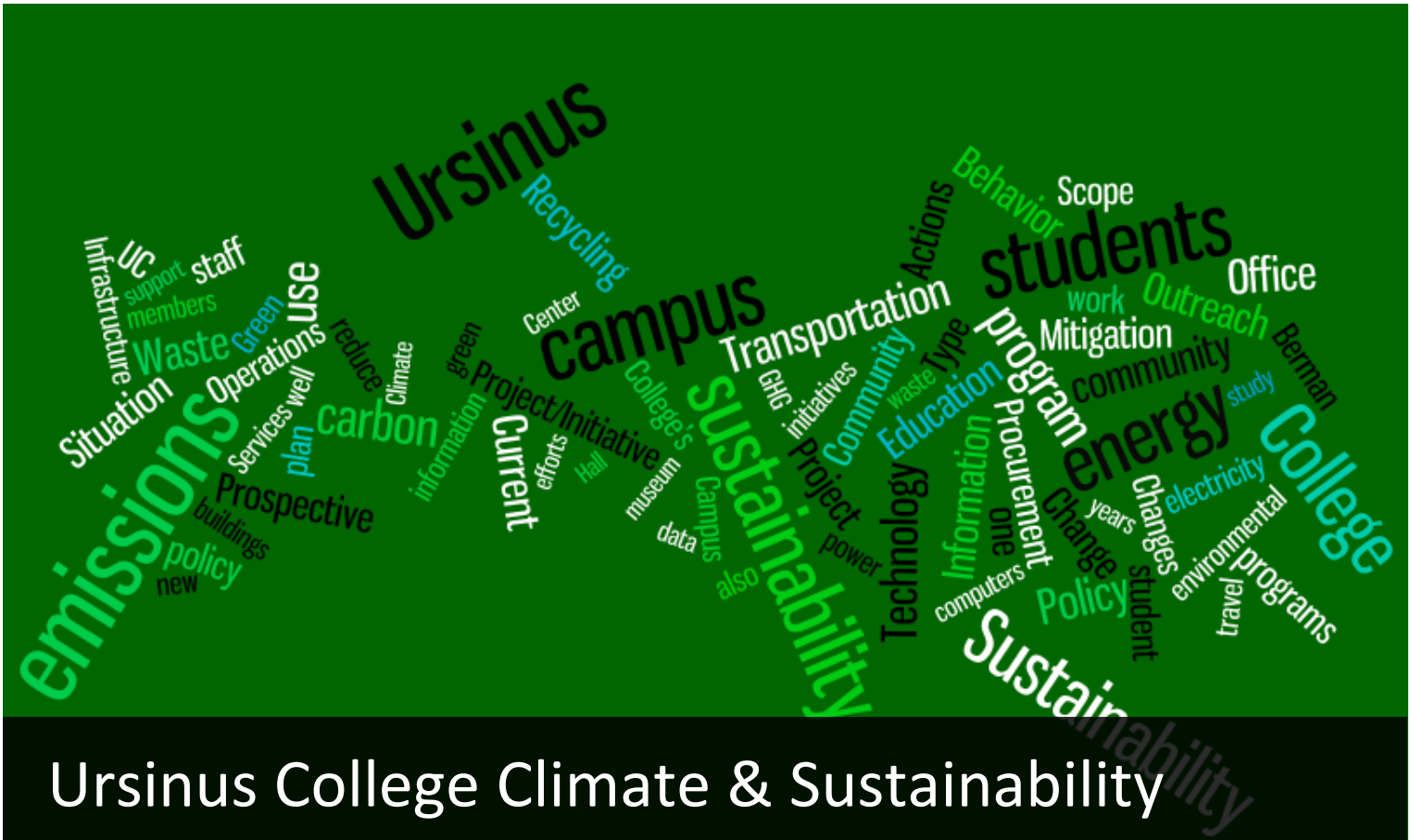

Ursinus College Climate & Sustainability Action Plan

Office of Sustainability

K. Shannon Spencer, Campus Sustainability Planner

Ursinus College is located in southeastern Pennsylvania, near Philadelphia. This is its first Climate and Sustainability Action Plan. This plan is organized by administrative units on the campus in order to facilitate the implementation and accessibility of the plan to those who will ultimately be making decisions and taking actions that affect sustainability and our greenhouse gas emissions in various areas of the College. –June 2013

