

Developing Sustainable Buildings at UVM



ENVS 187

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Buildings: UVM buildings include all of the academic, laboratory, recreational and dormitory facilities that make up the campus.

Policies

The University of Vermont has implemented the policies:

Environmental Design in New and Removed Buildings

UVM guarantees all new construction will meet LEED Silver requirements.

National Historic Preservation Act

Buildings older than 50 years are protected under the act and will be preserved. Identification of historic properties is decided by the State Historic Preservation Officers (SHPO).

What UVM Can Do

The UVM community can help achieve a more sustainable life style within the UVM buildings.

-Preventative maintenance scheduled to reduce the need for new construction and major renovations as buildings age.

-Usage inventory for each building to find areas to improve upon.

✧ Add dashboards to all of the most frequently used buildings on campus, such as the Bailey Howe Library for example.

✧ Data collected on the Dashboard system would support the efforts towards LEED certifications.



Figure 1, Davis Center's Current Dashboard [1]

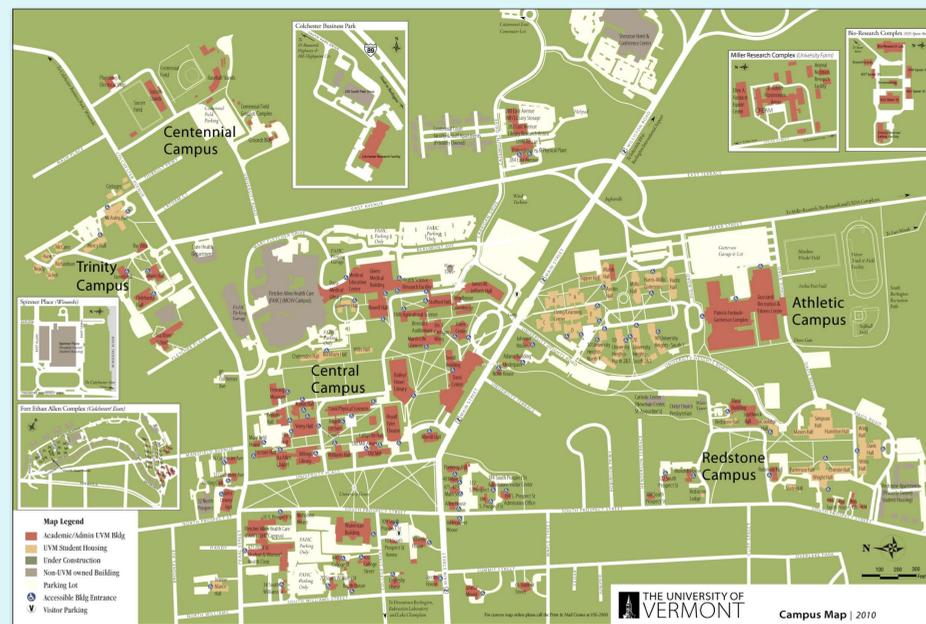


Figure 2. Campus map [2]

What is LEED?

LEED is an acronym for Leadership in Energy and Environmental Design and provides design guidelines that aim to reduce energy usage, water consumption, solid waste, air pollution and building toxicity. [2]

LEED Certified Buildings at UVM

LEED certification can be obtained for new/renovated structures as well as existing structures. UVM currently does not have any LEED certified existing buildings.

Building	LEED Certification Level	Local Material	Recycled Materials	% Less Water than Similarly Designed Building	% Less Energy than Similarly Designed Building	Year Certified
438 College Street	GOLD	46.1%	81.7%	49.9%	47.3%	2009
Given Courtyard	GOLD	39.79%	87%	30%	48%	2010
James M. Jeffords Hall	SILVER	40%	90%	49.9%	35.7%	2010
Wilks, Davis, Wing Residential Halls	SILVER	50%	80%	N/A	60%	2007

Figure 3. Recent construction of new and renovated buildings. [3]

What is STARS?

The Sustainability Tracking, Assessment and Rating System (STARS) is a new internal rating framework from the Association for the Advancement of Sustainability in Higher Education (AASHE). STARS differs from other "green" surveys in that it is much more generic, comprehensive, and expands the definition of "sustainability" to not only include environmental considerations, but also economic and social dimensions. [2]. In addition to LEED certifications, the UVM Office of Sustainability has been evaluating where UVM stands on the AASHE rating system. This system is another way to measure UVM's sustainability.

	UVM Points	Possible Points
Credit 1: Building Operations and Maintenance	0	7
Credit 2: Building Design and Construction	2.89	4
Credit 3: Indoor Air Quality	2	2

Figure 4. UVM STARS Credits [4]

Credit 1 : UVM received a score of zero since this credit is based on the number of existing LEED certified buildings which UVM does not have any of.

Credit 2: Although recent construction on campus have all had the minimum requirement of LEED Silver certification, older building that are not as efficient detract from this credit.

Credit 3: Air quality and CO2 are monitored in every building.

Acknowledgments

Michelle Smith, Anna Mika, Ralph Stuart, and Steve Posner.

References

1. LucidDesignGroup
2. University of Vermont. www.uvm.edu
3. Office of Sustainability; LEED Fact Sheets
4. STARS Credits; Anna Mika.