

**WCSU State of Sustainability 2015  
A Working Report on Sustainability**

**Presented to the WCSU Community**

**Prepared by:  
Honors 498: Nature, Sustainability, and Capitalism**

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*“The working definition for sustainability is an adaptive art, wedded to science that entails satisfying current needs without sacrificing future well-being through the balanced pursuit of ecological health, economic welfare, social empowerment, and cultural creativity. By providing this definition, we hope to clarify the focus of our project” – Leslie Paul Thiele*

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## **Executive Summary: WCSU State of Sustainability Working Report**

*Affirming the importance of education, training, public awareness, public participation, public access to information and cooperation at all levels on the matters addressed in this Agreement...*

These words are from the United Nations Paris Agreement regarding global Climate Change issued days ago on December 12, 2015. They affirm and create a duty for educational institutions to play their part in educating future citizens and workers who will be implementing the benchmarks and agreements reached. Teaching and practicing sustainability is no longer an option. It is an obligation to use the considerable intellectual and the status of WCSU to promote the implementation of this momentous agreement..

The purpose of this *State of Sustainability* report is to take stock of the good work already being done in the areas of sustainability, environmental awareness, and a student relationship with nature. We hope to increase awareness on campus about the importance of our environment to create a more sustainable school community. Through research, benchmarking, interviews with staff and faculty, and analysis of that information we recommend measurable actions to make our university more sustainable. This project is a unique educational experience that blends theory with action.

We engaged in this project in a spirit of increasing our understanding of our University. Any mistakes or misstatements, should there be any, were unintentional. We gave full effort to the fair and accurate portrayal of the state of sustainability at WCSU at this time.

One of the surprises was how much is already being done in regard to sustainability. What is needed is a mechanism to pull together all the good efforts of the WCSU community so that we can intentionally build on the momentum that already exists.

**Student clubs and Recreation** are making a difference in improving our school community and in protecting the environment. Clubs, such as Roots & Shoots, educate students about the importance of nature through service projects. The cultivation of biophilia can be endorsed by having contact with nature and in protecting the environment. Adventure Club enables students to interact with nature and appreciate its beauty through events like rock-climbing and canoeing; while the Recreation Department sponsors similar outdoor events, such as “Bike Day” and white water-rafting, to promote our love for nature. Based on our interviews, the results from our student survey, along with the background research of other universities, we have made several suggestions to increase awareness of sustainability and to make our campus greener. Some of these recommendations include: creating a sustainability club, holding classes that focus on this subject, and hosting more events pertaining to nature/ sustainability. With some minor

improvements and adjustments, we can certainly increase student involvement in sustainable acts.

**Higher Administration and Institutional Advancement** have a unique position in creating a more sustainable university. This report had the privilege of featuring input from President John B. Clark and Provost and Vice President of Student Affairs Jane McBride Gates. Notable accomplishments at the include four buildings, Centennial Hall, the Science Building and the Westside Campus Center, that were built to the US Building Council Leadership in Energy and Environment Design (LEED) standards which signify that they are energy efficient. In addition, WCSU became a charter signatory of the American College and University Presidents Climate Commitment. The office of Higher Administration shows great enthusiasm from the WCSU's President and Provost who emphasize efforts on sustainability that expand just outside the environment. Further research would include interviews with representatives from Institutional Advancement and Enrollment Services.

**Academic Schools**, particularly the Macricostas School and the Ansell School of Business play a pivotal role in enhancing sustainability on the curricular level. We selected these schools because the careers that result from the programs within them have the potential to make great change in the state of sustainability of our society. We examined their course offerings to determine if sustainability is a curricular initiative. To improve upon the already established drive towards sustainability, WCSU, and other state schools rather than just private institutions, must incorporate sustainability into the overall curriculum at a strategic level. This means all degree programs should include classes that specifically connect the importance of sustainability to the future field options for each program. By doing so, students will be given a sufficient education to not only live sustainably, but will also be able to instigate change towards a sustainable future in their future careers. To succeed in this goal of incorporation, curriculum standards must be developed to allow branches of WCSU administration to agree on a sufficient background for sustainability in curricula. We recommend that curriculum must enable students to be aware of values that guide their future professional career and collaboration in tackling global issues. All courses in the catalog that have sustainability in the syllabus should be noted. By incorporating sustainability into the general interest of the university, the school will promote an environment in which students are more likely to pursue careers in the field. Therefore, it would be more plausible to have a minor, or even eventually a major, in Sustainability. In five years, we recommend that sustainability be its own competency in the general education requirements of WCSU.

**Finance** operations at WCSU are critical to enabling the University to sustain and embark on new green projects and in funding these initiatives. WCSU has different sources of money from the State of Connecticut including the appropriated money from the budget. This funds the operating expenses of the university, such as salaries and utilities. Large projects and large

facilities expenses are usually funded with bonded money. WCSU shares this bonded money with other schools in the CSU system. For additional programs, grants are used to supplement costs. In recent times, the budget has decreased and may decrease in the future, making it difficult to fund sustainable projects. Currently, there is no money specifically set aside to fund sustainable initiatives. However, due to financial incentives and the desire to make the university more cost effective, some sustainable projects have been implemented and more have been identified for the future.

**Residential Life and Facilities Management** are critical in efforts to reduce WCSU's carbon consumption. The UN Summit of 2015 for Climate Change is about reduction of CO<sub>2</sub> Emissions. We would want WCSU to be apart of this global revolution. Sustainability is a practice implemented within the facility of WCSU. The facilities department is attempting to optimize energy consumption, trash reduction and environmental protection by constantly looking for new innovation; however, more can still be done. Western Connecticut State University's energy is currently run on oil and natural gas (only on Midtown Campus), solar panels would be an ideal option in the future. While our sister schools are already implementing solar instruments to lower the carbon footprint on their campuses, WCSU has yet to make the same change. Therefore, WCSU personnel should review the availability of them and possibly implement. WCSU student awareness of sustainability requires attention. We recommend a plan be instilled to teach/assist resident students to be more thoughtful in terms of sustainability and how they live.

**Sodexo and Dattco**, as contracted entities, have both risen to the occasion at Western Connecticut State University. Their efforts to educate their employees and rearrange their priorities with sustainability in mind have been successful thus far, but there is room for improvement. Sodexo's food service has slowly but steadily increased the use of local and organic products while working to reduce their environmental footprint. Their efforts on campus have since gone relatively unnoticed, and we recommend that Sodexo continues to reach out to the student base. This will enable students to be better prepared to improve the campus environment through awareness of their involvement in sustainability. Dattco is a major transportation supplier in the state. However, their research and studies into sustainable actions have yet to bear tangible results. Their employee education system to help drivers economize fuel consumption in their driving is helpful, but it is only one small step towards fully sustainable transportation. Vehicles which offer sustainable services through alternative fuels are greatly desired; however, budget constraints, contractual obligations, and the current state of technology do not allow for immediate improvement. Both companies have shown noticeable efforts, but the future must yield more sustainable actions, some of which are contained in our recommendations.

## **State of *Sustainability Working Report* Summary of Recommendations**

### **Section One: Student Clubs & Recreation**

Director of Facilities and Operations Luigi Marcone is already taking on the green initiative. He made several contributions in the energy management and sustainability efforts, such as reducing energy use and cutting its cost, at WCSU. Roots & Shoots Secretary, Christopher Gillotte, adds that “we should definitely bring more attention to Luigi's team and what he has done because their efforts should be recognized.”

Other recommendations that would further involve students with nature on campus include:

- Creating a sustainability club; this correlates with all of WCSU's values in its Mission Statement: excellence, curiosity, dialogue, engagement, opportunity, and respect
- Working with club leaders from different universities who were successful in presenting sustainable events, activities, and long-term practices; this correlates with all of WCSU's values in its Mission Statement
- Generating more collaboration and “team-effort” between student clubs to raise awareness and get students more involved in sustainable efforts; this correlates with all of WCSU's values
- Hosting contests pertaining to sustainability (maybe testing student knowledge on sustainability, while also providing compelling facts); this correlates with WCSU's dialogue, engagement, and opportunity values
- Taking note of the kind of items receptacles carry (garbage, plastic, cans); this correlates with WCSU's excellence and respect values
- Purchasing eco-friendly products; this correlates with WCSU's excellence, engagement, and respect values
- Having the university and its clubs host more outdoor, recreational events; this correlates with WCSU's engagement and opportunity values
- Having classes outside, such as using the field adjacent to the Science Building; this correlates with WCSU's dialogue, engagement and opportunity values
- Having classes that focus on the outdoors/biodiversity/climate change; this correlates with all of WCSU's values
- Promoting and advertising sustainability through WCSU's student-run Election Connection show, news packages, and PSAs in which students create and film themselves; this correlates with all of WCSU's values in its Mission Statement
- Turning off anything (computers, cell-phones, etc.) that will distract us from absorbing everything nature has to give; this correlates with the values of opportunity, engagement, and respect



Some changes that can definitely start taking place could be:

- “Have a day where there is not Wi-Fi, or Wi-Fi is only available outside in places like the Quad”- Brennan Diaz, WCSU Creativity & Compassion Club President

Also, any club events on that day could all be hosted there which will encourage students to move to that area and perhaps participate in these events.

- “Making a Sustainability class mandatory for freshman, or having science professors add a section on sustainability into each science/lab class curriculum”. -Brennan Diaz, WCSU Creativity & Compassion Club President

This will help students learn earlier on about being more sustainable and draw connections between students and nature.

- “The key is to immerse yourself in the natural world, and once they experience it, it becomes easier and easier to do. Nature is so healing” -Kristina Otfinoski, WCSU Adventure Club President

If hiking is not manageable, there is even a Nature Preserve right on Westside Campus. Kristina asserts: “the trails are easy, but it’s still beautiful and provides a medium through which students can be introduced to connecting with nature”. Since students lack a lot of outdoor education, this is an easy way to get started.

- Most importantly, we should all come together and just think, “Think of ways that are sustainable but also cost efficient at the same time. Aim for goals that are realistic”. -Israel Kabemba, SGA Vice President of Student Relations

The Director of Center for Student Involvement, Dennis Leszko also emphasizes that the trail on Westside through the Nature Preserve is underused and as an approach to progress our connection with the natural world, he suggests that the trail be promoted through student clubs and the SGA.

All of these suggestions are designed to simply bring awareness to students because not everybody knows the important role that nature plays in their lives. Just as Adventure Club President Kristina states, “Making sustainability a personal issue for students is key. Students won’t work towards what they don’t care about.”

The campus is here to cater to student’s needs; however, one main problem is the difficulty in gathering student input for change. As a result of the lack of participation from

students, it is challenging to make modifications on campus. There should be better methods to collect student information and feedback, such as via social networking sites like Facebook or Twitter, or setting up public polls/events in the Student Center. With more manageable ways to contact students, it would be more feasible to compile ideas and suggestions for renovation.

## **Section Two: Higher Administration and Institutional Advancement**

In addition to our research, we propose the following recommendations for the Higher Administration at WCSU:

- Reinstatement of WCSU signature on the American Colleges and Universities Presidents' Climate Commitment by Fall 2017.
- Based on Dr. Clark's previous experience in Sustainability, we recommend that he spearhead a joint committee of communication and partnership with sister schools on the subject of sustainability by 2017.
- Research should be done on the topic of university's divestment from fossil fuels and gas by 2018. Meaningful action should be taken by 2025.
- In order to create a more interconnected network of students and faculty focusing on this subject.
- Reinstatement of the Annual Sustainability Report for WCSU by Fall 2017.
- Creation of a central Office of Sustainability that utilizes faculty, staff and student (i.e. clubs like Roots and Shoots and the Jane Goodall Center) input in order to create a more sustainable university by Spring 2017.
- In addition to the Office of Sustainability, a WCSU sustainability website that features our efforts to be sustainable and further information for interested viewers.
- Creation of various courses on sustainability taught by current faculty as well as outside experts in order to foster awareness on sustainability.
- Creation of scholarships for students interested in sustainability and sustainable practices.
- The current Mission Statement reads: Western Connecticut State University changes lives by providing all students with a high-quality education that fosters their growth as individuals, scholars, professionals, and leaders in a global society."
  - It does not explicitly reference sustainability, so we recommend that **Respect for the Environment** be added as a Core Value. "We value the rights of all inhabitants of our planet, present and future, to live comfortably and sustainably."

- The following is a reworked excerpt from the current Mission Statement page on the WCSU website: 5. Creating and maintaining a sustainable campus that will foster greater awareness and connection to the environment for students, staff and faculty.

### **Section Three: Academic Schools**

By 2018, we recommend that WCSU incorporates sustainability into the overall curriculum at a strategic level, enforcing that all degree programs include classes that specifically connect the importance of sustainability to the future field options for each program.

The following actions must be taken to ensure success in this transition:

- Curriculum standards developed to allow branches of WCSU administration to agree on a sufficient background for sustainability in curricula.
- Curriculum must enable students to be aware of values that guide their future professional career and collaboration in tackling global issues.
- Sustainability training must be provided to professors to ensure an understanding of the topic and how it relates to their respective subjects.
- All courses in the catalog relating to sustainability need to be noted.
- Provide a minor of Sustainability to promote students to pursue careers in the field.
- Sustainability as its own competency in the general education requirement.
- Incorporate sustainability into the mission statements of each of the academic schools.
- Revising the curriculum of the education department to help future teachers incorporate sustainability into their classrooms.
- The Jane Goodall Center, the Center for Compassion, Creativity, and Innovation, the Conflict Resolution Project, the Weather Center, the Global Access Project, as well the Nature Preserve and Planetarium must collaborate amongst themselves and with others to increase awareness of sustainability.
- The Deans for all of the schools at WCSU would benefit from researching their counterparts at other universities to see how sustainability is incorporated.

