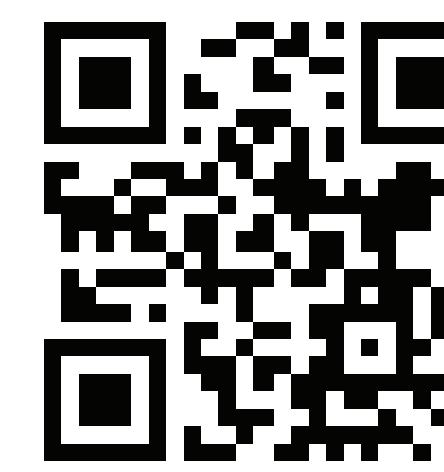


Blending Three Different Models for Interdisciplinary Sustainability: Local Partnerships, Service-Learning and Faculty Workshops

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The EnergyRight Solutions for Higher Education (ERSHE) grant was an 18-month partnership between Maryville College (MC), Tennessee Valley Authority (TVA), the largest public utility in the United States and Willdan Energy Solutions, a consulting company. Student interns generated energy savings and promoted awareness of energy efficiency and renewables through student-focused projects. Highlights of the program meets objectives of the Campus Sustainability Plan. (<http://www.maryvillecollege.edu/about/inside/sustainability/>)

OBJECTIVE: An annual audit will measure and report utility consumption by facility:

– Interns utilized a new Energy Savings Tool (EST), developed by TVA and Willdan Energy Solutions to input and track energy usage for multiple meters and all buildings on campus, starting in August 2013 interns also completed optimal light level analysis by campus building and put together detailed plans for delamping and installation of occupancy sensors with infrared technology that occurred during the internship.

OBJECTIVE: Progress towards energy independence will be marked by targeted reductions in consumption and projects that develop renewable energy sources

– 13 VendingMisers™ were installed on machines on the campus designed to reduce drink machine energy consumption by up to 54% or roughly 22,000 kWh and \$2,000 per machine.

OBJECTIVE: The College will select vendors who engage in environmental sustainability.

– Interns purchased Seventh Generation™ laundry packets and drying racks along with developing a brochure (see right) about energy-saving techniques to distribute to the entire student body and then administered a survey about awareness and use of the materials by the student population to determine further recommendations.

More about the program and initiatives can be found in an article published in *Sustainability: The Journal of Record*, February 2014 (link to article: QR Code, right).

local partnerships



TVA-ERSHE Intern Presentation at Faculty Workshop



TVA-ERSHE Interns & Faculty, TVA and City of Maryville Staff



sample TVA-ERSHE brochure, design by Ariana Rector

TVA **WILLDAN**
Energy Solutions **energyright solutions**
FOR HIGHER EDUCATION FOR HIGHER EDUCATION



service-learning

Piloted in Spring 2012 and expanded in Spring 2014, this program marries two advanced courses, Environmental Politics (ENV 345) and Design III (ART 323) to connect campus/community service projects visually to present to professional stakeholders. Using the Kolb model (1984) for problem-based service-learning (1: concrete experiences, 2: reflective observation, 3: abstract conceptualization and 4: active experimentation), graphic design students serve as subject matter experts (SMEs) for environmental politics teams to provide visual solutions to the projects. Highlights of the program meets objectives of the Campus Sustainability Plan. (<http://www.maryvillecollege.edu/about/inside/sustainability/>)

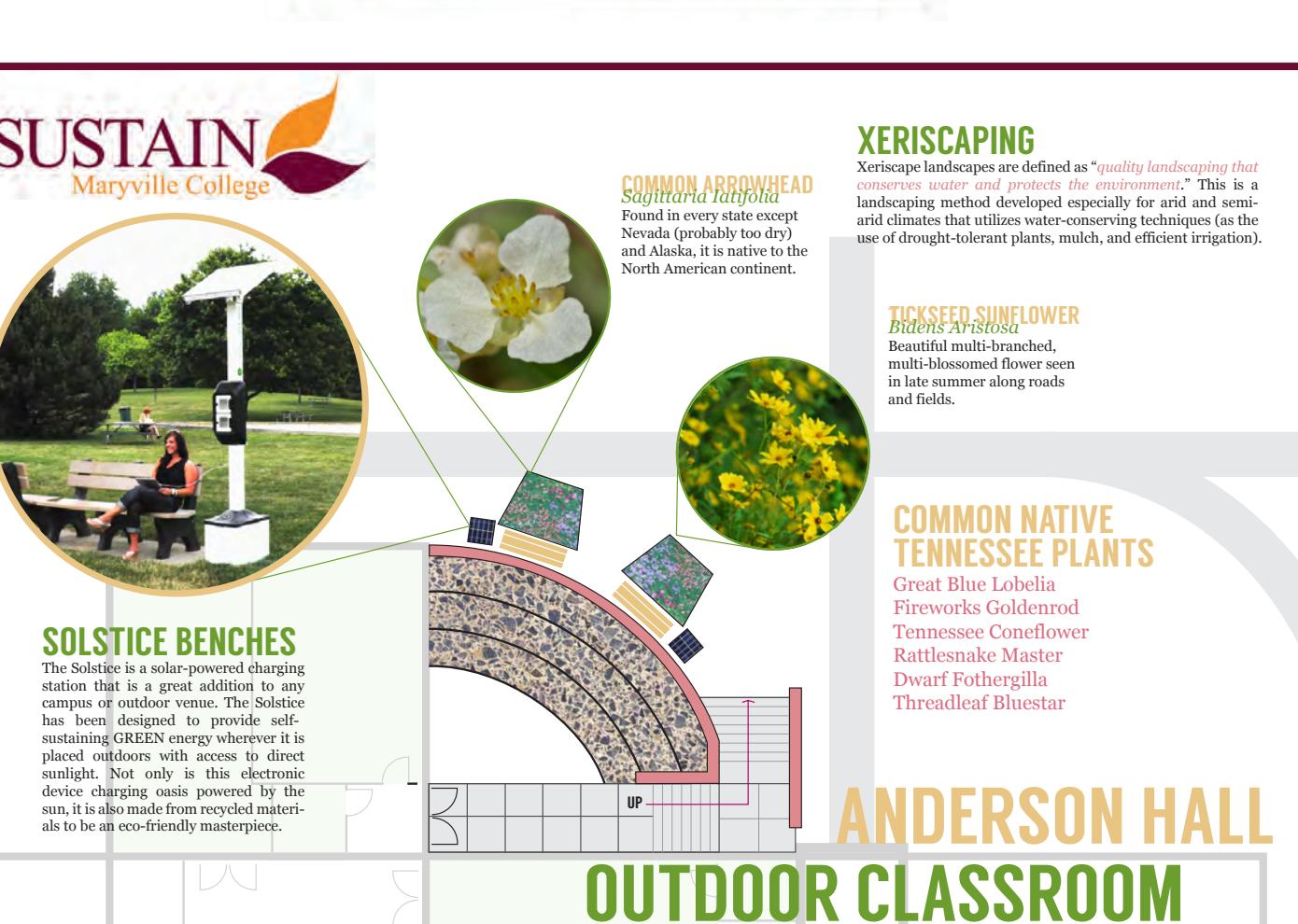
OBJECTIVE: Every student will engage in sustainability-related service-learning through existing core curriculum courses.

