimized per IES standards. Task lighting was utilized. Lighting controls include daylighting photo sensors, automatic day lighting dimming controls, occupancy sensors and a building sweep that turns all lights off after the building is closed.

Although the roof of the Student Community Center is PV ready, UC Davis has installed a 289.8 KW array located on Visitor Parking Lot 1. Following completion of the Student Community Center, 17.5% of the array's output (approximately 73,000 kWh in 2012) was dedicated exclusively for use by the facility for the life of the array.

Project Team

Master Architect: BAR Architects, San Francisco
Design-Build Team:
Contractor: Flint Construction
Architect: MFDB Architects, Sacramento
Landscape Architect: The HLA Group
Mechanical/Plumbing Engineer: FM Booth
Electrical Engineer: Rex Moore
Structural Engineer: Buehler & Buehler
Acoustical Engineer: Acoustics and Vibration Group
Food Service: Avanti Restaurant Solutions

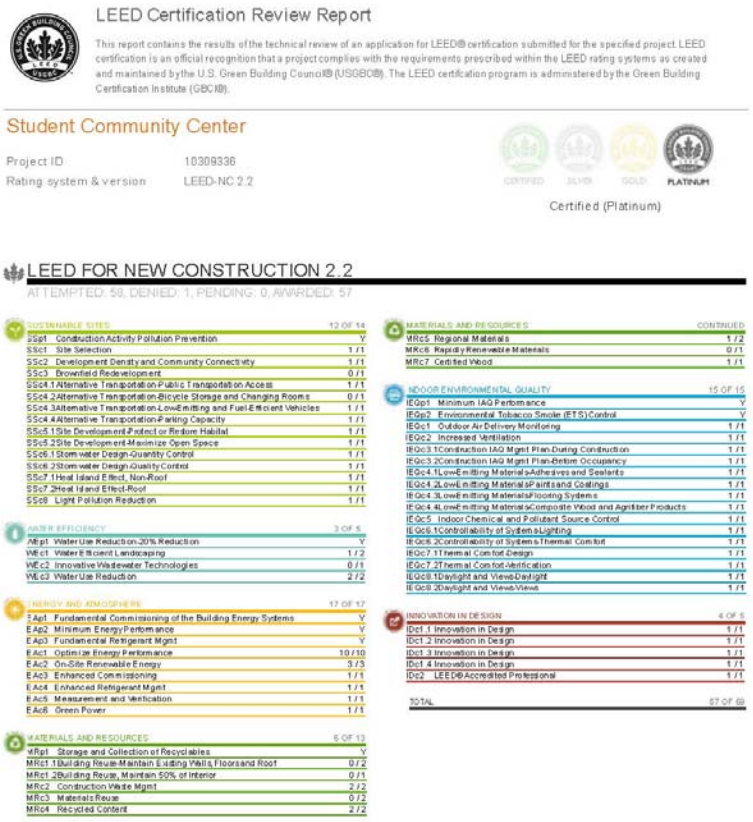
Photo Credit: Bo Botelli (UC Davis) and Doug Dun

Project Cost $19,000,000

Additional Information

Sustainable Design

The students requested that this project be LEED Platinum, however the campus balanced LEED goals and strategies with budget constraints and started the project with a goal of high Gold. The team added credits as the project progressed and exceeded its original goal which encouraged the campus to add solar PV's to honor the student's request for a LEED Platinum building.



LEED Certification Review Report

This report contains the results of the technical review of an application for LEED® certification submitted for the specified project. LEED certification is an official recognition that a project complies with the requirements prescribed within the LEED rating systems as created and maintained by the U.S. Green Building Council® (USGBC®). The LEED certification program is administered by the Green Building Certification Institute (GBCI®).