### **Section Four: Finance**

- A clearer breakdown of the financial statements showing how much is spent on various areas including sustainability efforts.
- Currently, the operating budget is given out and not monitored for sustainable initiatives. Instead, we recommend that a sustainable requirement is included for each part of the budget and a minimum amount must be spent toward increasing sustainability.

- Whenever something breaks, all sustainable alternatives should be considered and implemented.
- Close some buildings on off times to save electricity and stay within budget and tackle issues with sustainability.
- Remotely controlling temperature is used in some buildings, setting the temperature lower at night and then having it warm up in the morning. This should be instituted in all buildings.
- Coordinate with CSU schools and the Office of the State Treasurer to ensure the school investment portfolios do not include stocks and interests in fossil fuel companies.
- Erika H. Steiner, the System CFO of CSCU says that because the BOR is a quasi-agency of the state, they do not have control over their investment portfolios. WCSU including the sister schools and Colleges do have cash accounts but they are handled and invested by the State Treasurer, Denise L. Nappier's office. Thus, we recommend that this gets analyzed and that some type of position or stance is taken. If this has already been analyzed and a stance is already taken then we recommend the BOR inform the staff, faculty, and students.
- CSU sometimes gives initiatives that is required for all state schools to implement. The university can propose a green initiative for all state schools to follow.
- We recommend funding an Office of Sustainability & Recycling Center
  - This could be funded by grant money so it will not cause any financial strain on the operating budget.
  - As a part of this center, we will utilize the school newspaper for free publicity. We will propose a section in our newspaper wholly dedicated to Going Green Ideas/Helping the Environment to raise awareness.
  - The Recycling Center will be very clear and concise about what you can and cannot recycle. There will be more recycling bins throughout the university and more signage about recycling.
  - This office can expand upon the Summer STEM Experience that is grant funded to benefit the whole university. The program is currently conducted on campus during the summer, but has components during the academic year that are off campus. This project does not directly impact environmental sustainability on campus, but plans can be proposed to change this.
  - A program based on Borrow a Bike in NYC can be implemented. Students have to pay to borrow the bikes and the money raised can go back to the center.
  - The center can institute a Swap Shop, where you can find office supplies for free. This will be intended for University faculty and staff to exchange office supplies in new or good condition that are no longer being used or needed. The Office of Sustainability & Recycling Center stores all Swap Shop items.

## **Section Five: Residential Life and Facilities Management**

### **A. Recommendation for university members**

#### **1. On campus**

Members of WCSU community should have a basic knowledge of energy saving. Every dorm room should have a poster reminds students to save energy such as turn off the light when the room is unoccupied, saving water with quick shower, recycle, and dispose wastes properly. “Live the way you live at home,” (Luigi Marcone).

#### **2. Commuters**

It is highly recommended for commuter students to carpool. Mr. Spremulli states, “For commuters, I highly recommend them to carpool. I've been have problem with parking, and if they could start carpooling, it not only help with parking problem, but it also helps with reducing emission.” Therefore, we recommend to host events at school which provide the benefits of carpooling. Students and faculty should be conscious of their carbon footprint left on their campus.

### **B. Recommendation for facility department**

1. We are encouraging the facility department to keep looking for renewable energy such as solar energy. Currently Michael Spremulli, Facility Operator, is looking to purchase solar company and import that power to WCSU.
2. By 2018, additional charging stations will be provided at more locations. Currently we have two stations at White Street garage on Midtown Campus and an additional two stations in Centennial Hall parking garage
3. Single-Stream Recycling provided by a company with a low turnout rate for contamination implemented by 2020. Although, it is a high-cost operation, it should be achievable by utilizing the savings in labor-resources.
4. By 2020, fuel cell energy should be expanded to additional buildings.

## **Section Six: Sodexo and Dattco**

1. Call for an analysis of cost, benefits and budget for WCSU transportation (Renewable Energy vs. Gas). Continue to look for companies within our budget that incorporate sustainability into their business practice.

2. Optimize bus run times based on class times (use smaller buses for off-peak times). Take into account the usage during the weekly schedule. Implement by 2018.
3. Put more time in between classes so that students are more able or likely to take the shuttle between the campuses (thirty minutes in between every class). With more space between classes, students will have more freedom concerning their schedule. Students would be more likely to take the shuttle over driving their own car if they had the ability to fit classes from both campuses into their schedule. More flexible schedules would also be an incentive for commuters to take the shuttle.
4. Expand the permaculture garden to provide more produce to Sodexo to use in meals, not just catering orders by 2017.
5. Involve more students in management of the permaculture garden. Investigate possibility for student employment positions or independent studies with attached credit hours. Implement by 2020.
6. Increase the current 85% of local or organic food provided to 100% by 2025.
7. Repurpose the Sodexo compost liquid into plant fertilizer using Terracycle by 2020. This fertilizer can be used by the permaculture garden or sold to local organizations.
8. Invite speakers to talk on sustainability and environmental issues at WCSU such as Ryan Harb, the founder of Umass Amherst permaculture garden, a representative from Terracycle, talking about upcycling of waste, or Bill McKibben, a notable environmental activist. WCSU should host at least one environmentally conscious speaker per semester. This can be achieved within the next year.
9. Raise student awareness of the issues at hand regarding sustainability. Incorporate choice architecture in all future advertisements.

### **Section Seven: Career Development**

During the semester Lisa Temkin Carrozza, associate director of the WCSU's Career Development Center presented an overview of careers and programs in sustainability and the environmental and "green" sector. Based upon her presentation we make the following recommendations for the Career Development Center:

- Further educate students and faculty regarding careers in sustainability and green sectors so that students are aware of options in those fields :
  - Actuarial Science
  - Analyst
  - Aquarist
  - Consultant
  - Conservation Scientist

Chemical Engineer  
Chief Sustainability Executives  
Civil Engineer  
Environmental Engineer  
Environmental Public Relations Specialist  
Geophysical Engineer  
Geoscientists  
Health and Safety Engineer  
Industrial Engineer  
Landscape Architect  
Natural Sciences Managers  
Operation Managers  
Petrologist  
Soil Conservation Technician  
Wind Energy Engineer  
Zoning Technician

- Have Ms. Temkin Carrozza make the presentation she prepared for us part of the presentation rotation/collection of the Career Development department.
- Enhance efforts to inform and guide students toward to green jobs in the fields of sustainability and environmental fields and provide students with the resources to find them.
- Invite green or sustainable companies to the career fair. For example, the top green companies located in Connecticut that could be approached are:
  - Agrifuels, LLC
  - Agrivolution, LLC
  - Ameri Energy Group
  - American Oil Solutions
  - Beau Frog Technologies
  - Eco Hybrid Solar
  - Electric Truck LLC
  - FXQ Engineering Group
  - Garage Juice Bar, LLC
  - HEVO Power
  - KnipBio
  - RPM Sustainable Technologies
  - WattJoule

Source: (<http://www.ct.org/closer-look-energy-environmental-green-tech-companies-watch/>)

- Make sustainability and environmental efforts part of the criteria in selecting companies that are represented at career fairs, internships, and on-campus interviews.
- Create clear and concise WCSU employer standards for sustainability and environmental practices so companies are aware of University standards.

- Emphasize and provide further information about international opportunities and NGOs in the area of sustainability as viable and fulfilling employment options.
- Actively promote Ms. Temkin Carrozza's presentation to instructors and include in class curriculum across majors.
- Require that freshmen (as part of FYE) and seniors (as part of a capstone activity in their major) attend presentation on job search, career options, and resume building.
- Ms. Temkin Carrozza make a presentation to University administration regarding the growth of the sustainability and green sector to help inform its goals and decision making in that regard as a programmatic, occupational and institutional priority for WCSU.



## **Section One: Student Clubs & Recreation**

By: Li Ting (Ada) Lin & Choi Ying (Crystal) Wong

### **I. Introduction**

Our area focuses on Student Clubs & Recreation. In the “Summary” section, you can find brief abridgments of our interviews with several executive members of student-related organizations and clubs to determine sustainable events that have already occurred or will be transpiring in the future.

In the section entitled “Student Survey”, we analyzed data regarding the practice and awareness of sustainability on our campus, which was collected from the responses of 77 WCSU students via Survey Monkey.

The “Benchmarking & Outside Research” section contains documentations of other previous environmentally-friendly programs that took place on our own campus and in other colleges/ universities, including our sister school: Eastern Connecticut State University (ECSU).

The “Future Plans” segment provides an outline of green action plans proposed by our student organizations, which are already in the pipeline.

Finally, the appendix consists of data tables transferred from our “WCSU State of Sustainability” survey, as well as, a list of WCSU student clubs/ organizations that are related to sustainability.

### **II. Summary**

At WCSU, there are several environmental clubs or clubs that involve any aspect of nature. The main one is Jane Goodall’s Roots and Shoots who aims to “give young people the opportunity to truly make a difference locally, nationally and globally, through service projects promoting care and concern for the environment, animals and human communities.”

(<http://www.wcsu.edu/cyberchimp/index.htm>)

The second is the Adventure Club, which is not necessarily promoting the act of sustainability, but rather involves student interaction with nature.

SGA has the power to propose actions based on the request of students with the intentions of improving students’ experience and involvement at WCSU. Through an interview with Israel Kabemba, SGA Vice President of Student Relations, explains that WCSU is mainly focused on the recycling aspect of sustainability and taking note of student consumption choices at Sodexo. However, in the near future, there will be some changes that include giving life to the campus, such as planting trees and growing gardens.

### III. Student Survey

First, we would like to emphasize that it was a challenge to obtain information and feedback from students for our survey with current mechanisms of distribution, including via WCSU's weekly e-newsletter: WOW ("What's On at Western"), which is sent to the emails of every student attending WestConn. Additionally, we have disseminated the survey to a number of classes and student clubs/organizations, such as Roots & Shoots, to be emailed to affiliated students.

A total of 77 students responded to our "WCSU State of Sustainability" on Survey Monkey. The survey consists of nine questions of various formats (multiple choice, open-ended, and dichotomous). These questions address different areas of sustainability, including its definition, current practices and obstacles, and future prospects based on student awareness, engagement, and interest. Three of the most significant questions will be summarized and explored below. For our purposes, original percentages from the data charts generated by Survey Monkey have been rounded to the nearest whole number (i.e., 10.56% is rounded to 11%). See the appendix for results on all the questions and answers from the survey.

#### **"How often do you spend time outside/ interact with nature?"**

- 40% of respondents claimed that they do so once in awhile
- 35% stated about half the time
- 17% said most of the time
- 8% responded always to spending time outdoors or in nature

Based on the results, although no students reported never interacting with the outside world, it is evident that we are increasingly becoming more and more disengaged with it, which may be alarming because sustainability often emanates from the cultivation of biophilia, our innate and intimate love of nature, which helps foster our need to protect the environment. Thus, interacting with nature can strengthen and secure our biophilia. Likewise, spending time outdoors can benefit our individual health and vigor mentally, physically, and spiritually.

#### **"What do you think is the BIGGEST obstacle to becoming more green/ sustainable at WCSU?"**

- 39% of students indicated that the awareness of the issue was the main challenge
- 22% of the students attributed the fault to themselves
- 19% denounced money as the primary barrier
- 18% of students listed other factors
- 1% indicated the staff and administration

It appears that awareness is deemed among the student body to be biggest contributor in preventing our campus to become greener. Strategies to promote awareness and to educate students on sustainable practices must be implemented in order to resolve this setback, which in turn, can encourage students (the second biggest barrier) to become more involved in inducing and pushing for more sustainable efforts on our campus, such as recycling. Within the 18% of students naming other obstacles, most wrote that they believed all the listed factors contributed to the impediment of sustainability on our campus. Still, a few students identified other variables to play a role, such as apathy, or the indifference to the issue.

**“What is the BEST way for WCSU to promote sustainability and its awareness?”**

- 55% of students selected campus-sponsored events/ activities related to sustainability
- 23% supported semester courses on sustainability
- 14% considered other possible interventions
- 8% believed student clubs organizing sustainable events would be most effective

According to the results, the majority of students believe campus-sponsored events can be successful in increasing knowledge as well as the advancing sustainable endeavors on WCSU. This indication may hold ramifications for the reactions and likelihood of participation/ involvement among the student body in such experiences. Some of the suggestions made by 14% of the respondents were: showcasing more flyers, implementing more accessible recycling bins, and integrating sustainability into the curriculum, etc. Having additional classes on sustainability and incorporating it into the curriculum was also a resounding retort in expanding the appreciation and practice of sustainability on campus.

#### **IV. Benchmarking & Outside Research**

The Recreation Department at Western Connecticut State University (WCSU) offers several recreational events and physical activities to foster physical and mental well-being of the community on our two separate campuses. Some of these entertaining outdoor events, according to the Director of Center for Student Involvement Dennis Leszko, include “Bike Day” and white water-rafting. Such outdoor, recreational activities can facilitate the cultivation of biophilia.

Meanwhile, there are a number of student clubs and organizations at WCSU that have already incorporated sustainable philosophies and practices on campus. Through Roots & Shoots, students are able to immerse themselves in service projects that benefit the environment, species, and our fellow human beings on a local, national, and global level.

