

A black and white photograph of a large, multi-story brick building with a prominent octagonal tower. The building features arched windows and doorways. The sky is visible in the background with some clouds.

University of Oregon

an institution committed to sustainable practices

Self Guided Tour Campus Sustainability Initiatives

We invite you to discover some of the exciting sustainability initiatives and projects at the University of Oregon.

Sustainability is no stranger to the university. Since the early 1970s the university's active and progressive recycling program has been the recipient of numerous national awards. Since the mid-1970s the university's transportation plan has guided the development of a system that is nationally recognized for its transportation innovation.

In 1990 the Environmental Issues Committee was created. More recently the university established policies on paper use and adopted a sustainable development plan for the physical development of its campus. The University of Oregon's long-standing commitment to environmental responsibility was reaffirmed by the adoption of the university's *Comprehensive Environmental Policy Statement* (1997).

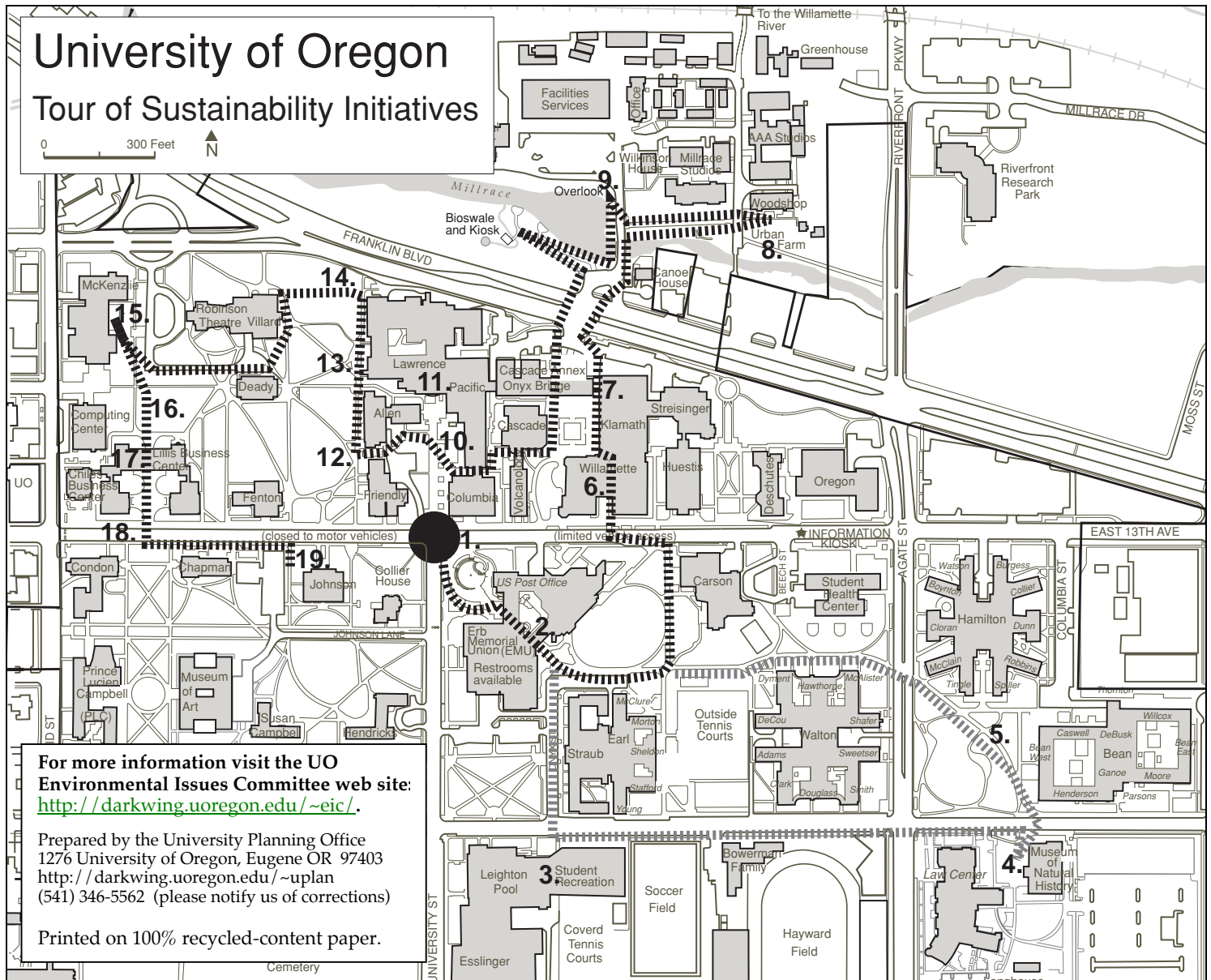
University of Oregon Sustainability Initiatives Tour

University Planning Office
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This self-guided tour will introduce you to a few of the University of Oregon's numerous environmentally sustainable practices. For more information about UO sustainability initiatives visit the UO Environmental Issues Committee web site at <http://darkwing.uoregon.edu/~eic/>.