Ursinus College – Office of Sustainability
601 E. Main Street, Collegeville, PA 19426
610-409-3000

Acknowledgements:

This plan is meant to guide the College's steps as we work toward our long-term goal of climate neutrality. I would like to thank all of my many collaborators from offices and departments across the College who helped craft this document. Without their input and feedback, this document would be far less accurate, robust and useful. I hope that it is, and will continue to be all of those things. I would like to thank to my editors: Facilities Director Andrew Feick, Professor Richard Wallace and Professor Leah Joseph, for the many hours they spent reading, re-reading, providing comments, advising, and being a cheering section. Finally, I would like to thank President Bobby Fong for his support of the American College and University Presidents' Climate Commitment.

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Letter from the President

URSINUS COLLEGE
OFFICE OF THE PRESIDENT

601 East Main Street, Collegeville, PA 19426
phone 610.409.3587 fax 610.409.3642

31 May 2013

Dear Members of the Ursinus College Community,

When President John Strassburger signed the American College and University Presidents' Climate Commitment in 2007, Ursinus College pledged to work toward the long-term goal of attaining climate neutrality. Six years later, we have taken many steps toward that goal, including:

- implementing energy saving strategies across the campus;
- setting LEED Silver equivalent as a baseline for all new construction;
- undertaking energy assessments to assist in long-term planning for our heating plant;
- developing a baseline inventory of our campus greenhouse gas (GHG) emissions by source;
- incorporating climate change and sustainability topics into our curricular, outreach and campus educational programs;
- instituting sustainability events and programming in multiple departments and academic areas.

Our latest cooperative effort is the compilation of this Climate and Sustainability Action Plan, the product of the Office of Sustainability staff working with faculty and staff across the campus. These sections are tailored to the needs of departments, offices, and programs and are intended to be useful long-term planning tools.

I introduce this plan as a roadmap for continuing our work toward sustainability. It calls on all members of the Ursinus community to work cooperatively to conserve energy and resources, to minimize our environmental footprint in all aspects of campus operations development, and to promote an awareness of the responsibility we each have as stewards of the environment.

Ursinus endeavors to provide a transformative education for our students. We must also strive to be transformative in the world in which our students will live their lives. By focusing efforts on campus to raise awareness and adopt changes that will reduce our impact on our natural world, we are demonstrating to our students yet another way in which transformation can happen – at the institutional and community level.

Go, Bears!

Bobby Fong
President

Section 3: Administration

Administration - Chapter 3.1: President's Office

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Since 2001, Ursinus has supported the Environmental Studies Department and sustainability-related efforts of staff and students. We have programs that extend across the campus, the organic farm, Take Back the Tap, Move-In, Sustainable Move-Out, recycling, composting, and UC BikeShare, as well as multiple courses in many disciplines that focus on sustainability and/or the environment. In the fall of 2010, the administration hired two part-time staff members to support the increasing number and extent of sustainability initiatives on campus as well as to create and implement the College's Climate Action (and Sustainability) Plan. These staff members are responsible for student-based programs and working with the College community in managing the College's efforts to become carbon neutral.

Appendix C contains a table that shows a timeline of sustainability-related actions and measures that have occurred on the Ursinus campus. These actions represent first steps toward an eco-sustainable campus. They will need additional support to be fully effective, particularly as the college moves toward carbon neutrality. This CSAP is a step toward making that a reality.

Ursinus' Administration and its Facilities Services Department have supported the inclusion of sustainability measures in some of the policies and programs of the College. Ursinus has incorporated aspects of sustainability in its contracting with waste haulers and housekeeping; we have committed to LEED construction standards for new buildings and large renovations; and we purchase many products locally. These practices were developed over time, in part resulting from our commitment to the ACUPCC, and in part because many sustainability practices make fiscal sense. For the most part, policy decisions regarding sustainability will have to make financial sense for the College.