Roots & Shoots enables colleges and universities worldwide to strengthen their associations with local communities and address a wide variety of environmental issues and concerns. For example, student members in Roots & Shoots at WCSU were involved in an action

campaign to shut down a local landfill, and identified neighboring wetlands that were in need of protection. (<https://www.rootsandshoots.org/content/spotlight-wcsu-roots-shoots>)

On April 27, 2015, Roots & Shoots also completed the construction of a 900-square-foot permaculture garden located on our very own campus in the Western Garden behind the Midtown Science Building. Roots & Shoots' President Elect Michelle Bissett, who is currently a junior at WCSU, says: "We hope it will be small place where the community can embrace themselves and other people in the garden, and we also aspire to have the food grown in the garden to be supplied to our school's food catering services."

(<https://www.rootsandshoots.org/content/spotlight-wcsu-roots-shoots>) The garden comprises of assorted fruits and vegetables, including herbs, flowers, kale, arugula, garlic, chives, onions, and distinct berries. Additionally, Asian Pear Trees, Native American Companion Plants, such as corn, squash, and beans are also supplemented into the allotment.

(<http://www.wcsu.edu/goodall/permculture.asp>)

Many goals outlined in WCSU's Compassion & Creativity Club correlates with the components of sustainability, such as generating awareness of the significance of compassion, creativity, and innovation on a daily basis on a local and global scale and executing related ideas and investigations into research, discussions, and events.

(<http://www.wcsu.edu/compassioncreativity/>) Recently, the Compassion & Creativity Club joined forces with the Center of Compassion, Creativity, and Innovation (CCCI) to establish a Compassion Garden at City Hall to celebrate the community's diversity. The CCCI is founded by Christopher Kukk, the director of the Honors Program and a professor in the Political Science department at WCSU. In the semester of Fall 2014, CCCI partnered with The Ansell School of Business to sponsor a forum: "Ethics in Business: Challenges for a Changing World." This event generated examinations and activities around Ansell's issues and efforts in sustainability, CSR and ethics.

Our sister school, Eastern Connecticut State University (ECSU), has an Environmental Club which focuses on how people affect the health of the planet. They also promote awareness and implement sustainability efforts within the school and adjoining community. Additionally, ECSU's Outdoors Club educates and offers numerous opportunities for students to interact with nature. (<http://www1.easternct.edu/studentactivities/files/2013/06/OutdoorsClub.pdf>)

ECSU has their own Community Garden as well, wherein produce is grown and given to non-profit organizations, such as the Covenant Soup Kitchen.

(<http://www1.easternct.edu/greencampus/green-initiatives-2/>)

There are also several green clubs and organization founded/ led by faculty and students at Appalachian State University in North Carolina. For instance, the Sustainability & Environmental Education Club (SEEC) enables students to gain knowledge about how sustainability works through environmental education programs. Students also address environmental issues from an ecological, social, and economic standpoint. Furthermore, the club

sponsors hands-on ventures and events, such as teaching others how to garden along with other methods to engage with nature. (<http://sd.appstate.edu/community/clubs-organizations>)

The Blue Ridge Conservancy Appalachian State University Campus Chapter reinforces the concept that we protect the things we love. Its goal is to care for the territory and body of water located in northwestern North Carolina region. Endeavors involved picking up trash on trails, hikes, and other outdoor activities that permits students to connect with the environment on a personal level. (<http://sd.appstate.edu/community/clubs-organizations>)

## V. **Future Plans**

These clubs along with SGA's approval, has already accomplished a great deal; however, they are planning to push for a more sustainable and green campus. According to the Secretary of Roots & Shoots, Christopher Gillotte, this includes:

- Pushing for more recycled goods
- Harvesting more recyclables
- Sponsoring more documentaries like "Trashed", "Gasland", "Tapped", "Food Inc.," etc.
- Having more Westside campus nature walks
- Planting more trees (for the "Adopt-a-Spot" program)
- Continuing clean-ups and Animal Week
- Bringing a climate specialist and an anxiety therapist on campus next semester
- Hosting a poetry contest on sustainability and going green
- Earth Day events

In addition to simply putting goals out there, we should make things fun to increase student involvement. A great example is SGA's plan to implement basketball hoops onto recycling bins to get students to recycle more. To have students more willing to recycle also requires awareness, as the SGA Vice President of Student Relations, Israel Kabemba points out, "there should be more recycling bins placed in more visible areas."

Pushing towards more green initiatives is important, but Brennan Diaz, the President of Creativity & Compassion Club, believes that it is just as crucial to "get others involved" whether we joined our efforts with another club or with another city.

## VI. **Recommendations**

Director of Facilities and Operations Luigi Marcone is already taking on the green initiative. He made several contributions in the energy management and sustainability efforts, such as reducing energy use and cutting its cost, at WCSU. Roots & Shoots Secretary,

Christopher Gillotte, adds that “we should definitely bring more attention to Luigi's team and what he has done because their efforts should be recognized.”

Other recommendations that would further involve students with nature on campus include:

- Creating a sustainability club; this correlates with all of WCSU's values in its Mission Statement: excellence, curiosity, dialogue, engagement, opportunity, and respect
- Working with club leaders from different universities who were successful in presenting sustainable events, activities, and long-term practices; this correlates with all of WCSU's values in its Mission Statement
- Generating more collaboration and “team-effort” between student clubs to raise awareness and get students more involved in sustainable efforts; this correlates with all of WCSU's values
- Hosting contests pertaining to sustainability (maybe testing student knowledge on sustainability, while also providing compelling facts); this correlates with WCSU's dialogue, engagement, and opportunity values
- Taking note of the kind of items receptacles carry (garbage, plastic, cans); this correlates with WCSU's excellence and respect values
- Purchasing eco-friendly products; this correlates with WCSU's excellence, engagement, and respect values
- Having the university and its clubs host more outdoor, recreational events; this correlates with WCSU's engagement and opportunity values
- Having classes outside, such as using the field adjacent to the Science Building; this correlates with WCSU's dialogue, engagement and opportunity values
- Having classes that focus on the outdoors/biodiversity/climate change; this correlates with all of WCSU's values
- Promoting and advertising sustainability through WCSU's student-run Election Connection show, news packages, and PSAs in which students create and film themselves; this correlates with all of WCSU's values in its Mission Statement
- Turning off anything (computers, cell-phones, etc.) that will distract us from absorbing everything nature has to give; this correlates with the values of opportunity, engagement, and respect

Some changes that can definitely start taking place could be:

- “Have a day where there is not Wi-Fi, or Wi-Fi is only available outside in places like the Quad”- Brennan Diaz, WCSU Creativity & Compassion Club President

Also, any club events on that day could all be hosted there which will encourage students to move to that area and perhaps participate in these events.

- “Making a Sustainability class mandatory for freshman, or having science professors add a section on sustainability into each science/lab class curriculum”. -Brennan Diaz, WCSU Creativity & Compassion Club President

This will help students learn earlier on about being more sustainable and draw connections between students and nature.

- “The key is to immerse yourself in the natural world, and once they experience it, it becomes easier and easier to do. Nature is so healing” -Kristina Otfinoski, WCSU Adventure Club President

If hiking is not manageable, there is even a Nature Preserve right on Westside Campus. Kristina asserts: “the trails are easy, but it’s still beautiful and provides a medium through which students can be introduced to connecting with nature”. Since students lack a lot of outdoor education, this is an easy way to get started.

- Most importantly, we should all come together and just think, “Think of ways that are sustainable but also cost efficient at the same time. Aim for goals that are realistic”. -Israel Kabemba, SGA Vice President of Student Relations

The Director of Center for Student Involvement, Dennis Leszko also emphasizes that the trail on Westside through the Nature Preserve is underused and as an approach to progress our connection with the natural world, he suggests that the trail be promoted through student clubs and the SGA.

All of these suggestions are designed to simply bring awareness to students because not everybody knows the important role that nature plays in their lives. Just as Adventure Club President Kristina states, “Making sustainability a personal issue for students is key. Students won’t work towards what they don’t care about.”

The campus is here to cater to student’s needs; however, one main problem is the difficulty in gathering student input for change. As a result of the lack of participation from students, it is challenging to make modifications on campus. There should be better methods to collect student information and feedback, such as via social networking sites like Facebook or Twitter, or setting up public polls/events in the Student Center. With more manageable ways to contact students, it would be more feasible to compile ideas and suggestions for renovation.

## **Section Two: Institutional Advancement and Higher Administration**

**By Nicole Mair and Gail Murray**

### **I. Introduction**

The offices of Institutional Advancement and Higher Education are charged with maintaining and supervising an institution separate from academic affairs. As a result, these offices have a unique position in creating a more sustainable university. The purpose of this section is to highlight the role Higher Administration officers at Western Connecticut State University (WCSU) in our efforts to become a more sustainable university. Specifically, this report had the privilege of featuring input from President John B. Clark and Provost and Vice President of Student Affairs Jane McBride Gates. Section II gives an overview of the current happenings at WCSU. Section III benchmarks the sustainability efforts at institutions like WCSU and other organizations in Danbury, CT. Section IV gives an overview of future plans for sustainability at WCSU, communicated by President Clark and Provost McBride Gates. Section V concludes with our recommendations to the Higher Administration. Future research into WCSU would include interviews with representatives from Institutional Advancement and Enrollment Services.

### **II. Summary of What is Happening at WCSU**

In 2007, then WCSU President James Schmotter signed the American College & University Presidents Climate Commitment (ACUPCC) that “pledg[ed] to take significant steps to address global warming by reducing the university’s greenhouse gas emissions and ultimately reach climate neutrality.” By signing before September 15, 2007, President Schmotter became a Charter Signatory. At the time, current goals included:

- Development of a campaign to encourage ridesharing
- Investigation of renewable energy sources such as fuel cells to allow the university to control energy costs while producing power that is environmentally friendly
- Mapping our emission footprint

The WCSU website features a report entitled “Sustainability: A report to the Board of Trustees of the Connecticut State University System” from May 15, 2008. The report lists goals and accomplishments aimed at decreasing the university’s footprint in our community:

- Goal to reduce electrical consumption by 1.5% per square foot/per year
- Electrical consumption decreased by 10.1% from 2006 to 2007; the campus as a whole reduced consumption by 6.2%
- To maintain natural gas and heating oil usage at current levels
- Heating costs decreased by \$45,600 from 2006 to 2007



- Recycling program that reduced trash disposal by 38% at the end of FY07/08; recycled 112,000 pounds of paper and cardboard and more than 2,000 pounds of recyclable materials
- Signed agreements with the Connecticut Office of Policy and Management to participate in a passive solar collection system “Beta test” to be installed on the roof of University Hall, projected to provide enough hot water for all occupants
- The report also boasts that the three buildings most recently constructed at WCSU (at that time: Centennial Hall, the Science Building and the Westside Campus Center) were built to the US Building Council Leadership in Energy and Environmental Design (LEED) standards. The LEED standards signify that the facility is energy efficient and was built in a way that conserves resources. More recently, in 2014, the Visual and Performing Arts Center was certified as LEED Silver by the United States Council on green Buildings. Further research did not find updated sustainability reports.

Also, there have been several events aimed at increasing students’ awareness and understanding of the importance of sustainability:

- On Tuesday, March 25, 2014, the Ansell School of Business hosted a forum on sustainability, corporate responsibility and ethics called “Sustainable Energy Solutions?: Critical Next Steps for Renewable Energy Integration”. The panel featured SunEdison Managing Director of Regulatory Affairs for the Eastern United States, Fred Zalzman and Northeast Utilities Managers of Pricing Strategy and Administration Edward Davis. Wil Chow Esq. moderated the discussion.
- On Friday, March 8, 2013, Ryan Harb a “Permaculture Pioneer” gave a talk called “Leading by Example in Sustainability: The UMass Amherst Permaculture Initiative”

### **III. Benchmarking and Outside Research**

In Danbury, different organizations are moving toward more sustainable practices:

- In 2014, Danbury teachers participated in The Summer Institute, a “professional development workshop sponsored by the Children’s Environmental Literacy Foundation (CELf)” where they were trained on how to integrate sustainability concepts into their curriculum.
- In 2015, the Connecticut Science and Engineering Fair gave students in grades 7-12 the opportunity to compete for more than 600 spots. The objective is to “attract young people to careers in the science and engineering industry, while also developing critical thinking skills.” A Danbury, CT middle school student was a finalist for his project at Quinnipiac University.

- The Danbury Fair Mall website features its own sustainability website where it gives specific examples of their sustainable practices. The Danbury Fair Mall is making efforts to conduct their business a “socially responsible manner that balances consideration of environmental and social issues with creating long term for their company.”
  - Security Staff uses Segways indoors
  - Many retailers offer the option of reusable bags
  - Green cleaning products
  - Lighting protocols that minimize energy use and lower their carbon footprint
  - Energy efficient lighting in common areas
  - Recycling containers in the food court
  - Mall-wide retailing recycling program
  - Rooftop replacement program with new HVAC units that are environmentally friendly and energy efficient

In Connecticut, eleven colleges and universities have signed the ACUPCC. The President or Chancellor of a school acts as a signatory for the American College & University Presidents’ Climate Commitment (ACUPCC). In it they agree to the following terms:

- Complete an emissions inventory.
- Within two years, set a target date and interim milestones for becoming climate neutral.
- Take immediate steps to reduce greenhouse gas emissions by choosing from a list of short-term actions.
- Integrate sustainability into the curriculum and make it part of the educational experience.
- Make the action plan, inventory and progress reports publicly available.