The tour should take about 1 1/2 hours to complete (the full route is about 2 miles long).

Begin at the green recycling bins in front of the Erb Memorial Union (EMU) at the intersection of 13th Avenue and University Street (refer to # 1 on the map).



1. **Campus Recycling Program - Campus Recycling Bins**

Sustainable efforts often begin with a recycling program. The university's nationally recognized, comprehensive Campus Recycling Program was established in the early 1970s. Today it services more than 2,000 collection sites and annually recycles about 1,300 tons (equal to about 40% of the campus's total waste). A more recent food composting program has reduced waste at major campus celebrations by up to 80%. In addition, more than 60% of the copy paper used and distributed by university printing services is at least 50% recycled-content (100% recycled-content is the desired default). Proceed to the other side of the EMU through the outdoor lower walkway.

2 **Alternative Energy Sources - EMU PV Panel Student Project**

Look up at the "solar umbrellas" on the EMU's east balcony. These are the first stage of an ambitious student-led and funded project (Ecological Design Center). The second stage will include an impressive array of roof-mounted photo voltaic panels that will produce 72,577 kWh/yr. or an annual value of about \$4,000.

Optional Side Trip (#3-5):

3. **Energy Conservation through Design - Student Rec Center**

All recently completed major projects (\$60 million worth of work) including the Student Recreation Center (1999) have been awarded the regional Energy Smart award. This means that energy conservation is greater than the 20% reduction required by the energy code for state-owned buildings.

4. **Native Plants – Museum of Natural History Courtyard**

Visiting this courtyard is an excellent way to become familiar with many of Oregon's native plants. It demonstrates the inherent benefits of using hardy native plants in landscape design. Inside the museum visitors can learn about ecosystems, habitats, native trees and animals, and Oregon geology and archaeology. A new Many Nations Longhouse, soon to be constructed nearby, will extend the use of native plants in the landscape and on the planted roof.

5. **Efficient Cut-off Outdoor Lighting – New Campus Fixtures**

Although the fixtures along this walkway look like typical historic fixtures, they actually possess advanced lighting features designed to be energy efficient and to direct light downward to ensure that the night sky is not lit. Features include an efficient metal-halide light source (does not interfere with a plant's dormancy cycle), a special interior shield/reflector, and a prismatic globe. These fixtures are the new prototype for all future campus fixtures.

6 **Sustainable Building Design/Reuse - Willamette Atrium**

As you enter the Willamette atrium through the recessed entry on 13th Avenue, imagine this site as it once was - a jumble of box-like science buildings. Rather than demolishing the old buildings, they were reused and linked with the new ones creating a favorite area on campus. The exterior face of one of the original buildings is evident inside this efficient atrium that is neither air conditioned or heated. Sustainable building design and the collaborative design process began on campus with Christopher Alexander's *The Oregon Experiment* in 1975. The university's long-range plan contains many "patterns" that recognize the importance of integrated landscape design, user-friendly buildings, and sustainable design.

7. **Reduce Toxic Solvents/Teach Green - Green Chemistry Lab**

If you peer in through the large glass windows at the very north end of Klamath Hall (past the double doors), you will see the first instructional [green organic chemistry lab](#) in the country, now in its third successful year. Students learn chemistry using less toxic solvents and reagents, causing less harm to themselves and to the environment. Reaction products are recycled into future experiments, and waste air is reused in the ventilation system (without jeopardizing strict environmental and safety regulations). Other nearby labs have employed innovative measures to reduce the required ventilation resulting in substantial energy savings.

8. Environmental Education - Urban Farm

The Urban Farm, in operation since 1976, is used as an applied research facility (e.g. to study bee populations) and as an outdoor classroom to teach organic gardening (through Landscape Architecture). It is one of the many academic programs beyond the Environmental Studies Program that address environmental issues in design, community planning, business, law, the sciences, and literature. These equate to hundreds of classes.

9. Water Quality - Millrace Bioswale/Bank Stabilization

A series of student Landscape Architecture design-build projects provide excellent examples of on-site drainage and habitat restoration. Proceed to the overlook, which made of recycled-content material. It is a good place to view the native species planted along the Millrace banks to decrease erosion and increase wildlife habitat. Follow the concrete sidewalk (which contains fly-ash extender) across the bridge and walk toward the small wooden kiosk in the grassy area to your right (a future interpretive center built from downed trees from a recent storm). Here you will see a highly effective bioswale that cleanses and absorbs storm water from Franklin Boulevard and nearby parking lots before it reaches the Millrace. On-site drainage is becoming a standard approach whenever possible on campus to reduce and cleanse storm water that drains into the Millrace and the Willamette River, both of which flow through university lands. Follow the map to #10 until you see a covered bike parking area.