UC has many resources to draw on as we work toward achieving our goals of cutting our greenhouse gas emissions. The first, and most important, is the support that we have from the

Administration. This support allows us to work with departments throughout the college, secure in the knowledge that we are all working toward the same goals.

Below is a table that includes a partial list of sustainability-related policies already in place at the College.

3.1 Current: President's Office

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.1-1: Sustainability projects & initiatives – President's Office

Type of Project	Mitigation Project/Initiative: President's Office
Administrative Structure	Academic Support • The administration has supported the development and expansion of the Environmental Studies Department. Programmatic Support • The administration has supported the creation of the Office of Sustainability under the Environmental Studies and Facilities Services departments.
Governance	ACUPCC • UC became a signatory to the ACUPCC in 2007. • UC has undertaken and submitted two GHG inventories in fulfillment of its commitment. Strategic Planning • UC has undertaken a strategic planning process which will allow the College to make long-term decisions and plans.

Policy	Admissions • Promote the Environmental Studies Department and sustainability initiatives on campus to potential applicants. Advancement • Investigate possibilities and pursue donors who may be interested in environmental and sustainability related initiatives and projects on campus. Communications • Write articles (web and print media) about sustainability projects on campus. • Send out articles to outside publications that highlight sustainability achievements on campus. Plastic Water Bottles • UC banned the sale of plastic water bottles on campus; however, this ban has sizeable limitations. Notably, the sale of water bottles at athletic events is considered a major fundraiser for the teams in charge of concessions. Also completely banning bottled water resulted in other, less healthy bottled beverages being provided to traveling athletics teams. Space Heaters • UC prohibits the use of space heaters.
Infrastructure	Green Building • UC has committed to building all major renovations to LEED Silver standards.*
Operations	Contracting • Inclusion of sustainability concepts within contracting (i.e., waste, housekeeping).
Procurement	• UC is committed to replacing outdated appliances with Energy Star certified efficient models, when available. • UC prioritizes local purchasing, when available and fiscally comparable to other options.
IT Changes	None at this time
Behavior Change & Ed.	Communication • President Fong has begun the process of transparent communication, which will facilitate the transmission of information to the campus community about the College's commitments to the ACUPCC.
Waste & Recycling	Recycling & Composting Program • Our administration has been supportive of our recycling and composting programs on campus as part of our overall sustainability programming.
Transportation	Idling • Buses are not allowed to idle on campus. This supports Pennsylvania Diesel-Powered Motor Vehicle Idling Act 124, which outlaws buses idling for longer than 5 minutes in any 60 minute period. (Pennsylvania Bus Association 2008)
Community Outreach	Strategic Planning • Community outreach is part of the College's current strategic planning process and is viewed as critical to our mission as an educational institution.

*As required by the ACUPCC, Ursinus College has made a commitment to build all new buildings and renovations to LEED Silver standards. The most recent addition to the Berman Art Museum was built to this standard as were NSF-funded lab renovations in Thomas Hall. The benefits of using LEED construction standards are numerous,

including energy savings, educational values, showing community leadership, and lowering our carbon footprint. At this time we are not pursuing certification due to the cost, however, on the ground we are having the same positive environmental impact regardless of the lack of certification.

3.1 Goals: President's Office

Goal 1: Support the College's commitment to the ACUPCC with relevant and meaningful policies that advance our ultimate goal of becoming carbon neutral.

Goal 2: Demonstrate on-going and long-term institutional support for campus sustainability initiatives.

Goal 3: Support the development and implementation of a climate and/or sustainability-related research program at the College for students and faculty.

3.1 PA: President's Office – Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

Organizational Structure: Ursinus College has multiple constituencies that are actively working on sustainability topics at various levels. In order to ensure that these groups are engaged and communicating with one another, we need to create a structure that enables each group to participate in the overall goals of the CSAP and in the work of the Office of Sustainability as it affects the UC community as a whole and in part. In order to create this organizational

structure that will support our commitment to becoming carbon neutral we should consider taking the steps outlined below.