WCSU sister schools, Central Connecticut State University (CCSU), Eastern Connecticut State University (ECSU) and Southern Connecticut State University (SCSU) have made serious strides in sustainability. Like WCSU, all three Connecticut State University (CSU) schools have signed the ACUPCC. All three are recognized on Princeton Review’s Green Universities list (link can be found in the appendix). Also, each university has a separate sustainability website (in the case of ECSU, an Institute of Sustainability) that can be found in this report’s appendix.

- CCSU has a Climate Action Plan (CAP) that outlines the University’s approach to achieving climate neutrality. In 2008, CCSU’s business school launched the Summer Institute for Sustainability. It features twelve faculty members working on seven projects that investigate various aspects of sustainability. The goal is “to create a knowledge base and engage the Connecticut business community in finding and implementing more sustainable business practices and public policies” (Dr. Drew Harris 2008). In it, faculty developed and produced a series of public seminars on that were presented in fall 2008.

In 2011, CCSU participated in the Environmental Protection Agency's Waste Minimization Challenge. The goal of the challenge was to lower the waste generated at college football games while increasing participation in and awareness of waste reduction programs.

- Nationally, more than 75 schools designed waste reduction plans for one regular season home football game, measured their results and submitted them to the EPA. The EPA crowned CCSU as the "Waste Reduction Champions (EPA 2012). Students also participated in a mattress recycling program that utilized an opt-in statewide recycling program the mattress industry is mandated to provide. Students were able to pack approximately 300 mattresses to be recycled by Recyc-Mattresses, a Canadian-based company (Jain and Wenzel IV 2015). CCSU was also named "one of the most environmentally responsible colleges in the U.S.A. and Canada."
- ECSU's Center for Sustainable Energy Studies was established in 2001 by the Board of Trustees of the CSU System. Their purpose is to promote "energy efficiency and sustainability in Connecticut through education, research, and technical support.
- SCSU's campus features an Office of Sustainability that "connects students, faculty, and staff with the information, people and tools they need to make our campus more sustainable". The group also track the university's' progress toward meeting the goals of the ACUPCC. They are committed to educating the campus community on healthy and environmentally conscious decision. The Office is student-run and features a plethora of campus wide activities including: Campus Conservation Nationals, Recyclemania, the campus community garden, Plant It Forward, Compost Happens!, Green Room Certification, and presentations by guest speakers.
  - Compost Happens is a composting program that was launched in November 2013 with a mini grant awarded to them by the New England Campus Sustainability Forum (NECSF) in fall 2013. From November 2013 to November 14 the program was able to divert over 600 scraps from the waste stream to be used in the campus garden.
  - Campus Conservation Nationals, the largest nationwide electricity and water reduction Students were able to create an Environmental Studies minor for any undergraduate major.
  - Recyclemania is an "annual competition and benchmarking tool for college and university recycling programs to promote waste reduction activities to their campus communities."
  - America Recycles Day occurs in November. Students set up information tables to spread awareness on recycling and "man" trash and recycling bins to demonstrate where each item belongs depending on the unit.
  - Caught Green Handed is an event where Green Teams look for those who are recycling around campus and enter them into a raffle to win prizes.

- The Annual Electronic Waste Drive allows students and staff to drop off unwanted electronic items with no charge.
- Further information on other universities' sustainability efforts can be found in the appendix.

#### **IV. Future Plans at WCSU**

During his interview, Dr. Clark emphasized the importance of revenue investment and students in achieving sustainability. To him, sustainability has both natural and economic backgrounds where efficiency is extremely important. He shared an eye opening extension to a well-known anecdote paraphrased with the following: Teach a man to fish, you feed him for a lifetime. But teaching a man to fish effectively while not overfishing promotes sustainability. At City University of New York (CUNY) Dr. Clark was a member of the Committee of Sustainability. This fostered his interest in enhancing the sustainable practices in WCSU. With that being said, Dr. Clark was open to various possibilities and suggestions on creating a more sustainable University such as:

- Looking into the importance of the American College & University Presidents Climate Commitment (ACUPCC) and possibly reinstating WCSU commitment
- Continuing to update WCSU's Annual Sustainability Report
- Student-run Center for Sustainability

According to Dr. McBride Gates, "The goal is to transform our universities so they are sustainable for the long term and true to their core academic missions of education, research and services as well as learning, discovery and engagement." In our interview with Dr. McBride Gates, she explained that in order to keep our university strong and increase progress in the University's commitment to a broader view point of being sustainable, one has to agree to adopt to a more sustainable model. Her forthcoming Projects/Plans included the following:

- Land Use and Zoning
- Walkability of the campus
- Intermodal Connectivity
- Transportation: Creating a partnership with MNR (Metro North Railroad) for reduced fares
- Bike trails in order for safe riding around campus
- More Bike Racks
- Sustainable Cities and Service Learning Initiatives
- Overall, the Higher Administration has open-mindedness and enthusiasm for sustainability and sustainable practices within the University.

## V. Recommendations

In addition to our research, we propose the following recommendations for the Higher Administration at WCSU:

- Reinstatement of WCSU signature on the American Colleges and Universities Presidents' Climate Commitment by Fall 2017.
- Based on Dr. Clark's previous experience in Sustainability, we recommend that he spearhead a joint committee of communication and partnership with sister schools on the subject of sustainability by 2017.
- Research should be done on the topic of university's divestment from fossil fuels and gas by 2018. Meaningful action should be taken by 2025.
- In order to create a more interconnected network of students and faculty focusing on this subject.
- Reinstatement of the Annual Sustainability Report for WCSU by Fall 2017.
- Creation of a central Office of Sustainability that utilizes faculty, staff and student (i.e. clubs like Roots and Shoots and the Jane Goodall Center) input in order to create a more sustainable university by Spring 2017.
- In addition to the Office of Sustainability, a WCSU sustainability website that features our efforts to be sustainable and further information for interested viewers.
- Creation of various courses on sustainability taught by current faculty as well as outside experts in order to foster awareness on sustainability.
- Creation of scholarships for students interested in sustainability and sustainable practices.
- The current Mission Statement reads: Western Connecticut State University changes lives by providing all students with a high-quality education that fosters their growth as individuals, scholars, professionals, and leaders in a global society."
  - It does not explicitly reference sustainability, so we recommend that **Respect for the Environment** be added as a Core Value. "We value the rights of all inhabitants of our planet, present and future, to live comfortably and sustainably."
  - The following is a reworked excerpt from the current Mission Statement page on the WCSU website: 5. Creating and maintaining a sustainable campus that will foster greater awareness and connection to the environment for students, staff and faculty.

## **Section Three: Academic Schools**

**By Rosemary Minkler, Shiny S. Patel and Katherine Robison**

### **I. Intro to Topic Area**

Our focus was to see how sustainability is incorporated into the Macricostas School of Arts and Sciences and Ansell School of Business at WCSU. We looked at the courses offered in both of these academic schools in order to discover whether or not sustainability is an initiative in regards to curriculum. The reason why we picked these two schools was because the careers that result from the programs within each school have the potential to make great change in the state of sustainability of our society. The recommendations that we suggest are expected to result in an increase in enrollment.

### **II. Summary of What's Currently Happening at WCSU**

The first step in our research was exploring the WCSU website for any information on the incorporation of sustainability within the curriculum and the Macricostas School of Arts and Science and Ansell School of Business.

- Many courses already addressing issues related to sustainability.
  - Not clear as to whether sustainability was a part of the syllabi in these courses.
  - A listing of these courses along with their description can be found in the appendix of this report.
  - Western has several academic institutes that promote sustainability including the Center for Compassion, Creativity and Innovation, Conflict Resolution Project, Global Access Project, Jane Goodall Center for Excellence in Environmental Studies, and the Weather Center.

### **III. Benchmarking and Outside Research**

We researched three strategies for inclusion of sustainability ideas within higher education. These include:

- Macroscopic level- initiatives at international, national, regional, and local levels. Development of new educational policies incorporating sustainability into curriculums on a larger scale.

- Microscopic level- initiatives at the university in terms of creating new majors, minors, or classes. Institution as instigator.
- Strategic level- teaching staff to incorporate sustainability ideas into preexisting classes.

Goals of a successful sustainability program, according to Barrón, Navarrete, & Ferrer-Balas:

- Replace static view of reality with dynamic and complex vision of overcoming traditions of capitalism
- Enhance disciplinary flexibility and encourage relational thinking through interdisciplinary work projects
- Improve functionality in teaching, incorporating the study of local and global issues; strengthen relationship with local entities
- Promote coherence between theoretical discourse and action
- Recognize diversity in students' cognitive styles, cultures, and situations

In our research regarding sustainability programs and departments at other Connecticut State Universities and Colleges we have found evidence of its presence in other schools.

In looking at the CSU schools, it was clear to see that the academic departments have a passion for sustainability by offering so many majors and minors regarding the topic.

- On the website, listed right with the academic departments, Southern and Eastern both provided outside research about the environment to engage students in participating more sustainable lifestyles.
- Though the environment and sustainability were given its own programs of focus at the CSU schools, sustainability was interdisciplinary and worked to incorporate education of the issue not just in the classroom but outside the classroom as well.
- **Eastern Connecticut State University** offers an Environmental Earth Science major with Sustainability issues as one of the key concepts.
- **Southern Connecticut State University** offers an Environment Studies minor and a Sustainability concentration in Geology.

**University of Connecticut** has an office of environmental policy.

- Parallel to the Center of Environmental Literacy and Sustainability at Southern Connecticut State University.

**Quinnipiac University** and **University of Hartford** both have programs with a concentration in sustainability.

The **University of New Haven** includes sustainability studies that are exhibited through the following agendas:

- Mech. Engineering
- Civil and environmental engineering
- Bio and environmental Science
- Economics and finance
- System and Ind. Engineering
- History and sociology of science and technology
- Visual and Performing arts
- Human resource management

**Other Universities with exemplary Sustainability curriculum:**

**Arizona State University**

<https://schoolofsustainability.asu.edu/about/school-of-sustainability/>

- Transdisciplinary- creates synergies between multiple disciplines that leads to new insights and knowledge; linking academics with practitioners in the community who are implementing or looking for sustainability solutions.
- Enrollment is growing as more and more students and employers are interested in sustainability.

**Tufts University**

<http://sustainability.tufts.edu/get-involved/sustainability-courses/>

- Offers courses that are either sustainability-focused or sustainability-related in 26 different departments (Strategic Level).

**IV. Future plans at WCSU**

Dr. David Martin, Dean of Ancell School of Business

- While there is interest in having business classes correlated with the environment, there are no current plans to do so.
- Not enough professors in the school feel they are capable of incorporating sustainability into their classes.
- Dr. Linda Forbes has the potential to change this considering her interest in the environment.

Dean Missy Alexander, Dean of the Macricostas School of Arts and Sciences (MSAS)

- Two issues regarding the current state of sustainability within the curriculum. According to Dean Alexander, the points are as follows.



1) “MSAS has some curriculum that focuses on sustainability, we also host the Jane Goodall Center, Roots and Shoots, and the Permaculture Garden. There are also contract majors focused on environmental issues. Finally, we do research through our Department of Biological and Environmental Sciences on issues of land use impact on animals (Dr. Pinou’s research for the Dept. of Transportation), Invasive Species (Drs. Wong and Wagener and Lakes Projects), and Public Health (Dr. Connally’s Tick project). All of these are projects led by individuals interested in environmental issues. However, there is no central organizing theme or common goal.”

2) There is too little talk of sustainability, mostly because people are not well educated on what it involves. According to Dean Alexander, “Someone needs to be the one leading the charge to start up a major in sustainability: In other words someone has to build this and win support from the WCSU community for it to go forward.”

She told us that the new BA in Liberal Arts will make it easier for students to self-design their own plan toward sustainability.

As of December 2015, there is discussion of a future program regarding sustainability known as Environmental Stewardship. This is being developed by Dr. Philbrick. The goals are as follows, quoted from a current draft of the program.

- “Graduates of the Environmental Stewardship program will:
  - a. Be aware of the natural environment and the impact they have on it.
  - b. Take responsibility for human impact on the environment.
  - c. Promote sustainable use of natural resources via reduced consumption and conservation.
  - d. Promote the translation of environmental awareness to political action.
  - e. Steer stakeholder individuals or groups (e.g., business, governmental agencies, private organizations, educational institutions) toward sustainable practices.
  - f. Educate others of the importance of a-e.”

## **V. Recommendations**

By 2018, we recommend that WCSU incorporates sustainability into the overall curriculum at a strategic level, enforcing that all degree programs include classes that specifically connect the importance of sustainability to the future field options for each program.

The following actions must be taken to ensure success in this transition:

- Curriculum standards developed to allow branches of WCSU administration to agree on a sufficient background for sustainability in curricula.
- Curriculum must enable students to be aware of values that guide their future professional career and collaboration in tackling global issues.
- Sustainability training must be provided to professors to ensure an understanding of the topic and how it relates to their respective subjects.
- All courses in the catalog relating to sustainability need to be noted.
- Provide a minor of Sustainability to promote students to pursue careers in the field.
- Sustainability as its own competency in the general education requirement.
- Incorporate sustainability into the mission statements of each of the academic schools.
- Revising the curriculum of the education department to help future teachers incorporate sustainability into their classrooms.
- The Jane Goodall Center, the Center for Compassion, Creativity, and Innovation, the Conflict Resolution Project, the Weather Center, the Global Access Project, as well the Nature Preserve and Planetarium must collaborate amongst themselves and with others to increase awareness of sustainability.
- The Deans for all of the schools at WCSU would benefit from researching their counterparts at other universities to see how sustainability is incorporated.

