

Example of course essay

[Education](#), [University](#)



Green Building and Site Development: An Evaluation

Going green especially in the school campus was a challenge for UC-Merced as sustainability or constructing environment-friendly buildings had a corresponding cost. Undeniably, going green is quite an investment.

Typically, an original truthful or realistic investment of up to \$100, 000 to integrate features of green building into a \$ 5 million project can provide a saving of about \$1 million over a building's life assumed predictably to be 20 years.

The site or location of the university is accessible to many places in California. Adjacent to Lake Yosemite Park, as well as outside Merced city, UC-Merced continues to develop its convenient location at the very heart of California. The site that is surrounded by the nature's greens including Sierra Nevada range to the east, as well as Coast Ranges to the west is more than 800 acres in lot area. The campus is located in an area wherein it is a two-hour drive from San Francisco, Sacramento, and the Pacific Ocean. It is closer to the surrounding communities in Merced too that makes it very accessible by many.

UC-Merced is guaranteed a green campus especially that the Leadership in Energy and Environmental Design (LEED) had already issued a certificate that guarantee's the school's construction and design utilize techniques which are aimed to improve water efficiency, energy-savings, improved indoor environmental quality, emission reduction, and stewardship of resources.

Like any other organization whose aim is to develop a green environment, UC-Merced had undergone through processes too, to achieve environmental-

friendly campus. The school went through the biogeochemical processes that can result to the deployment or impounding of arsenic. And since this logically-arising arsenic in most soils and aquifer sediments is identified with iron-bearing minerals, the weakening of these carriers' phases under dropping conditions can lead in arsenic utilization. On the contrary, circumstances that are in favor of the oxidative precipitation of iron oxyhydroxides are promoting the sequestration of arsenic by “ sorption and, or, co-precipitation.” (Hering, Janet G. Burris, David. Reisinger, H. J. O'Day, Peggy, 2008)

As for the transportation, the university is said to have had about 38 vehicles in the school's fleet. However, it has a number of alternative-fuel vehicles as well, including hybrid, electric, biodiesel and a car powered by natural gas. The average GHG emission rate for every passenger mile in UC-Merced's motorized fleet are about 2. 3 pounds of CO₂e or carbon dioxide equivalent “ per passenger mile traveled.”(UCMerced, 2014).

The university's service and advocacy to go green does not happen inside the campus alone. In fact, it also offers local transportation alternatives to all members of the faculty, students and staff. More so UC-Merced offers low-rate parking fee, as soon well as designates preferred vanpool or carpool parking spaces.

In addition, aside from the physical transportation program, the university provides transportation programs to those in need. Being subsidized is the route of the bus from the campus to a major destination. The said route is eligible for the students, staff and the whole faculty. There are other transportation facilities that UC-Merced offers like the bicycle rental or

sharing program and the bicycle repair offer. Last but not the least of the transportation offers in the university is the car-sharing program that will be offered very to the deserving individuals working in the university.

UC-Merced religiously follows a certain policy for its green buildings. For many years now, the university has been committed to a minimum rating for LEED Gold certification. UC's system-wide policy requires all universities to attain the equivalent of LEED certification for Silver for all their new building constructions. To make sure the goals for every building is achieved, the school's construction contracts feature LEED Gold requirements that have clear performance. Moreover, there are Green Building Standards that the school follows. To date, there are seven LEED-certified buildings in UC Merced. These buildings include the Garden Suites Lake View Dining, Kolligian Library, Classroom and Office Building, Central Plant, Science and Engineering building, Sierra Terraes and Joseph Gallo Recreation Center. On top of these green buildings, are the Energy Star-labeled buildings.

The aforementioned buildings are considered green buildings because of the energy-efficiency technologies installed in these pro-earth structures. At present, the school utilizes innovations that are energy efficient. Generally, the campus uses district cooling for all its campuses, limited HVAC reheat by using dual fan dual duct, or the for-pipe systems, the T5 and T8 lighting, Daylight control zones, motion sensors, and lastly, the scheduling of all the lighting systems which are not controlled by the HVAC systems and the local sensor.

In addition, there are also water-conservation technologies in the Green Buildings found inside UC Merced. Installed in each building are the low-flow

showerheads, low-flow faucets, dual flush toilets, waterless urinals, laundry technology, dual flush toilets and the so-called gray water systems. The school makes use of the waterless urinals, as well as the low-flow fixtures. All of these new buildings are using about 30 to 40 percent less than the figure required by EPACT.

In an environment where pollution, specifically heat pollution is not welcome or hated the most, it is, therefore, undeniable when one relates it to heat reduction. Studies have it that heat pollution. According to research, places with beautiful landscapes and climates that can showcase temperatures several degrees higher than the rural areas surrounding, may possibly result in heat pollution or “ doubling of the urban to rural thermal ratio in the following decades.”

Therefore, the suspicious warm climate of the city creates significantly low air pressures that cause cooler, rural air to come together on the urban center, consequently coercing warm air to go up. Research carried out in various cities of the United states such as New York, Atlanta, Chicago and Washington, have shown that urban-induced precipitation and thunderstorm events are mainly initiated by the UHI. This then shows the relevance and relationship between the heat pollution and heat reduction.

Researchers have recommended that “ changes in solar output might affect our climate change—both directly, by changing the rate of solar heating of the earth and atmosphere, and indirectly, by changing cloud forming processes.” (Hering, Janet G. Burris, David. Reisinger, H. J. O'Day, Peggy, 2008)

References

Hering, Janet G. Burris, David. Reisinger, H. J. O'Day, Peggy. (2008).

Environmental Fate and Exposure Assessment for Arsenic in Groundwater (1374). Ft. Belvoir: Defense Technical Information Center.

Kats, G. (2003). The Costs and Financial Benefits of Green Buildings (A Report to California's Sustainable Building Task Force). Retrieved from http://www.academia.edu/5217491/The_Costs_and_Financial_Benefits_of_Green_Buildings_A_Report_to_Californias_Sustainable_Building_Task_Force

UCMerced. (2014). Welcome to UC Merced Design and Construction | Design and Construction. Retrieved from <http://dc.ucmerced.edu/history>

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