Funding: Ursinus College is dealing with budgetary constraints that challenge the ability to fund sustainability programs and projects. In the past, we have made decisions based on return on investments, timing and needs, as well as projects that have positive public relations values. We have also been able to procure grant funding for some projects. Still other programs have benefitted from donor support. Moving forward we would like to have a more directed plan for funding sustainability initiatives.

3.1 PA-1: President's Office – Prospective Actions: Policy

Immediate (2013-2018)

Academics

- Foster and create academic partnerships around sustainability between and within departments.
- Encourage faculty members to integrate sustainability concepts into their courses, as related to their fields of study.

Bully Pulpit

- Use the clout of the administration to promote, and in some cases require, various areas or departments within the College to embrace the concept of sustainability, as is becoming increasingly common at other schools. These could include:
  - Encourage all community members to consider sustainability in decision making about items such as: events, courses, student activities, transportation, etc.
  - Encourage participation from all quarters in this campus-wide effort to reduce our carbon footprint and act as good role models for the future leaders that Ursinus is educating, as well as those who are graduates and the Collegeville community.
  - Set up a Green Office Certification program and provide public support of this OS program when it is up and running.
  - Set up a Green Graduation and endorse and work toward having the UC graduation be a "green" event on campus.

Endorsement of Sustainability

- Publically endorse sustainability-related policies.
- Encourage academic and non-academic departments to develop their own set of effective and realistic sustainability-related policies.

Goal Setting: Infrastructure

- Strategize with the Office of Sustainability, Facilities Services and outside contractors (where appropriate) on setting goals for our building and energy infrastructure as we move forward with aging boilers and buildings while also attempting to become carbon neutral.

Guiding Principles

- Write sustainability concepts into the UC mission statement and strategic plan.

Mission Statement

- Investigate the possibility of writing a green mission statement for the College that includes: procurement, operations, transportation, education & behavior change, waste reduction and recycling. Work with the OS on this document.

Sustainability Network

- Create a Sustainability Committee with representatives from the student body, the faculty, the staff, and the administration. This committee would report to the President of the College and would provide advice/feedback to the President on sustainability within the College.
- Allow for and encourage the creation of Green Teams - self-identified groups working within departments/programs on sustainability concepts. These would work with and receive support from the Office of Sustainability on initiatives within their groups. They would report progress to the Sustainability Committee.

Staffing

- Encourage UC's Human Resources staff to incorporate sustainability principles into annual reviews, job descriptions and new employee materials.

Policy - Idling

- Institute a No-Idle policy for all vehicles (not just buses) operated on the UC campus. This will limit GHG emissions, make a more pleasant environment on campus (no fumes), and will save money on gasoline.

Policy - Office Machines

- Consider creating a college-wide policy or official recommendation that College offices use the simplest and/or lowest impact practices required for the job at hand. For example, a manual stapler is preferable to an electric stapler; a B/W copy is preferable to a color copy; printing double-sided is preferable to printing single sided.
- Encourage infrastructure to be set in place to encourage this type of usage where possible (i.e. default double-sided print setting).

Policy - Procurement

- Institute a college-wide policy that strongly encourages all departments to purchase "green," "sustainable," or "net zero" products. This policy should also encourage all purchases to be judiciously considered for their sustainability repercussions. (See procurement section below)

Policy - Waste

- Plastic Bag Ban
    - Much as the College banned plastic bottles from the campus, institute a ban on plastic shopping bags on campus (this would affect the bookstore, Zack's and Jazzman's.).
- Events
    - Consider instituting a policy for waste disposal on campus events. Currently campus events are treated differently from day-to-day activities in terms of our waste and recycling. A policy would be aimed at keeping special events in line with our business as usual efforts around sustainability. Elements of such a policy could include:
        - A requirement that recycling containers be made available at all events. Recycling bins should be larger than trash receptacles to provide a visible illustration of the campus' commitment to sustainability.
        - A requirement that all events that serve food also provide a composting container. Materials put into the compost would then be added to our compost at Wismer.