## **Section Four: Finance**

**By: Alexis Koukos, Patrick McCormack, Christina Sangkasinsoo, Shreya Yedave**

### **I. Introduction**

- a. In order to sustain the university and embark on new green projects, the University must be able to fund these initiatives. WCSU has different sources of money from the State of Connecticut including the appropriated money from the budget. This funds the operating expenses of the university, such as salaries and utilities. Large projects and large facilities expenses are usually funded with bonded money. With bonded money, Western shares this with the other schools in the CSU system. For additional programs, grants are used to supplement costs.
- b. In recent times, the budget has decreased and may decrease in the future, making it difficult to fund sustainable projects. Currently, there is no money specifically set aside to fund sustainable initiatives. However, due to financial incentives and the desire to make the university more cost effective, some sustainable projects have been implemented and more have been identified for the future.

### **II. Summary of What is Happening at Western**

- a. Many current and prospective students may not be aware of Western's current work in the sustainability sector. Currently, there are several actions that are being implemented or recently undertaken to improve the sustainability of the university. Budget planning is a major aspect of whether the university can continue to implement these solutions and new plans. Since WCSU does not make a profit, but just hopes to breakeven, funding sustainable projects can become challenging in times of decreasing budgets from the state and a decrease in enrollment.
- b. **Sustainability's Role in Budgeting**
  - i. Peter Rosa, Associate Controller, believes sustainability should be a priority for budget purposes. His department allocates the individual budgets, but cannot dictate how the money is to be used. These decisions are left up to the different departments.
  - ii. Sean Loughran, Associate Vice President for Finance, explained that it is difficult for sustainability to be a priority for budget purposes when the university's goal is to break even.
  - iii. According to Loughran, the university does not have the budget to spend money outright on changing to more sustainable equipment. If equipment breaks, then it can be replaced with more sustainable equipment.
- c. **Factors Impacting Budgeting and Sustainable Initiatives**

- i. Mary-Ann Dease, Budget Director, explained that revenue comes from students (60%) and funding from state (40%). Therefore, student tuition helps fund a majority of the university.
  - 1. With enrollment and retention declining, it is difficult for WCSU to put sustainability on the top of its list of budgeting priorities. Students living on campus, currently 30% of the student body, has been decreasing, causing more financial strain.
    - a. One proposed solution to increase enrollment is to attract prospective out-of-state students from neighboring states such as New York as the cost of tuition at WCSU would be considerable lower for those students. Currently, 94.5% of undergraduate students are from Connecticut and only 4.4% are from New York. By attracting more students from New York, enrollment would increase allowing WCSU to have an increase in its operating budget and, thus, be capable of allocating more funds for sustainable actions. (See Appendix Four for further information).
- ii. Since budgets are made two years out, the department looks to the number of high school students to project the number of potential students and also they consider retention rates. These projections have led to more conservative budgeting due to the decreasing number of high school students in CT.
  - 1. As seen in Appendix Four, enrollment for full time students has decreased by 2% from Fall 2014 to Fall 2015. This explains why the operating budget is most likely going to be lowered, as well.
- iii. 70% of expenses are made up of faculty, staff etc. The second major cost to the university comes from utilities and maintenance according to Dease. Due to the two campuses, there are many items the university must double, including two cafeterias, thus increasing expenses.
- iv. Also, there are many unknowns related to the budget with union contracts expiring soon, according to Dease.

**d. Divestment Discussion**

- i. Divestment is the decision to sell off stock and interest in companies. For our purposes, we are concerned with divestment of oil, gas, and non-sustainable companies. WCSU does not have control over which companies it invests in, according to Rosa. The school is mandated to have its investments handled at the State level by the Office of the State Treasurer. Therefore, the State Treasurer picks all forms of investing.

1. WCSU and the sister schools have started petitions to divest from fossil fuel companies. The WCSU petition states, “Because it is unconscionable to pay for our education with investments that will condemn the planet to climate disaster, we call on Western Connecticut State University to immediately freeze any new investment in fossil-fuel companies, and to divest within five years from direct ownership and from any commingled funds that include fossil-fuel public equities and corporate bonds.”

<https://campaigns.gofossilfree.org/petitions/western-connecticut-state-university#>

**e. Bonded Money and its Significance**

- i. According to Rosa and Loughran, bonded money comes from the state and is separate from the operating budget. The whole CSU system shares bonded money and this funds larger projects, specifically projects the department of Environmental & Facilities Services handles.
- ii. The department must define how the money will be used.

**f. Current Sustainable Actions being Financed**

- iii. WCSU was recognized for its extensive investment and efforts to employ smart-building technology.
  1. Invested more than \$450,000 in its largest residence hall, resulting in dramatic reduction in energy use.
  2. Installed four EV charging stations
  3. Achieved LEED Silver status on the newly constructed Visual and Performing Arts Center.
- iv. WCSU installed a fuel cell power unit for the Science Building in 2013
  1. The PureCell Model 400 system is a stationary phosphoric acid fuel cell. It is capable of producing 400 kilowatts per hour of assured electrical power, plus 1.5 million British thermal units per hour of usable heat.

**g. Grant Opportunities**

- i. According to Gabrielle Jazwiecki, Director, Office of Sponsored Research Administrative Services, WCSU did not have a grants office for a four-year period. Since 2012, she has been rebuilding the grants office to “successfully secure external grants for the university's programs and initiatives.”
- ii. The Permaculture Garden is the only project related to sustainability that has sought external grants. The grant application for support was declined.

- iii. For green initiatives, Jazwiecki assumes Environmental & Facilities Services would take the lead, but this department has not inquired about any grants.

**III. Benchmarking**

- f. Enrollment and the amount of funding received from the state are proportionally related. The higher the enrollment of students means an increase in the budget available to the individual university. With higher budgets, other universities in the CSU system are able to do more in the way of sustainability.

**g. Undergraduate Enrollment 2014                      Budget Received from State 2014**

**Eastern**

4,496 FULL TIME  
 1,110 PART TIME    \$ 113,749,325.13

**Southern**

6,425 FULL TIME  
 1,337 PART TIME    \$ 195,425,089.00

**Central**

7,702 FULL TIME  
 2,169 PART TIME    \$ 221, 711,279.57

**Western**

4,998 FULL TIME  
 1,584 PART TIME    \$ 114,730,212.94

- h. We need to increase enrollment at Western Connecticut State University in order to be able to implement green initiatives. Presently, our goal is to just break even, so we are not able to implement as many programs as we want.
  - i. The majority of our sister schools have the following programs set up to make their campuses more sustainable and environmentally friendly. We should take these programs into consideration and use them as inspiration to implement our own institutions.
    1. Sustainability Center
    2. Recycling Program
    3. Fuel Cells
  - ii. Other schools in the CSU system utilize grants to fund these programs.
    1. “A grant for sustainable energy research or course development is received by the Center for Sustainable Energy Studies:

‘Monitoring Solar Hot Water Systems,’ from the Connecticut Office of Policy and Management.”

<http://www1.easternct.edu/sustainenergy/easterns-commitments/>

- **Future Plans Identified**

- WCSU’s latest sustainability report was released in 2008. The report stated WCSU would participate in a “Beta Test” using a passive solar collection system. This system would be installed on the University Hall roof and was projected to provide enough hot water to service all occupants. Depending on how this test went, the technology would be expanded to other buildings.
  - According to Luigi Marcone, Associate Vice President for Facilities, this proposal was not found to be cost effective due to the small roof area of the building. A new project has been proposed, a solar array that would produce nearly 70KW for the roof of the Midtown Student Center. Marcone said they went out to bid three times for the project, but found the market will not support the project. He said there are no tax credits available, making the return on investment approach 20 years.
    1. There are other avenues being considered including a third party that would install the array and hold ownership, selling the power to WCSU at a lower rate than a utility company.
- According to Dease and Loughran, profit/loss analysis is conducted to see if current classes can be sustained.
  - For example, they see if it is financially feasible to add or eliminate a major.
  - Also, they determine recruiting strategies that will work because majors currently offered may not attract enough students.
- WCSU plans to continue switching traditional light bulbs to energy efficient LED bulbs when the budget permits

- **Recommendations to be placed into action by 2020**

- A clearer breakdown of the financial statements showing how much is spent on various areas including sustainability efforts.
- Currently, the operating budget is given out and not monitored for sustainable initiatives. Instead, we recommend that a sustainable requirement is included for each part of the budget and a minimum amount must be spent toward increasing sustainability.
- Whenever something breaks, all sustainable alternatives should be considered and implemented.

- Close some buildings on off times to save electricity and stay within budget and tackle issues with sustainability.
- Remotely controlling temperature is used in some buildings, setting the temperature lower at night and then having it warm up in the morning. This should be instituted in all buildings.
- Coordinate with CSU schools and the Office of the State Treasurer to ensure the school investment portfolios do not include stocks and interests in fossil fuel companies.
- Erika H. Steiner, the System CFO of CSCU says that because the BOR is a quasi-agency of the state, they do not have control over their investment portfolios. WCSU including the sister schools and Colleges do have cash accounts but they are handled and invested by the State Treasurer, Denise L. Nappier's office. Thus, we recommend that this gets analyzed and that some type of position or stance is taken. If this has already been analyzed and a stance is already taken then we recommend the BOR inform the staff, faculty, and students.
- CSU sometimes gives initiatives that is required for all state schools to implement. The university can propose a green initiative for all state schools to follow.
- We recommend funding an Office of Sustainability & Recycling Center
  - This could be funded by grant money so it will not cause any financial strain on the operating budget.
  - As a part of this center, we will utilize the school newspaper for free publicity. We will propose a section in our newspaper wholly dedicated to Going Green Ideas/Helping the Environment to raise awareness.
  - The Recycling Center will be very clear and concise about what you can and cannot recycle. There will be more recycling bins throughout the university and more signage about recycling.
  - This office can expand upon the Summer STEM Experience that is grant funded to benefit the whole university. The program is currently conducted on campus during the summer, but has components during the academic year that are off campus. This project does not directly impact environmental sustainability on campus, but plans can be proposed to change this.
  - A program based on Borrow a Bike in NYC can be implemented. Students have to pay to borrow the bikes and the money raised can go back to the center.
  - The center can institute a Swap Shop, where you can find office supplies for free. This will be intended for University faculty and staff to exchange office supplies in new or good condition that are no longer being used or



needed. The Office of Sustainability & Recycling Center stores all Swap Shop items.

## **Section Five: Residential Life and Facilities Services**

**By: Hieu Nguyen and Jordan Bass**

### **II. Introduction**

As part of student in Hon-498 Sustainability, Ecology, and Capitalism, the class instructor, Dr. Mary O'Neill request that we draft a memo report regarding the sustainability practices and student's awareness on the issue, including the suggestion on how sustainability practices at WCSU can be better. This is our resulting report, along with our suggestion for enhancing a sustainable WCSU community.

We would want to thank Dr. Mary O'Neill from the Department of Philosophy and Humanistics Studies for giving us an opportunity to relate the theory of sustainability into application. Practicing sustainability will bring WCSU into a bright future, and as part of the student body, we would like to see our university enhance this amazing practice.

With all of the research, interviews, and data collected, we have conducted our report on a change in resource usage at WCSU which we believe this change will improve the future of WCSU. Since solar power is difficult to put into practice due the the demography, we believe by switching from oil to natural gas is a more sustainable way to reduce the future cost and enhance a better environment.

### **III. Summary of WCSU current**

#### **A. Fuel cell/Green Energy**

Fuel cell was installed in Science Building about three years ago. The energy which is produced from fuel cell is created from natural gas and other chemical components. WCSU facility is still collecting more data from fuel cell to see its effectiveness and would put more of them in other building. To date, there has been no issue arisen from the fuel cell. It is virtually 100% reliable. Although it does have an exhaust stack, only smoke and steam come out of it. Per Luigi Marcone, Director of Facilities, the fuel cell WCSU has implemented uses cogeneration, "where we make the electricity locally and also harvest the heat energy at the same time. Which is what we use for our fuel cell". "WCSU renegotiates its energy purchasing every 18-24 months.

Currently, WCSU buys energy as a commodity. The contract purchased currently provides 14% of it's kilowatts is green energy," Luigi Marcone, Director of Facilities Operations. He also states, "WCSU does provide charging stations for electric vehicles on both campuses. There are designated spots for them in Centennial Hall and White Street parking garage. We were able to get those charging stations through a state grant".

#### **B. Solar Panel opportunity**

Solar energy is a future, and WCSU is looking at opportunities to get solar energy installed. However, the pay back cost for the equipment usually takes 10-20 years, but the equipment itself would not last the long. Per Luigi Marcone, "while solar appears to be very,

very attractive and sexy; it is not always cost effective.” While there is opportunities for tax benefits, WCSU is not eligible for these tax breaks/benefits due to it being a public university. The Facilities Operator, Michael Spremulli, also comments, “We have mentioned Solar Energy and proposed it to be put on the Student center roof, but the State did not approve as the labor and material costs cannot be recaptured due to the limited product life expectancy.”

