Built to Succeed: Sustainable Learning Environment at UC Merced Library

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Merced, California

- Located in Central valley, CA
- Merced - town with a population of about 90,000
- 110 miles southeast of San Francisco and 310 miles northwest of Los Angeles
- 70 miles west of Yosemite National Park
Yosemite National Park
University of California, Merced
University of California System

- 10 campuses
- 5 medical centers
- 3 national laboratories
- 150 academic disciplines
- 600 graduate degree programs
- 238,700 students
- 198,300 employees
- 1.7 million living alumni
- 61 Nobel laureates
- 20,000 UC extension courses
About UC Merced

• Hallmarks:
  – Interdisciplinary innovation
  – Diversity
  – Sustainability
  – Personal interaction

• Milestones:
  – 1988 Authorized by California Legislature
  – 2004 Open for graduate students
  – 2005 Opened for undergraduate students

• Three Schools
  – Engineering
  – Natural Sciences
  – Social Sciences, Humanities, Art
About UC Merced-continued

• Planned Schools
  – School of Management
  – School of Medicine

• Research Institutes
  • Health Sciences Research Institute
  • Sierra Nevada Research Institute
  • University of California Advanced Solar Technologies Institute
  • Center of Excellence for Unmanned Aircraft Systems Safety
  • Center for the Humanities
  • SpARC – Spatial Analysis & Research Center
Student Enrollment 2015

• 2015 Total: 6,685
  – Undergraduates: 6,237
  – Graduates: 448

• 2020 plan total: 10,000
  – Undergraduates: 9,000
  – Graduates: 1,000

• Majority from California
UC Merced in Design
Planning

Local Context
30,000 acres of permanently protected vernal pool grasslands surround the campus site as part of the plan's conservation effort.

Site under construction and Sierra Nevada Mountains

Bioclimatic Chart

http://www.aiatopten.org/node/88
UC Merced Opens in 2005

http://www.sfgate.com/education/article/Finally-UC-opens-Merced-campus-1-000-students-2611081.php#photo-2097394
UC Merced Campus Policy/Philosophy

• Connecting to nature
• All new construction for LEED Certification
• Triple Zero Commitment:
  – Zero net energy
  – Zero net waste
  – Zero net emissions
New Beginnings
Sustainability – a core value at UC Merced

Solar Panels on Academic Building

www.mercedsunstar.com
UC Merced Library

• Name
  – Leo & Dottie Kolligian Library

• Architect
  – Executive Architect: SOM (Skidmore, Owings, & Merrill), San Francisco, California
  – Design Architect: Fernau and Hartman of Berkeley, California
  – Contractor: Swinerton Builders of San Francisco, California

• Sustainability
  – Save water by up to 30%
  – Solar energy and natural light
Sustainable features include:

- Installation of **water conserving** fixtures to save potable water by up to 30% beyond the required Energy Efficiency Standards in California (Title 24).
- An **HVAC (heating, cooling, fans & pumps) system** free of CFC-based refrigerants or HCFCs to reduce ozone depletion.
- Automatic regulation of **interior lighting** and HVAC systems to reduce energy costs by up to 47% beyond the required Energy Efficiency Standards in California (Title 24).
- Use of **buildings materials** containing recycled content e.g. structural steel, insulation and carpet (up to 13.61%) and recycling of construction waste (87%).
- Use of materials that minimize **indoor air** contaminants to be fully compliant with Volatile Organic Compounds (VOC) limits as required by the South Coast Air Quality Management District and Bay Area Air Quality Management District.
- **Daylit areas** maximized for comfortable work and study conditions and to further reduce energy costs.
UC Merced Library

• Built to meet LEED Silver standards
• Honorable mention for 2008 UC Berkeley Best Practices Award (Overall sustainable design)
• Winning LEED Gold 2007 in EBOM (Existing Buildings: Operations & Maintenance)
• Built to support sustainable learning environment
UC Merced Library

www.savingsbydesign.com
Sustainable strategies –
long overhangs to provide shade
Lantern Café – social gathering
Natural lighting
Collaborative Workroom
MacFadden-Willis Reading Room – quiet space
Design Philosophy

• Aim – provide a welcoming learning space
• Open space, flexible furniture and novel policy
• Encourage students to personalize spaces
• Breaking traditions; focusing on innovation
• Vigorous demarcation between interior & exterior environments
• Policy to welcome food, drink and mobile phones throughout the building
• Open atmosphere and use of solar energy
Leadership in Energy and Environmental Design (LEED)

• Recognized green building rating system
• 4 certification levels
  – Certified
  – Silver
  – Gold
  – Platinum
• 9 areas to rate
  – Integrative process; location & transportation; sustainable sites; water efficiency; energy & atmosphere; materials & resources; indoor environmental quality; innovation; regional priority

Impact/Benefits

• LEED
  – Voluntary
  – Positive image
  – Energy & cost savings
  – Better health environment – air quality, daylight...
  – Benefits:
    • Better work/study environments
    • Students with higher test scores & lower absenteeism
“A Customer Story”

• “First LEED-certified Campus Naturally Puts Users First”
  – Sustainability – key design principles
  – Built-in Flexibility
  – Everyone is an Owner
  – “Sit down, talk, eat, learn.”
  – Two rules:
    • “If you spill something, let us know”
    • “Don’t use pizza for a bookmark!”

First Lady Michelle Obama delivers first graduation address at UC Merced in 2009

Continues to grow...

Thank you!