        - A requirement that all food-related materials at events be either reusable, compostable or recyclable.
- Responsible Consumption
    - Institute a college-wide policy that strongly encourages all departments to reduce use of products and to implement sustainability practices in everyday operations.
    - Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

ACUPCC Reporting

- Work with the OS to review the sustainability practices of academic and non-academic departments and offices and encourage submission of periodic CSAP progress reports.

Community Partnerships

- Investigate and support climate-related partnerships with other academic institutions, NGOs and local governmental agencies and organizations.

Employee Accountability

- Incorporate CSAP goal implementation into related staff members' job descriptions and annual conversations with supervisors (by working this into day-to-day responsibilities, they will know that they have support from their bosses).

Rating System

- Aim to participate in AASHE's Sustainability Tracking, Assessment and Rating System (STARS) program. This would allow the College to have a much better understanding of the effectiveness of our efforts to become sustainable and climate neutral. The STARS program extends beyond measurements of only eCO_2 to incorporate the three main areas of sustainability: ecological, economic and justice-related sustainability. This particular program comes with a price tag, though it is a very effective program in which many other colleges participate. By participating in a program used by our peer institutions, we

would stay current and have comparable data, enabling better insight into our peer-to-peer standings.

Staff Reporting Structure

- Consider changing the reporting structure of the Ursinus College Office of Sustainability (OS) such that it reports to the President's Office. The ACUPCC is a commitment made by the College – not a single academic department, such as Environmental Studies, or a single non-academic department, such as Facilities Services. By having the OS report to the administration, it recognizes the strength of the College's commitment to sustainability initiatives throughout the College, as well as the integral and interdisciplinary nature of sustainability as a concept. It would also allow the OS to collaborate more closely with the administration on the many College-wide sustainability issues.

Sustainability Network

- Enlist interested members from each academic and administrative department to act within those departments as Sustainability Liaisons. They would be tasked with encouraging energy efficiency and waste minimization. These liaisons would report progress and sustainability-related actions to the Sustainability Committee.

Procurement

- Require purchasers to monitor and report the percentages of "green" products purchased and track progress toward the College's goals in this area.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper use by 2016, 50% reduction of office paper use by 2020, etc.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-2: President's Office – Prospective Actions: Internal Operations

Immediate (2013-2018)

Expectations

- Work with various College departments to set expectations that UC will embrace environmental sustainability within our financial constraints in such a way that we become a model that other schools aspire to imitate and that prospective students are eager to be part of.
- Be transparent about the reasons for embracing sustainability on campus: these may include fiscal savings, improving students' educations to better train them to address the problems in our world, being a good community member, setting an example of behavior fueled by academic research into the need to reduce GHG emissions, etc.

Funding: "Green Development Fund"

- Support the establishment of a "Green Development Fund" to support sustainability programs
    - There are many Ursinus alumni who have an interest in sustainability—some of them developed those interests while at the College and others have come to it on their own. A dedicated Green Development Fund operated by the Development Office could attract private donations from alumni as well as other friends of the College who might not otherwise give. We already have donors who fit these categories. The earnings from such an endowment fund could help support sustainability initiatives proposed in this plan, including costs of efficiency investments, student sustainability programs, and training and research programs.
    - This would need to have an accompanying public relations campaign that described how such a fund helps the entire College, not just the environmentally-minded community members. Sustainability is also about spending less, using less, and getting more enjoyment out of what we already have.

Funding: "Green Revolving Fund"

- Support the institution of a "Green Revolving Fund"; if possible, make investments in the fund from the College's endowment, otherwise consider allowing the OS to raise funds to support such a fund.