Therefore, the project that WCSU facilities are seeking for was to purchase solar provider which were already existed, and run that energy to campus. “So we are looking for company that already has solar panel field and purchased from them. This means we don't have to install solar panels in WCSU campus and still get the clean energy. The look is still going on, and we are actively looking for new technology as soon as it comes out,” Mr. Spremulli continues. The success of this project will result a more sustainable community.

### **C. Recycle**

Western Connecticut State University has made it a priority to recycle. Mr. Marcone said, “students often see custodians taking recyclables and putting it into a separate trash bag. What was misconstrued is that the trash bag is going to be taken to a recycling plant. We recycle hundreds of tons of paper and cardboard a year.” WCSU recycles, “hundreds of tons of paper and cardboard every year,” (Luigi Marcone). However, “recycling is labor intensive,” Luigi Marcone; “the sorting and segregation of each recyclable commodity requires someone to perform this labor.” It costs a great deal of money and resources that the university does not have.

### **D. Automatic Technology (Boil plant)**

WCSU has installed three boil plants which produce steam to heat the campus. The system is automatics and the process is clean due to recycling water. The system has sensor which automatically shut off the heat or AC if the room is unoccupied and automatically turn on otherwise. WCSU facilities always look for new technology every year to provide the best cost and energy efficient for campus.

1. Renovate Higgin and Litchfield for energy efficiency. “The renovation will include putting new system to replace the older units and eventually changing all the older and less efficient units over time” (Michael Spremulli).
2. Next year, WCSU facility will renovate Litchfield dorm for energy efficiency. The renovation will put in new equipment and technology for energy efficiency. Also, the plan for the future is to renew Higgin Hall. These project will promise a better WCSU attractiveness to future students and also for energy saving.

#### **IV. Future project**

WCSU is looking into the idea of Single-Stream Recycling. Single-Stream Recycling is every recyclable commodity gets commingled together and then a separate facility will sort it. This would cut out the labor-intensive part in the recycling plan that WCSU currently utilizes.

A negative aspect would be: the companies who perform Single-Stream Recycling don't keep a good portion of what is sent to them from recycling. Due to all the items being commingled, there is a high risk of contamination. Once they have reached their point of contamination, the entire batch is sent to trash.

#### **V. Summary of Connecticut State University's current**

##### **A. Central Connecticut State University**

Fuel Cell Energy is also operating in CCSU and provides approximately 30% of campus power needs. This energy not only saves money, but it is also supporting a sustainable environment by providing greener energy. CCSU has recently built a new dormitory with a three-level garage. In the garage, there are many spaces reserved for people who drive electric and hybrid vehicles. These spots are prime parking with immediate access to the dorm.

##### **B. Other Connecticut State Universities**

Other CSU are also in the commitment of developing a sustainable community, Solar energy is part of their energy. They also developing green building which reduce greenhouse gas and CO2 emission. These universities also host annual events for faculties and students to raise the awareness on protecting the environment.

#### **VI. Utilities Usage Recommendation**

##### **A. Recommendation for university members**

###### **1. On campus**

Members of WCSU community should have a basic knowledge of energy saving. Every dorm room should have a poster reminds students to save energy such as turn off the light when the room is unoccupied, saving water with quick shower, recycle, and dispose wastes properly. "Live the way you live at home," (Luigi Marcone).

###### **2. Commuters**

It is highly recommended for commuter students to carpool. Mr. Spremulli states, "For commuters, I highly recommend them to carpool. I've been have problem with parking, and if they could start carpooling, it not only help with parking problem, but it also helps with reducing emission." Therefore, we recommend to host events at school which provide the benefits of carpooling. Students and faculty should be conscious of their carbon footprint left on their campus.

## **B. Recommendation for facility department**

1. We are encouraging the facility department to keep looking for renewable energy such as solar energy. Currently Michael Spremulli, Facility Operator, is looking to purchase solar company and import that power to WCSU.
2. By 2018, additional charging stations will be provided at more locations. Currently we have two stations at White Street garage on Midtown Campus and an additional two stations in Centennial Hall parking garage
3. Single-Stream Recycling provided by a company with a low turnout rate for contamination implemented by 2020. Although, it is a high-cost operation, it should be achievable by utilizing the savings in labor-resources.
4. By 2020, fuel cell energy should be expanded to additional buildings.

## **VII. Conclusion**

WCSU is utilizing the opportunities it has available to them. While they do provide fuel cell energy, electric car charging stations, additional recycling resources, the three boil plants and the upcoming renovations of Higgins Building and Litchfield Hall; there is still more to do. By 2020, we would like to see all of our recommendations come into action.

## **Section Six: Sodexo and Dattco**

By Claire Boettcher, Ben Dreskin & Kyle Gaudet

### **I. Intro to Topic Area:**

At Western Connecticut State University, the affiliate companies Sodexo and Dattco serve an integral purpose for campus life, respectively food service and transportation. In regards to the idea and pursuit of sustainability, both have made efforts and taken actions in order to create a better future, but as with all things, improvement is still possible. Through the conducted research and interviews, our group has come across potential avenues that can enhance the campus experience for both students and employees.

Where Sodexo has taken action, the area they lack in is the ability to bring those actions to attention and to make them a part of the collegiate experience. On the other hand, Dattco has done research and entertained possibilities for more sustainable transportation means, but has yet to follow through with a plan of action due to constraints present in both contract and budget.

### **II. Summary of what is happening at WCSU currently:**

**Sodexo** has been on top of things when it comes to efforts on campus to lead by example in terms of sustainability.

- Currently, 85% of the food they serve is supplied by local and organic suppliers, as well as an increasing amount of produce has been supplied by the permaculture garden on campus.
- Any food waste is processed and composted into liquid which is disposed of with safe methods.
- Similarly, employees receive training and education regarding sustainable methods and efforts that they can make in order to better represent the ideals of their company. Executive Chef Daniel Hernandez expressed during an interview that there are training modules available online through Sodexo for employee education. All newly hired employees are required to go through a various courses regarding environmental practices.
- The cafeteria has also started to use takeout containers that are completely compostable. Their awareness of sustainability is a great example that many should follow. If they were to make sustainability and their efforts made in that direction more advertised to the student base, they would contribute greatly to student awareness of this issue.

**Dattco** has certainly made headway into research about sustainable efforts but have since not made any tangible changes to their systems.

- Drivers have received training to economize their driving, but hardware changes have not been made, which leaves their buses still producing a large carbon footprint. To make our university a more sustainable environment, we feel that their contract should include a modifier for sustainability. Even a change in partners may be necessary to reach our goal of campus sustainability.

### **III. Benchmarking and Outside Research:**

There are several different organizations that work toward sustainable food sourcing.

- Fresh New London is an organization that succeeds through mainly student volunteers. They have massive amounts of land that they use to grow numerous amounts of fruits and vegetables. They then distribute and donate the food to local schools and organizations. More information can be found at their website: <http://www.freshnewlondon.org/>
- Hartford Food System is another organization that practices sustainability in order to help as many people as possible. They originally opened in 1978, and have been distributing food ever since. Their main goals are as follows: increase access for all residents to normal food outlets, deepen the connection between food consumers, especially our youth, and agricultural production, and advance public policies to improve affordability and quality of food. For more information go to their website at: <http://www.hartfordfood.org>
- Sustainable Food Systems is a consulting business that partners with different companies, schools, and dining services in order to make food more sustainable. They define sustainability practices in food services as “a way of producing and consuming food that ultimately promotes the continuous well-being of ourselves and our planet.” More information can be found at: <http://sustainablefoodsystems.com>

Sodexo is an international company that originated in France. They run the dining services in several different schools, colleges, companies, businesses, and military organizations. Sodexo has performed several actions in the name of sustainability. The information below is just two of the many examples:

- In 2008 Sodexo released the PLANit program. The program consisted of tools, such as a database of local purveyors, as well as information on how to purchase sustainable, local and organic products. Marketing kits were also made available to help managers educate clients and customers about sustainability.
- Getting SMART on sustainability. In 2009 Sodexo released a “Sustainability Management and Reporting Tool” that would be used by clients in order to improve several aspects of sustainability. SMART enabled clients to analyze about 150 separate

actions this could improve measurable performance in different areas. SMART also allowed clients to estimate energy use and review progress and trend data. Clients could see immediate improvements and generate customized sustainability reports.

- Sodexo has also funded several different types of gardens in order to strengthen the possibility for locally grown food. Western Connecticut State University's permaculture garden and Saint Mary's Legacy Garden at Saint Mary College are just two examples Sodexo has been recognized several times by different companies for its sustainable practices. <http://www.diversityinc.com/> and <http://www.robecosam.com/> have both highly rated Sodexo.

Dattco is a widely popular bus company with its headquarters located in New Britain, Connecticut. The company maintains 19 additional office, terminal, and service facilities throughout the New England states and employs over 1,200 people. There are hundreds of schools that use Dattco; for example, Bethel public schools, University of Connecticut, University of Massachusetts Amherst, and University of New Haven. Dattco is also used for public transportation in some towns and it is used for private hire by many companies and businesses. Dattco can be used on a long term basis with contractual agreements, or on a short term basis for only one or two trips.

- DATTCO has been working to gain Certification for Sustainable Transportation (CST) since early 2014 and has put over 80% of their drivers through CST ecoDriver and Idle-Free certifications. EcoDriving tips and techniques have helped cut fuel consumption and eliminate unnecessary idling.
- Dattco has expressed that they wish to pursue electric buses and alternative fuel in the future. However, the technology that exists now does not make alternative fuel and electric buses economically viable.
- Rethinking Transportation: there is a quarterly meeting of the Council on Sustainability. It is an event that can change how people think about Dattco's current transportation system, increase awareness of transportation options and resources, and build consensus on actions that support a sustainable transportation future.
- Awarded "The Outstanding Friend to Clubs and Organizations Award" at Central Connecticut State University. Nicholas Pettinico Jr., CCSU's vice president, said "The award was given to DATTCO because the company has worked closely with student organizations for many years providing transportation to conferences, sporting competitions, social programs and other learning events."

#### **IV. Any future plans identified:**

A. Dr. Paul Simon, in charge of Dattco relations said he will look at other companies to provide transportation options when the current contract is finished.



B. Head Sodexo chef, Daniel Hernandez said that he and his staff try to increase organic and local food sources whenever possible.

C. Laurie Weinstein expressed interest in trying to increase size and output of permaculture garden.

## **V. Recommendations.**

1. Call for an analysis of cost, benefits and budget for WCSU transportation (Renewable Energy vs. Gas). Continue to look for companies within our budget that incorporate sustainability into their business practice.
2. Optimize bus run times based on class times (use smaller buses for off-peak times). Take into account the usage during the weekly schedule. Implement by 2018.
3. Put more time in between classes so that students are more able or likely to take the shuttle between the campuses (thirty minutes in between every class). With more space between classes, students will have more freedom concerning their schedule. Students would be more likely to take the shuttle over driving their own car if they had the ability to fit classes from both campuses into their schedule. More flexible schedules would also be an incentive for commuters to take the shuttle.
4. Expand the permaculture garden to provide more produce to Sodexo to use in meals, not just catering orders by 2017.
5. Involve more students in management of the permaculture garden. Investigate possibility for student employment positions or independent studies with attached credit hours. Implement by 2020.
6. Increase the current 85% of local or organic food provided to 100% by 2025.
7. Repurpose the Sodexo compost liquid into plant fertilizer using Terracycle by 2020. This fertilizer can be used by the permaculture garden or sold to local organizations.
8. Invite speakers to talk on sustainability and environmental issues at WCSU such as Ryan Harb, the founder of Umass Amherst permaculture garden, a representative from Terracycle, talking about upcycling of waste, or Bill McKibben, a notable environmental activist. WCSU should host at least one environmentally conscious speaker per semester. This can be achieved within the next year.
9. Raise student awareness of the issues at hand regarding sustainability. Incorporate choice architecture in all future advertisements.

## Section Seven: Careers in Sustainability

During the semester Lisa Temkin Carrozza, associate director of the WCSU's Career Development Center presented an overview of careers and programs in sustainability and the environmental and "green" sector. Based upon her presentation we make the following recommendations for the Career Development Center:

- Further educate students and faculty regarding careers in sustainability and green sectors so that students are aware of options in those fields :

Actuarial Science  
Analyst  
Aquarist  
Consultant  
Conservation Scientist  
Chemical Engineer  
Chief Sustainability Executives  
Civil Engineer  
Environmental Engineer  
Environmental Public Relations Specialist  
Geophysical Engineer  
Geoscientists  
Health and Safety Engineer  
Industrial Engineer  
Landscape Architect  
Natural Sciences Managers  
Operation Managers  
Petrologist  
Soil Conservation Technician  
Wind Energy Engineer  
Zoning Technician

- Have Ms. Temkin Carrozza make the presentation she prepared for us part of the presentation rotation/collection of the Career Development department.
- Enhance efforts to inform and guide students toward to green jobs in the fields of sustainability and environmental fields and provide students with the resources to find them.
- Invite green or sustainable companies to the career fair. For example, the top green companies located in Connecticut that could be approached are:
  - Agrifuels, LLC
  - Agrivolution, LLC
  - Ameri Energy Group
  - American Oil Solutions
  - Beau Frog Technologies
  - Eco Hybrid Solar
  - Electric Truck LLC

- FXQ Engineering Group
- Garage Juice Bar, LLC
- HEVO Power
- KnipBio
- RPM Sustainable Technologies
- WattJoule

Source: (<http://www.ct.org/closer-look-energy-environmental-green-tech-companies-watch/>)

- Make sustainability and environmental efforts part of the criteria in selecting companies that are represented at career fairs, internships, and on-campus interviews.
- Create clear and concise WCSU employer standards for sustainability and environmental practices so companies are aware of University standards.
- Emphasize and provide further information about international opportunities and NGOs in the area of sustainability as viable and fulfilling employment options.
- Actively promote Ms. Temkin Carrozza's presentation to instructors and include in class curriculum across majors.
- Require that freshmen (as part of FYE) and seniors (as part of a capstone activity in their major) attend presentation on job search, career options, and resume building.
- Ms. Temkin Carrozza make a presentation to University administration regarding the growth of the sustainability and green sector to help inform its goals and decision making in that regard as a programmatic, occupational and institutional priority for WCSU.