10. Alternative Modes of Transport - Bike Facilities & Free Bus Service

Bike riding is strongly supported on campus. In fact, there are more bike parking spaces than car parking spaces on campus (the university has half of the auto parking expected of a typical university). The university is nationally recognized for its transportation innovation. Fewer than 40% of all trips to and from the university are made by automobiles, compared to 74% of trips made in the surrounding community. Incentives to ride the bus include free bus passes for all faculty, staff, and students and easy access to on-campus transit stations. Lane Transit District provides bio-fuel shuttle night service through campus.

11. Environmental Education

The main walkway in front of you terminates at Lawrence Hall. It houses the School of Architecture and Allied Arts, home base for the Ecological Design Center, the Institute for a Sustainable Environment (located in Hendricks Hall), and the annual H.O.P.E.S. sustainable design conference. There are many other special projects and events on campus including the Environment Law Conference and the Sustainable Business Symposium.

12. Well-adapted and Compatible Plants - Old Campus Quad

If you toured the campus ten years ago, the beautiful planting areas in the nearby boggy site and under the trees would have been ugly mud puddles or scraggily grass. Today they demonstrate how simple it is to use well-adapted and compatible plants to create a more sustainable and attractive landscape. All campus grounds are maintained using an Integrated Pest Management Program. In addition, all new landscape projects use a weather based irrigation system to reduce water use and runoff, all yard waste is composted and used on campus, and pervious paving is used where appropriate.

13. Wildlife Habitat - Old Campus Quad Bird Corridor

This conifer quadrangle is well loved by students and wildlife alike. Native undergrowth that is particularly attractive to many species of birds was intentionally planted to create a bird corridor that extends from the Millrace to the Pioneer Cemetery. Tree snags are purposefully left throughout campus to provide wildlife habitat.

14. Education and Experimentation – H.O.P.E.S. Bench

This bamboo shelter and cobb bench at the far north end of the quad is one of a number of experimental structures constructed by students and designed to test sustainable materials. It is the first bamboo structure constructed in Oregon that was tested and approved by the Uniform Building Code. Hands-on student experiences provide great educational value.

15. Reuse and Retrofit - McKenzie Hall Renovation/Bioswale

The small bioswale (area filled with pebbles) in McKenzie Hall's lower courtyard does not look like much but it demonstrates how simple and inexpensive sustainable alternatives can solve big drainage problems that would have required substantial excavation and new piping. This bioswale was part of a major remodeling project that included retrofitting light fixtures, controls (e.g. occupancy sensors) and HVAC systems (e.g., energy efficient equipment and carefully zoned systems). Completing energy retrofits has been a common goal for decades. Despite substantial construction since 1990 (over 800,000 gsf) and an additional 3000 students, the overall campus electrical use has decreased.

16. Tree Protection – Large-Canopy Deciduous Trees and Stately Conifers

The university went to great lengths to protect the mature trees in this area during a recent expansion project. Building designs were modified and substantial protection during construction included an innovative temporary bridge designed to span the root zones. The recently adopted Campus Tree Plan emphasizes the important environmental role trees play on campus and requires strict standards for tree protection during all construction projects and policies for proper tree planting (e.g., adequate root zone space).

17. Sustainable Design - Lillis Business Center

The university's Sustainable Development Plan (2000) strengthens sustainable design requirements and requires that new development meet the equivalence of LEED standards. The Lillis Business Center is the university's most ambitious sustainable project yet. The building will use about 45% less energy than state code requires and will incorporate a full spectrum of sustainable measures including:

- Natural cooling and ventilation through increased thermal mass and the central atrium that acts as a chimney. Air travels under specially designed classroom floors, out into corridors, up through the four-story atrium and out of the building, ensuring a constant exchange of fresh air.
- Photo voltaic cells with a solar generating capacity of about 6% of the building's energy use embedded in the atrium's south window panels (look for the blue cells).
- Innovative climate settings based on actual comfort versus standard protocols. Classrooms need A/C only about 4 hrs/year, compared to 100s of hours in a conventional building.
- Rooms with day lighting so that most are lit without electric lighting throughout the year.
- Occupancy sensors on lights and on certain outlets.
- A demo green roof to absorb rainwater, thus reducing runoff.
- A comprehensive demolition waste recycling program (97% of all demo materials were recycled).

18. Auto-free Zone - 13th Avenue

This bike-filled street used to be the main east-west auto route through town until the late 1970s when students barricaded the street in protest. Ever since then, 13th Avenue and most of central campus has been an auto-free zone (except for service vehicle access). Instructional uses are sited to make sure students can travel by foot from one class to another during their 10-minute class breaks.

19. Learn from the Past - Johnson Hall Awnings/Operable Windows

Awnings, such as these on Johnson Hall, are making a comeback. We can learn a great deal from our historic buildings as their original designs often relied on what are now considered sustainable measures. Simple solutions to cool buildings, such as reducing the lighting output, enhancing ventilation and day lighting, and installing exterior awnings, are always the first choice on campus. The campus long-range plan requires that new buildings have operable windows.

These are just some of the university's current efforts aimed at advancing environmental stewardship while supporting the institutional mission of the University of Oregon. We hope you will join us in working towards a truly sustainable community! Please return this brochure if you do not wish to save it for reference.