  - More than 50 colleges operate green revolving funds, and two of these have invested money from their endowments in the green revolving fund.
  - AASHE has launched the Billion Dollar Green Challenge encouraging colleges and universities to invest a combined total of one billion dollars by 2014 in "self-managed green revolving funds to finance energy efficiency improvements and provide an ongoing source for future conservation upgrades." (ACUPCC 2011)

Funding: Support the establishment of a student "Green Fee"

- A $2-5 per semester Green Fee (0.007-0.02% of current full pay fees) would generate between $7,000-17,000 per year to support programs such as campus recycling, sustainability awareness programs and events, and sustainability-related community outreach.

Funding: Grants

- Actively search for and encourage others to apply for grants that would help improve our energy infrastructure, create community partnerships, and/or provide educational opportunities within the college in relation to sustainability.

Funding: Borrowing

- Investigate borrowing programs where Ursinus would be allowed to go beyond it's debt limit if, and only if, it went to an energy/cost saving measure and the assumption would be that the school could payback the loan by the cost reduction incurred by energy savings.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Admissions: Red and Gold Program

- Many prospective high school students attend our orientation, called Red and Gold Day, at Ursinus College. During the Red and Gold Day, students attend classes and take tours of the college. Red and Gold Day provides a great opportunity to show prospective students sustainable projects on campus. Ursinus may be able to recruit more student leaders who are interested in becoming involved with student run projects or are interested in attending a sustainable campus. If they come to campus they would then be more likely to be aware of the existence of such programs that help the College and to participate in them.
- Encourage Admissions to add at least one green stop to Red and Gold Tours, such as the green roof or the UC Organic Farm.
    - Have tour guides emphasize the importance of student-run green projects on campus, including the extensive recycling system.
    - Provide a sheet detailing the different sustainable projects on campus in the Red and Gold folder the students receive that day.

HR: Staff Orientation

- Encourage HR to have all new faculty (and staff) go on a Green Tour of the campus (a tour of the UC sustainability projects) for new staff/faculty. Educate all new faculty and staff members about sustainability on campus and provide them with a small document that covers the campus issues, campus goals, what they can do to help achieve those goals, and where to find more information as necessary.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-3: President's Office – Prospective Actions: Procurement

Immediate (2013-2018)

Energy Accounting

- For projects that require large capital expenditures, incorporate energy costs associated with the lifetime of the project. Take savings from energy efficiency aspects of the project into account and consider payback time.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-4: President's Office – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Website

- Support the creation of a webpage that presents the Administration's perspective on sustainability at Ursinus.
- Expand the use of the UC Administration's website as a vehicle for educating site visitors about the College's commitment to sustainability.
- Encourage the Communications Department staff to continue to expand our web presence such that UC publicizes our sustainability achievements and successes.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.

- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-5: President's Office – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Board Meetings

- Survey the board members to determine their interest in having paperless or greener board meetings
- Rather than printing out all of the documents for all board members, conduct a survey to determine who would prefer to receive their materials digitally. For those Board Members, produce PDFs of all documents, including agendas, audits, finance, investments, advancement, annual giving, retention, enrollments, etc.; have everyone submit all document digitally to one point person who would then print the number of copies (double sided) for those who wish to receive hard copies and would send digital copies (or a link to a site where they could all be accessed on the website).

Local residences

- Encourage faculty and staff to purchase homes locally. Determine if there is any way to incentivize this, and do so, if possible.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect students, faculty, and staff to fall in line with the College's policies, practices, and expectations around sustainability.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Mid-Term (2019-2030)

Academics

- Put academic practices and/or incentives into place that will make it viable for faculty members to incorporate sustainability and climate change concepts into their classes and research.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-6: President's Office – Prospective Actions: Waste & Recycling

There are currently no identified Prospective Actions in this area.

3.1 PA-7: President's Office – Prospective Actions: Transportation

Immediate (2013-2018)

Business Office

- Adjust expense/reimbursement forms for travel so that the person submitting the receipts must calculate air miles travelled (and include the cities travelled to/from).
- Change the travel forms for faculty and staff travel reimbursement to include distance traveled and mode of transportation; input this information to online tracking documents.
- Adjust spreadsheets for business office inputs such that there is a row/column for mileage and method of travel (e.g., carpooling, train, airplane, etc.) as noted

above. This information is important to our ability to calculate our actual carbon footprint.