**Appendix 1: Student Survey Results and Student Clubs**

**WCSU State of Sustainability Survey Results**

**Q1**

**How often do you recycle?**

· Answered: 77

· Skipped: 0

<b>Answer Choices</b>	<b>Responses</b>
– <b>Always</b>	<b>18.18%</b> 14
– <b>Most of the time</b>	<b>46.75%</b> 36
– <b>About half the time</b>	<b>18.18%</b> 14
– <b>Once in awhile</b>	<b>14.29%</b> 11
– <b>Never</b>	<b>2.60%</b> 2
Total	77

**Q2****How often do you carpool or use public transportation?**

· Answered: 77

· Skipped: 0

<b>Answer Choices</b>	<b>Responses</b>
– <b>Always</b>	<b>9.09%</b> 7
– <b>Most of the time</b>	<b>24.68%</b> 19
– <b>About half the time</b>	<b>14.29%</b> 11
– <b>Once in awhile</b>	<b>32.47%</b> 25
– <b>Never</b>	<b>19.48%</b> 15
Total	77

**Q3****How often do you spend time outside/ interact with nature?**

· Answered: 77

· Skipped: 0

<b>Answer Choices</b>	<b>Responses</b>
– <b>Always</b>	<b>7.79%</b> 6
– <b>Most of the time</b>	<b>16.88%</b> 13
– <b>About half the time</b>	<b>35.06%</b> 27
– <b>Once in awhile</b>	<b>40.26%</b> 31
– <b>Never</b>	<b>0.00%</b> 0
Total	77

Q4

**How would you BEST define sustainability?**

· Answered: 77

· Skipped: 0

Answer Choices	Responses
– <b>a better environment even if it leads to economic chaos</b>	<b>2.60%</b> 2
– <b>a practice that satisfies our current needs without sacrificing future well-being</b>	<b>80.52%</b> 62
– <b>an improved economic system and the exploitation of our resources</b>	<b>6.49%</b> 5
– <b>more advanced technology to provide for our needs</b>	<b>2.60%</b> 2
– <b><u>Responses</u></b> <b>Other (please specify)</b>  <b>Showing 6 responses</b> Being able to live in an environment comfortably 11/9/2015 11:20 AM <a href="#">View respondent's answers</a> being in harmony with our environment and balancing its responsible use with our human needs 10/28/2015 1:18 PM <a href="#">View respondent's answers</a> it is the ability to continue a defined behavior indefinitely 10/28/2015 12:57 AM <a href="#">View respondent's answers</a> a practice in societies that works with and preserves the earth's natural functions in regards to waste management, agriculture, and material consumer goods especially	<b>7.79%</b> 6

<p>10/27/2015 6:27 PM <a href="#">View respondent's answers</a>  a logical effort towards preserving nature and minimizing human impact on it.</p> <p>10/27/2015 5:17 PM <a href="#">View respondent's answers</a>  This is a tautology. The definition of sustainability is the ability to sustain. What is it that we are sustaining? If it is human life, then sustainability will likely mean that 85% of us gotta go. So, I say, let us drink and be merry that at least some of us shall survive the impending apocalypse.</p> <p>10/27/2015 3:19 PM <a href="#">View respondent's answers</a></p>	
<p>Total</p>	<p>77</p>



**Q5**

**Based on your previous response, how important is sustainability to you?**

· Answered: 77

· Skipped: 0

<b>Answer Choices</b>	<b>Responses</b>
– <b>Extremely important</b>	<b>28.57%</b> 22
– <b>Very important</b>	<b>41.56%</b> 32
– <b>Moderately important</b>	<b>28.57%</b> 22
– <b>Slightly important</b>	<b>1.30%</b> 1
– <b>Not at all important</b>	<b>0.00%</b> 0
Total	77

**Q6**

**What do you think is the BIGGEST obstacle to becoming more green/ sustainable at WCSU?**

· Answered: 77

· Skipped: 0

Answer Choices	Responses
– <b>Money</b>	<b>19.48%</b> 15
– <b>Staff and administration</b>	<b>1.30%</b> 1
– <b>Students</b>	<b>22.08%</b> 17
– <b>Awareness of the issue</b>	<b>38.96%</b> 30
– <b>Responses</b> <b>Other (please specify)</b>  Showing 14 responses Lack of a desire for improvement 11/5/2015 5:56 PM <a href="#">View respondent's answers</a> everyone caring enough to make the right choice 11/4/2015 1:41 PM <a href="#">View respondent's answers</a> Access and resources like recycling cans that allow us to act more green 11/4/2015 1:23 AM <a href="#">View respondent's answers</a> People who could care less. 11/4/2015 1:09 AM <a href="#">View respondent's answers</a> Apathy	<b>18.18%</b> 14

<p>11/4/2015 12:35 AM <a href="#">View respondent's answers</a>  I wish there was an all of the above option. If I had to chose the biggest, it would be awareness. A lot of people do not realize the severity of our current resource situation.</p> <p>11/3/2015 11:26 PM <a href="#">View respondent's answers</a>  People's willingness to do so</p> <p>10/28/2015 5:35 PM <a href="#">View respondent's answers</a>  Understanding our Creator and His intent which leads to respect for all creation</p> <p>10/28/2015 1:18 PM <a href="#">View respondent's answers</a>  ALL OF THE ABOVE. Money, Staff/administration, students, and awareness are ALL large obstacles at this time.</p> <p>10/27/2015 6:27 PM <a href="#">View respondent's answers</a>  All of these-money, indolence, apathy</p> <p>10/27/2015 5:17 PM <a href="#">View respondent's answers</a>  The futility of trying to save a planet that doesn't give a shit about us in particular</p> <p>10/27/2015 3:19 PM <a href="#">View respondent's answers</a>  Global change at the necessary rate</p> <p>10/27/2015 3:06 PM <a href="#">View respondent's answers</a>  All the above, I think that's it's a combination of all the obstacles affecting each other</p> <p>10/27/2015 1:41 PM <a href="#">View respondent's answers</a>  Money and people's lack of understanding about the gravity of the issue. They may simply not care enough to be bothered by it.</p> <p>10/9/2015 6:25 PM <a href="#">View respondent's answers</a></p>	
<p>Total</p>	<p>77</p>

**Q7**

**What is the BEST way for WCSU to promote sustainability and its awareness?**

· Answered: 77

· Skipped: 0

Answer Choices	Responses
– <b>Student clubs organizing sustainable events</b>	<b>7.79%</b> 6
– <b>On-campus (campus sponsored) events/ activities related to sustainability</b>	<b>54.55%</b> 42
– <b>Semester courses on sustainability</b>	<b>23.38%</b> 18
– <b><u>Responses</u></b> <b>Other (please specify)</b>  <b>Showing 11 responses</b> in addition to clubs and events, perhaps more flyers - who doesn't read the roots and shoots notices about paper towels when drying your hands?  11/4/2015 8:43 AM <a href="#">View respondent's answers</a> Email 11/4/2015 1:09 AM <a href="#">View respondent's answers</a> Make it very convenient for people to recycle and be more sustainable. 11/4/2015 12:35 AM <a href="#">View respondent's answers</a> Campus sponsored events, but also movements to clean up the parking garages and ban smoking on campus (which will make being outside much more enjoyable!) Also maybe some recycling bins outside (not sure if there already are any) 11/3/2015 11:05 PM <a href="#">View respondent's answers</a> integrate a piece of it into every course taught 10/28/2015 1:18 PM <a href="#">View respondent's answers</a>	<b>14.29%</b> 11

<p>for people to just be self-aware</p> <p>10/28/2015 12:23 PM <a href="#">View respondent's answers</a></p> <p>Sustainability needs to be a personal but also practical solution for students at WCSU. Mandatory courses in sustainability or sustainability-infused Lab Science courses, along with Club involvement, are all good ways to try to get the message that sustainability is vital to our generation.</p> <p>10/27/2015 6:27 PM <a href="#">View respondent's answers</a></p> <p>Cafeteria could be a good place to start: food waste, plasticware vs. reusable ware</p> <p>10/27/2015 5:17 PM <a href="#">View respondent's answers</a></p> <p>ONLY SACRIFICES TO ORTTMON THE DEVOURER OF SOULS CAN SAVE US NOW</p> <p>10/27/2015 3:19 PM <a href="#">View respondent's answers</a></p> <p>The administration making it a priority</p> <p>10/27/2015 3:09 PM <a href="#">View respondent's answers</a></p> <p>All of the above</p> <p>10/8/2015 5:01 PM <a href="#">View respondent's answers</a></p>	
Total	77

**Q8**

**Do you have any anxieties/ fear towards the future based on our current environmental practices?**

· Answered: 77

· Skipped: 0

<b>Answer Choices</b>	<b>Responses</b>
– <b>Yes</b>	<b>72.73%</b> 56
– <b>No</b>	<b>27.27%</b> 21
Total	77

**Q9****Are you interested in possible jobs/ careers involving sustainability?**· **Answered: 77**· **Skipped: 0**

<b>Answer Choices</b>	<b>Responses</b>
– <b>Yes</b>	<b>53.25%</b> 41
– <b>No</b>	<b>46.75%</b> 36
Total	77

**List of Clubs and Organizations Related to Sustainability**

(Note: names of presidents may be inaccurate/ outdated due to the time this list was created)

<b>Clubs and Organizations Fall 2015</b>	<b>President</b>	<b>President's Email</b>
<b>Accounting Society</b>  We create an environment for people with common interests to share experiences and ideas and to aid and to support accounting students in achieving their fullest potential.	Alexis Koukos	email

<b>Adventure Club</b>	Kristina Otfinoski	email
<b>Biology Club</b>  The Biology Club is an organization that welcomes all individuals who share a passion for the science, regardless of their major.	Kaili Dempsey	email
<b>Campus &amp; Student Centers Board</b>	Grace Renyolds	email
<b>Compassion and Creativity Club</b>	Brennen Diaz	email
<b>Education Club</b>  The WCSU Education Club is a place where students develop friendships as well as connections through serving the community and experience with professionals and learn the importance of building their portfolios, and gain knowledge outside of the college in, Praxis Testing and Professional Semester and joining the CAE.	Rachel Volpe	email
<b>Finance Club</b>	Dalton Perreault-Os borne	email
<b>Habitat for Humanity</b>	Erik Nardone	email
<b>Honors Student Organization</b>  Bringing together the best student minds at WCSU, increasing student involvement in both the WCSU and	Alexis Koukos	email



<p>the surrounding communities, and sponsoring events which promote both intellectual curiosity and broadening of individual horizons through community outreach.</p>		
<p><b>HPX Club</b></p> <p>Works as a community to provide awareness for the enhancement and development of the student health and well-being on campus and Danbury area.</p>	<p>Francesca Golightly</p>	<p>email</p>
<p><b>Marketing Club</b></p> <p>Members of AMA will have exciting opportunities in the fields of marketing as well as over 20 conferences a year and volunteer opportunities in academic, research and practitioner councils as well as speaking at schools.</p>	<p>Joseph Peterson</p>	<p>email</p>
<p><b>Program Activities Council (PAC)</b></p> <p>A group made up of volunteer students to program social, cultural and educational events for the benefit of all students at Western.</p>	<p>Delecia Woods</p>	<p>email</p>
<p><b>Recreation Council (Rec Council)</b></p>	<p>Nicole Grant</p>	<p>email</p>
<p><b>Roots and Shoots</b></p> <p>Engages and inspires youth through community service and service learning. Founded by Dr. Jane Goodall, this global program emphasizes the principle that knowledge leads to compassion, which inspires action.</p>	<p>Matthew Busse</p>	<p>email</p>
<p><b>Rotaract Club</b></p>	<p>Colleen Mair</p>	<p>email</p>

<p>Internationally recognized service group with a motto of “Service Above Self.” We work closely with our local Rotary Club to develop projects that benefit our communities in a meaningful way.</p>		
<p><b>Social Work Club</b></p> <p>A student organization run on the basis of social welfare. To promote social work, values and ethics including human dignity and worth, compassion and overall support and empathy for fellow citizens.</p>	<p>Gabrielle Attolino</p>	<p>email</p>
<p><b>Student Government Association (SGA)</b></p> <p>The sole governing body over all student clubs and organizations. Provides numerous services to the entire WCSU student body. Many are direct support to the student body, as well as representing your interests within policy making bodies on and off campus. Your elected SGA officials are committed to providing all students an opportunity to make the most of your time at WCSU.</p>	<p>Kaylee Havanick</p>	<p>email</p>
<p><b>The Echo Newspaper</b></p> <p>The college newspaper run by students for students to inform and enlighten them with news and issues about the campus community, state, nation and the global community.</p>	<p>John Cummings</p>	<p>email</p>
<p><b>WXCI</b></p> <p>The student run radio station here at WCSU. WXCI is a non-commercial radio station that specializes in playing new music of all types. If it’s new and cool, WXCI will be playing it.</p>	<p>Eric Gomez</p>	<p>email</p>