Student Community Center

Project ID	10309336
Rating system & version	LEED-NC 2.2

Certified (Platinum)

LEED FOR NEW CONSTRUCTION 2.2

ATTEMPTED: 58, DENIED: 1, PENDING: 0, AWARDED: 57

SUSTAINABLE SITES	12 OF 14
SSp1 Construction Activity Pollution Prevention	Y
SSc1 Site Selection	1 / 1
SSc2 Development Density and Community Connectivity	1 / 1
SSc3 Brownfield Redevelopment	0 / 1
SSc4.1 Alternative Transportation-Public Transportation Access	1 / 1
SSc4.2 Alternative Transportation-Bicycle Storage and Changing Rooms	0 / 1
SSc4.3 Alternative Transportation-Low-Emitting and Fuel-Efficient Vehicles	1 / 1
SSc4.4 Alternative Transportation-Parking Capacity	1 / 1
SSc5.1 Site Development-Protect or Restore Habitat	1 / 1
SSc5.2 Site Development-Maximize Open Space	1 / 1
SSc6.1 Stormwater Design-Quantity Control	1 / 1
SSc6.2 Stormwater Design-Quality Control	1 / 1
SSc7.1 Heat Island Effect, Non-Roof	1 / 1
SSc7.2 Heat Island Effect-Roof	1 / 1
SSc8 Light Pollution Reduction	1 / 1

WATER EFFICIENCY	3 OF 5
WEp1 Water Use Reduction-20% Reduction	Y
WEc1 Water Efficient Landscaping	1 / 2
WEc2 Innovative Wastewater Technologies	0 / 1
WEc3 Water Use Reduction	2 / 2

ENERGY AND ATMOSPHERE	17 OF 17
EAp1 Fundamental Commissioning of the Building Energy Systems	Y
EAp2 Minimum Energy Performance	Y
EAp3 Fundamental Refrigerant Mgmt	Y
EAc1 Optimize Energy Performance	10 / 10
EAc2 On-Site Renewable Energy	3 / 3
EAc3 Enhanced Commissioning	1 / 1
EAc4 Enhanced Refrigerant Mgmt	1 / 1
EAc5 Measurement and Verification	1 / 1
EAc6 Green Power	1 / 1

MATERIALS AND RESOURCES	6 OF 13
MRp1 Storage and Collection of Recyclables	Y
MRc1.1 Building Reuse-Maintain Existing Walls, Floors and Roof	0 / 2
MRc1.2 Building Reuse, Maintain 50% of Interior	0 / 1
MRc2 Construction Waste Mgmt	2 / 2
MRc3 Materials Reuse	0 / 2
MRc4 Recycled Content	2 / 2

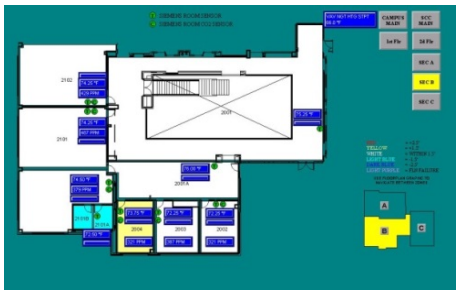
MATERIALS AND RESOURCES	CONTINUED
MRc5 Regional Materials	1 / 2
MRc6 Rapidly Renewable Materials	0 / 1
MRc7 Certified Wood	1 / 1

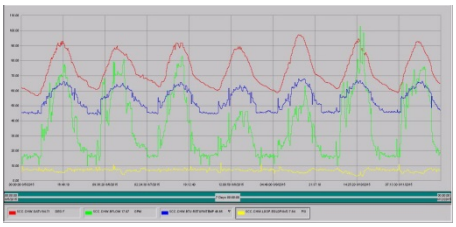
INDOOR ENVIRONMENTAL QUALITY	15 OF 15
IEQp1 Minimum IAQ Performance	Y
IEQp2 Environmental Tobacco Smoke (ETS) Control	Y
IEQc1 Outdoor Air Delivery Monitoring	1 / 1
IEQc2 Increased Ventilation	1 / 1
IEQc3.1 Construction IAQ Mgmt Plan-During Construction	1 / 1
IEQc3.2 Construction IAQ Mgmt Plan-Before Occupancy	1 / 1
IEQc4.1 Low-Emitting Material-Adhesives and Sealants	1 / 1
IEQc4.2 Low-Emitting Material-Paints and Coatings	1 / 1
IEQc4.3 Low-Emitting Materials-Flooring Systems	1 / 1
IEQc4.4 Low-Emitting Material-Composite Wood and Agrifiber Products	1 / 1
IEQc5 Indoor Chemical and Pollutant Source Control	1 / 1
IEQc6.1 Controllability of System-Lighting	1 / 1
IEQc6.2 Controllability of Systems-Thermal Comfort	1 / 1
IEQc7.1 Thermal Comfort-Design	1 / 1
IEQc7.2 Thermal Comfort-Verification	1 / 1
IEQc8.1 Daylight and Views-Daylight	1 / 1
IEQc8.2 Daylight and Views-Views	1 / 1