Travel Reduction Plan

- Work with Office of Sustainability staff to investigate options for future programs that would aim to reduce employees' overall miles traveled related to UC. For example:
  - Develop a comprehensive telecommute policy for staff members.
  - Establish and promote strong telephone conferencing and webinar capabilities for faculty, students, and staff.
  - Establish flexible work hours to facilitate carpooling.
  - Look into incentives to encourage local employees to bike or walk to work. This could be financial or a recognition of some sort.
  - Educate faculty/staff about the GHG emissions related to miles traveled and mode of travel.
  - Promote the use of alumni for admissions trips to high schools where the alums live.
- Encourage telecommuting and video conferencing when possible to reduce travel-related emissions.

Carbon Offsets

- When economically feasible, consider supporting the purchase of carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

Travel Cost Effectiveness

- Calculate and track travel expenses and the related carbon footprint for each administrative office (e.g., Admission, Biology, Facilities Services, etc.). Determine if this travel is cost effective for the College (both monetarily and with regard to the related GHG emissions)
- Consider purchasing carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

Mid-Term (2019-2030)

Student Cars

- Consider supporting efforts to encourage students to leave their cars home from college.
    - This would likely have to have an accompanying PR campaign as well as a support structure such as additional Bikeshare bikes, a weekend shuttle service, or a UC Carshare program that would give students the ability to share a car on campus.
- Support the OS in researching the feasibility of this possibility.
    - This might involve determining the cost to the College of each individual car on campus, a break-even point (where the College would begin to see an economic benefit for any given incentive program), and an analysis of how much the College would benefit from various scenarios vs. the complications for admissions or student life.

Business Travel

- When economically feasible, consider supporting the purchase of carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-8: President's Office – Prospective Actions: Community Outreach

Immediate (2013-2018)

Policy Coordination

- Encourage Ursinus community members to work with the Boroughs of Collegeville and Trappe and the Perkiomen Valley School District to coordinate on sustainability-related policy initiatives on which all four (or the College and any one of the others) can work together.

Community Collaboration

- Encourage Ursinus community members to collaborate with the local school district (Perkiomen Valley and other close-by districts) to develop "green" programming at the local schools.
    - This could take the form of environmental clubs, collaborative work on sustainability/environmental projects, having student mentors from UC work with student groups or classes in the school district.
    - This could also represent a collaboration between multiple departments – Education, Environmental Studies, Math, Biology, Art, English, etc.

Mid-Term (2019-2030)

Community Collaboration

- Encourage Ursinus community members to collaborate with the Boroughs of Collegeville and Trappe, the local school district (Perkiomen Valley), and other area employers to expand on the Collegeville Borough's Sustainability Plan. Such an endeavor would encompass the entirety of our area and make it a location that is appealing for "green" jobs.
- Work with Collegeville Borough government to draft new and amend current zoning ordinances to make them more sustainable. For example, most new construction requires additional parking. Creating more impervious surfaces and encouraging more cars is not sustainable.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-9: President's Office – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Administration - Chapter 3.2: Business Office

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Ursinus College has five operating areas: enrollment, finance and administration, advancement, academic affairs, and student affairs. This chapter of the Climate and Sustainability Action Plan addresses the Business Office. This office coordinates closely with the College's administrators and has objectives that impact the operations of the College. Their primary goals do not revolve around day-to-day student life, but rather the overall well-being of the College.

The Business Office is staffed by an associate Vice President and eleven staff members. The office is responsible for budgeting, financial reporting, report preparation, accounting, payroll and accounts payable, purchasing, student billing, grant accounting, accounting for capital assets, and in some cases, getting bids from companies for products/services., etc..

This office is located in the primary administration building, Corson Hall.

3.2 Current: Business Office

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.2-1: Sustainability projects & initiatives – Business Office.