– Both of these courses are required for their respective majors (in Environmental Studies and Design) and each had a major component of the graded course centered around this collaborative project;

– Design students completed commitment forms (which both the designer, ENV 345 students and faculty signed), wrote personal learning outcomes, calculated and reported hours in order to meet the required 30 hours for the project and also wrote reflections which included responses to questions such as: What did you learn from the format of the project, including the structure, timeline, environmental issues/awareness/sustainable design, cooperation, design process or skills, and service-learning format? AND What you would change or what was challenging about the process, outcome, project management and structure of the project?

OBJECTIVE: Each academic division will identify new opportunities to integrate environmental sustainability into the curriculum, such as (but not limited to) coursework, internships, and practica to support a major and minor in environmental studies

– Sample projects completed within these two division (Social Sciences and Fine Arts) included: recommendations for xeriscaping and renewable energy for an outdoor classroom connected to a current building renovation, signage/kiosk for MC College Woods, “Sustain-a-Scor” Recycling program educational materials and program expansion, visual awareness of Leadership in Energy and Environmental Design (LEED) Gold Crawford House, Marketing and Design around local, organic food for a new campus culinary program, content for a Maryville community energy plan and others.



sample visual solutions from the campus service projects, Spring 2014
design by Sarah Austin (top, middle) and Ariana Rector (bottom)



More about the program and initiatives can be found in an article published from the AASHE 2012 conference proceedings, at (QR code, right):



faculty workshops

Started in 2011, this pedagogy-based program is modeled from the Association for the Advancement of Sustainability in Higher Education (AASHE). To increase course offerings connected to sustainability learning outcomes, expert faculty teach workshops for existing faculty on the philosophy of sustainability and provide road maps for integrating sustainability into their courses. Faculty then join the network of campus sustainability educators, with 25% of the faculty trained to date. Highlights of the program meets objectives of the Campus Sustainability Plan. (<http://www.maryvillecollege.edu/about/inside/sustainability/>)

OBJECTIVE: Faculty will engage environmental sustainability as a deliberate theme through teaching methods, practices, and evaluations.

– Faculty from all major divisions at the institution: Fine Arts, Behavioral Sciences, Education, Natural Sciences, Social Sciences, Humanities, Languages and Literature and Mathematics and Computer Science have participated in a faculty-led sustainability workshop since 2011.

– Workshops have included presentations by City of Knoxville, Tennessee Director of Sustainability, PlanET (A Regional Partnership of East Tennessee Communities) Coordinator, TVA-ERSHE Interns, and Director of Mountain Challenge, a Certified B-Corporation

– Faculty participants receive training in sustainability and resilience, participate in a ‘green and renewable energy campus tour,’ hear reports from previous workshop attendees about integration of sustainability within their courses over the past year with qualitative and quantitative results and complete a re-design of an existing course to meet sustainability education learning outcomes provided by the US Partnership on Education for Sustainable Development.

Class Project in THT 101: Calculate the Carbon Footprint of an MC Theatre Production			
Students will use the Fall production as their “lab,” addressing questions such as:			
Preproduction	Rehearsals	Set Construction	Sales and Marketing
How many literary and casting scripts will need to be produced?	How many people will be involved in rehearsals?	Select materials used and indicate their quantities.	How many posters will be produced?
How many pages will each script be?	Will rehearsals be off site?	What percentage of materials will go to waste during construction?	How many programs will have to be produced?
What delivery method will be used?	How will props and other rehearsal items be transported?	What percentage of total set materials will be recycled?	What percentage of paper used will be recycled?

sample slide of a project added to a theatre course from a faculty presentation



Intern Chase Moore discussing VendingMisers on the 'Green Campus Tour'



Mr. Scott Steele, Assistant Professor of English, reporting on integrating sustainability into an English Composition course



Dr. Mark O'Gorman, Associate Professor of Political Science and Coordinator of the Environmental Studies Program discussing the solar array at Mountain Challenge on the 'Green Campus Tour'