INNOVATION IN DESIGN	4 OF 5
IDc1.1 Innovation in Design	1 / 1
IDc1.2 Innovation in Design	1 / 1
IDc1.3 Innovation in Design	1 / 1
IDc1.4 Innovation in Design	1 / 1
IDc2 LEED® Accredited Professional	1 / 1

TOTAL	57 OF 69

The University of California Davis conducts a very rigorous commissioning program as well a two year warranty phase for design-build projects with monthly post occupancy meetings to resolve issues. The building has been very well received by the campus. There are two rooms which were cold at the beginning requiring adjustments to the temperature control system. Facilities commented that the start-up and Cx was relatively smooth for this project. The project had enhanced Cx with our in-house Cx Agent who oversaw the process of making sure the systems were performing as designed and coordinated training so that the building would be properly maintained to keep the performance optimal. He monitored the HVAC system performance and corrected temperature issues, often before a complaint was registered. In general the staff is extremely satisfied with the building and the numbers of student participation and volunteering at the centers increased once the building opened to the publicStudents comment that the building is comfortable, open, colorful, warm, and welcoming; they feel good in the natural light.





Other sustainable features:

- Landscape irrigation water is reduced by over 50% of normal turf based irrigation practices with drought tolerant planting and no turf.
- The site includes pervious paving in the plaza.
- A bio swale was included in the landscaping south of the plaza which is used to treat and slow storm drainage.
- All of the water fixtures are highly efficient and we exceed the code requirement for water use reduction by more than 38%. The water use in the building is reduced by 43% with the use of high efficiency fixtures and occupant sensors. The combined savings in annual water use is expected to be approximately 675,000 gallons per year. The building includes hydration stations on each floor, requested by the students to reduce the use of bottled water.
- Over 96% of construction waste was recycled or otherwise diverted from placement in landfills.
- The campus Waste Reduction and Recycling program, sent students over to set up a jobsite composting program and provided training for the crews to compost and recycle during the construction. The builders also donated scrap materials and samples to the Aggie Re-Store for student to use in projects.
- More than 50% of the wood used in the project was from Forest Stewardship Council (FSC) certified suppliers .
- The project used a large percentage of recycled and regional materials.
- The café is run by the ASUCD Coffee house which offers food made from scratch and helped set up the building with a composting program and bins.
- Windows are thermally broken aluminum frames with high R value, low E glazing throughout. All windows are provided with permanent exterior shading elements and furnished with interior blinds for individual occupant control.
- Roofing is a very high Solar Reflectance Index white single ply over 95% of the enclosed spaces.
- Very high quality weatherproofing materials and construction details were used for the entire envelope. These systems will seal the building from air and moisture infiltration at the times of year when the building needs be closed tight to maximize efficiency of the mechanical air distribution systems. There is a relatively high 38% ratio of glass (window) to solid wall, the climate is mild (the operable windows can be used for 60-90 days of the year), and the energy modeling indicated no effect on the size of the HVAC units.
- The air handling system is a hybrid dual duct variable air volume system which takes advantage of the Campus Chilled Water Loop which is supplied by two chilled water plants. Both plants have high efficiency, water cooled chillers and employ a Thermal Energy Storage (TES) tank. The main chilled water distribution pumps at one of the plant have been recently upgraded to high efficiency pumps and extensive piping modifications have been made to lower the pressure drop and improve distribution efficiency. The heating source for the building is steam from the Campus Steam Distribution Loop which is supplied by an efficient gas boiler plant. The boiler plant has been modernized over the years with high efficiency, low NOx boilers or burner retrofits and heat reclamation.
- New high efficiency LED exterior light poles that are programmable for control of variable lighting levels.
- This building is fully metered both to obtain the M&V credit, and holding the tenants accountable for their own energy use and billing.