## **Appendix 2: Institutional Advancement and Higher Administration**

### **American Colleges and Universities Presidents' Climate Commitment**

Climate Leadership Commitments and Statement:

[http://secondnature.org/climate-guidance/the-commitments/#How\\_to\\_Sign](http://secondnature.org/climate-guidance/the-commitments/#How_to_Sign)

Reporting Institutions: <http://reporting.secondnature.org/>

### **Danbury, Connecticut**

Local Teachers Get Advanced Sustainability Training Thanks to CELF's Summer Institute:

[http://patch.com/connecticut/danbury/local-teachers-get-advanced-sustainability-training-thanks-to-celfs-summer-institute\\_5a67cdf7](http://patch.com/connecticut/danbury/local-teachers-get-advanced-sustainability-training-thanks-to-celfs-summer-institute_5a67cdf7)

Danbury Student Honored for Sustainable Energy Project:

<http://patch.com/connecticut/danbury/danbury-student-honored-sustainable-energy-project-0>

Danbury Fair Mall: <http://www.danburyfairmall.com/About#sustainability>

### **Miscellaneous**

Princeton Review Green Colleges:

<http://www.princetonreview.com/college-rankings/green-guide/green-colleges-by-location>

### **Other Colleges and Universities' Sustainability Websites**

Clark University: <http://www.clarku.edu/offices/campusSustainability/initiatives/acupcc.cfm>

Valencia College: <https://valenciacollege.edu/sustainability/action/presidents-commitment.cfm>

University of Arkansas Sustainability Council:

<http://provost.uark.edu/committees/sustainability.php>

Hamline University: Hamline University <http://www.hamline.edu/sustainability/>

Ohio State University President and Provost's Council on Sustainability:

<http://president.osu.edu/leadership-and-committees/president-and-provosts-council-on-sustainability.html>

### **Western Connecticut State University**

State of Sustainability Report: [http://www.wcsu.edu/efs/HS\\_pdffiles/sustainability.pdf](http://www.wcsu.edu/efs/HS_pdffiles/sustainability.pdf)

Permaculture Pioneer Ryan Harb Presentation 2013:

<https://www.google.com/url?q=http://www.wcsu.edu/newsevents/RyanHarb.asp&sa=U&ved=0ahUKEwjP-Zvtj7nJAhVKMz4KHZGeCT0QFggLMAM&client=internal-uds-cse&usg=AFQjCNFXYS2fZr2usa8KpH-QdObPQ5jPA>

Ancell Forum on Sustainability 2014:

[https://www.google.com/url?q=http://www.wcsu.edu/asb/news/pdfs/fall2014/ASB-Sustainability%2520Forum%2520%25202014%252011x17.pdf&sa=U&ved=0ahUKEwjP-Zvtj7nJAhVKMz4KHZGeCT0QFggQMAU&client=internal-uds-cse&usg=AFQjCNHLMHwu6gZ7dvxf6QKXrW\\_3nQRqHQ](https://www.google.com/url?q=http://www.wcsu.edu/asb/news/pdfs/fall2014/ASB-Sustainability%2520Forum%2520%25202014%252011x17.pdf&sa=U&ved=0ahUKEwjP-Zvtj7nJAhVKMz4KHZGeCT0QFggQMAU&client=internal-uds-cse&usg=AFQjCNHLMHwu6gZ7dvxf6QKXrW_3nQRqHQ)

### **Western Connecticut State University Sister Schools**

Central Connecticut State University:

<http://www.ccsu.edu/about/sustainability/sustainability.html>

Central Connecticut State University EPA Challenge:

<http://yosemite.epa.gov/opa/admpress.nsf/6427a6b7538955c585257359003f0230/ba3a35b3e662314c85257982006d4118!OpenDocument>

Central Connecticut State University Mattress Recycling:

<http://hosted.ccsu.edu/app/?news=1344&data&highlight>

Eastern Connecticut State University: <http://www1.easternct.edu/sustainability/>

Eastern Connecticut State University Institute of Sustainability:

<http://www1.easternct.edu/sustainenergy/>

Southern Connecticut State University: <http://southernct.edu/about/sustainability/index.html>

## Appendix 3: Academic Schools

### Institutes beneficial to Environment

Westconn has centers and institutes that promote sustainability. However, they are not exactly widely known to students are as follows:

- Center for Compassion, Creativity and Innovation
- Conflict Resolution Project
- Global Access Project
- Jane Goodall Center for Excellence in Environmental Studies
- Weather Center
- Westside Nature Preserve

Courses relating to sustainability:

#### ***BIO 115 Plants and Society 4 SH***

*This course will consider the importance of domesticated plants in human societies. The plants that stand between humans and starvation will be considered in context with how plant domestication occurs. The home vegetable garden will be used as the venue for understanding domestication and the relationships between domesticated plants and their wild relatives. Other topics include the importance of wild populations in crop improvement and plants as sources of beverages, drugs, fibers and dyes. Labs will consist of bench work and field trips; the local supermarket will serve as a surrogate lab for part of the course. **General Education: Lab Science.***

#### ***BIO 123 Local Flora 2 SH***

*This is an introductory field course on the identification of local native plants. Experience in collecting, pressing, mounting and identifying plants. A collection of identified pressed plants is a requirement for the course. No prior experience in plant identification is required. Eight weeks (5 hrs: lecture, laboratory experiences by demonstration, discussion and field work). **General Education: Lab Science.***

#### ***BIO/ENV 129 Horticulture 2 SH***

*This course is an introduction to plants useful to people. It will examine the basic structure and function of plants and their culture requirements. Emphasis will be placed on methods for growing vegetables, herbs, fruits and flowers which can be used in the New England home environment. Eight weeks (3 hrs lecture — 3 hrs laboratory and field work). **General Education: Lab Science.***

### ***BIO 320 Conservation Ecology 4 SH***

*This course will explore the rapidly expanding field of conservation ecology and management of the detrimental impact humans have on their biological environment. Basic ecological issues will be considered in context of principles of ecology, population biology and wildlife management — from global, regional, and local perspectives. Laboratory consists of field trips and guest lectures. Prerequisite: BIO 200.*

### ***BIO 475 Climate Ecology 3 SH***

*This multi-disciplinary course will discuss the nature of climate and the manner that it affects humans and other living organisms. The following central themes will be developed: how we study climate over Earth's history, how climate has provided the context for evolutionary and cultural changes, and the likely effects of climate change on organisms, communities, and ecosystems in the future (3 hrs lecture). Prerequisite: BIO 200 or permission of the instructor.*

### ***Environmental Studies***

#### ***ENV 100 Environmental Resources 4 SH***

*This course is designed to acquaint the student with the interdependence of the sciences in the natural world. Using local and regional examples, this course will show environmental management — failures and successes. This course will serve as a foundation to further study should a deeper understanding be desired. Field trips will be scheduled (3 hrs lecture — 2 hrs lab). **General Education: Lab Science.***

#### ***ENV/BIO 129 Horticulture 2 SH***

*See BIO/ENV 129*

#### ***ENV/AST 134 Extraterrestrial Environments and Intelligence 4 SH***

*See AST/ENV 134*

#### ***ENV/PHY 136 Energy 4 SH***

*See PHY/ENV 136*

#### ***ENV/MTR 162 Air Pollution Sources 4 SH***

*See MTR/ENV 162*

#### ***ENV/SS 250 Society and the Environment 3 SH***

*Solutions to environmental problems will have to come from analysis and understanding of historical trends and currently competing forces within the social system. The international aspects of the problems will be stressed. Lectures and field trips. Not open to freshmen. Offered periodically.*

*The following courses also have been approved and are offered periodically:*

*ENV/BIO 126 Animals and Their Environments*

*ENV/GEO 150 Urban Environment as a Human Ecological Problem*

*ENV/BIO 156 Biology of the Environment*

***GEO 270 The Geography of Environment and Development 3 SH***

*The Geography of Environment and Development will provide students with an insight into how different people utilize and conserve their natural environments. Students will consider the meaning and importance of both development and environmental management/conservation. They will explore different models of environmental management and development as they have been applied in the West, South America, Africa, the former USSR, Southern Asia and the East. This will include consideration of the role of different economic and political systems in land management and development strategies, as well as the role of science and technology. The course will also examine recent changes to the theory and practice of conservation and development including sustainable development and the growing importance of non-governmental organizations (NGOs). Prerequisites: GEO 100.*

***GEO/PS 290 Geopolitics in the 21st Century 3 SH***

*See PS/GEO 290*

*The following courses also have been approved and are offered periodically:*

*GEO/ENV 150 Urban Environment as a Human Ecological Problem*

***HUM 101 Our Relation to Nature 3 SH***

*The central concern of this course is our relationship to nature primarily as it is understood by several scientific theories and religious conceptions. At the same time, the nature of science and the nature of religion are examined. The assumptions and limitations of these human endeavors are discussed, along with the relationships among science, religion and human values. **General Education: Humanities/ Humanistic Studies.***

***HUM 226 EcoPhilosophy & The American Conservation Movement 3 SH***

*Using the American Conservation Movement as a starting point, this survey course will explore theories of human connection to nature and the socio-political and ethical issues associated with the environmental concerns future generations are likely to face. Students will examine concepts such as conservation and reclamation, environmental ethics and justice, ecofeminism, sustainability and economic development, biodiversity, ecology, and the biophilia hypothesis. This course will be supportive of more focused courses in biology, social science, political*

science, and history. Through a critical focus on the philosophic underpinning of the conservation movement and an examination of current theories and research into resource and environmental management, students will gain valuable insight into the demands our society is and will contend with in the future. *General Education: Humanities/Humanistic Studies.*

***MTR 240 Climatology 3 SH***

*This is an introductory course in climatology. Topics include solar and terrestrial radiation, the general circulation, global and local forcings of temperature and precipitation patterns, air-sea interaction, climate classification schemes, global warming, and climate change. A survey of anomalous local climate patterns will be included. Daily weather discussions of global weather patterns utilizing real-time weather data in the WCSU Meteorological Studies and Weather Center will be used to reinforce course material (3 hrs lecture). Prerequisite: MTR 150.*

***PHI 226 Environmental Philosophy 3 SH***

*An introduction to the philosophical issues surrounding and underlying the contemporary environmental crises. These include such matters as the value inherent in the nonhuman world and the ultimate nature of our relationship to that world. Prerequisite: A 100-level philosophy course. **General Education: Humanities/Philosophy.***

***PHY/ENV 136 Energy 4 SH***

*This course will investigate present and possible future energy sources, and discuss man's use and misuse of the different forms of energy and the effects of these energy uses on society (3 hrs lecture, 2 hrs laboratory). *General Education: Lab Science.**

**The following courses also have been approved and are offered periodically:**

***PS 315 Environmental Issues in International Relations***

***PSY 208 Environmental Psychology 3 SH***

*The relationship between the spatial needs of human beings and the structure of their physical environment. Special attention is given to the phylogenetic analysis of spatial needs; theories of*



*spatial behavior; assessment techniques and methodologies of environmental psychology; and practical implications for structuring human environments. Studies will be conducted both inside and outside the classroom to give the student first-hand research experience. Alternate spring semesters. Prerequisite: PSY 100. **General Education: Psychology.***

### ***SS/ENV 250 Society and the Environment***

### ***HPX 353 Environmental and Global Health 3 SH***

*This course provides an overview of the relationship between environment and health and the impact of human behavior on the ecosystem. On a global scale, discussions include key environmental health burdens, environmentally-related diseases, costs and consequences of environmental health problems and reducing the burden of disease. The role of diversity on health status, access, and delivery with respect to culture, race, ethnicity, economics, and politics is a primary focus for this course. Fall semester.*

### ***HPX 400 Outdoor Education 3 SH***

*This course covers the history, philosophy and significance of outdoor education in American culture. Current practices in the various types of camps are studied and discussed. Personal assessment of individual skills necessary for outdoor education leadership is followed by practice of the skills needed. A project which includes planning, carrying out and evaluating a worthwhile outdoor experience is required of each student.*

*The following courses also have been approved and are offered periodically:*

*HPX 381 Environment and Health*

## Appendix 4: Financial

### **Current Financial Statistics**

Tuition for CT students = \$5,587.00

Tuition for out of state students = \$11,722.00

Tuition for NE Regional students = \$6,828.00

Housing without a meal plan starts at approximately \$3,112.00

Meal plans start at approximately \$994.50

### **Fall 2015:**

*5,826 total students:* 4,328 full time and 1,498 part time

*5,298 undergraduate students:* 4,250 full time and 1,048 part time

*528 graduate students:* 78 full time and 450 are part time

### **Fall 2014:**

*5,952 total students:* 4,422 full-time, 1,530 are part time

4,365 full-time Undergraduate students

57 full-time graduate students

### **Fall 2013:**

5,492 total students

### **Geographic origin of undergraduate students 2015**

94.5% are from CT

4.4% are from NY State

1.1% are from other states and countries

### **Geographic origin of undergraduate students 2013**

96% are from CT

4.8% are from NY State

1.2% are from other states and countries