Type of Project	Sustainability Project/Initiative: Business Office
Policy	None at this time
Internal Operations	Paperless • Day-to-day operations are done largely without paper. Initiatives include: loan refinancing; budgeting; double-sided printing; audits; documents scanned to or saved as pdf and emailed; direct deposit (encouraged for all employees); and purchasing. Purchasing • Priority is made for local purchasing. • Negotiate contracts with vendors for green products • Best Practices • Designate a sharing and reuse area for office supplies such as binders, folders and staplers.
Procurement	Online Ordering • Use online catalogs for ordering items rather than storing many sizable catalogs. Local Vendor Relationships • Develop relationships with small local vendors.
IT Changes	Online Updates • Has transitioned to online budgeting and expense submission. • Has transitioned to online billing statements for student accounts. • Audit committee emails UC board members tax information ahead of board meetings so that they can review information and then discuss at the meetings prior to filing • Credit card: people can fill out forms online for bills; • Getting ready to implement iPay program that allows all employees (student and staff) to access their paystub and W2s online. • All budgets and the budget process are available online;
Behavior Change & Ed.	None at this time
Waste & Recycling	• Recycled Paper • Staff are encouraged to recycle and shred paper; Shredded paper is recycled by housekeeping and during on-campus shredding events.
Transportation	• Webinar Attendance • Employees access webinars instead of traveling- to conferences; attend many meetings virtually

Community Outreach	None at this time

3.2 Goals: Business Office

Goal 1: Determine the business office's commitment to sustainability on campus, and publicize that commitment to on-campus constituents as well as to the office staff members.

Goal 2: Within the office's staff, increase awareness of the office's commitment to sustainability and the importance of conserving resources.

3.2 PA: Business Office - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.2 PA-1: Business Office – Prospective Actions: Policy

Immediate (2013-2018)

Mission Statement

- Investigate the possibility of writing a green mission statement for the Business Office and all of the programs that it encompasses. Include areas such as:

procurement, operations, transportation, education & behavior change, waste reduction and recycling. Work with the Office of Sustainability on this mission.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Procurement

- Require purchasers to monitor and report the percentages of "green" products purchased and track progress toward the College's goals in this area.
- Update our credit card and purchasing policies in order to decrease the amount of time and paper required for employees to requisition, submit a purchase order, create an invoice, and make payment, particularly for small purchases.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.2 PA-2: Business Office – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Inventory Management Tool

- Consider using optical scanners for inventory management, which give more details about inventory and allow for more precise ordering.

Purchasing

- Research more efficient and sustainable methods for managing the purchasing process, particularly for handling small purchases, including methods and practices that would decrease paper processing and time requirements to handle requisition, P.O.s, invoiced, and payment.

Mid-Term (2019-2030)

Expectations

- Work with various College departments to set expectations that UC will embrace sustainability within our financial constraints in such a way that we become a model that other schools aspire to imitate and of which prospective students are eager to be part.
- Be transparent about the reasons for embracing sustainability on campus: these may include fiscal savings, improving students' educations to better train them to address the problems in our world, being a good community member, setting an example of behavior fueled by academic research into the need to reduce GHG emissions, etc.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.2 PA-3: Business Office – Prospective Actions: Procurement

Immediate (2013-2018)

Energy Accounting

- For projects that require large capital expenditures, incorporate energy costs associated with the lifetime of the project. Take savings from energy efficiency aspects of the project into account and consider payback time.

Green Purchasing

- Write and implement a green purchasing policy or adopt a green purchasing strategy for the department/office and use a set of green purchasing guidelines. Appendix H contains a set of steps for setting up green purchasing for departmental/office purchases as well as some general guidelines choosing products.
- Ensure that the department's intentions are clear in the wording of the guidelines.
- Work to get buy-in from all top level staff members.
- Communicate the guidelines to suppliers so they have clear expectations. Work with existing trusted suppliers before switching to new ones.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.2 PA-4: Business Office – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Website

- Support the creation of a webpage that presents the business office perspective on sustainability at Ursinus.
- Expand the use of the business office's website as a vehicle for educating site visitors about the College's commitment to sustainability.

Data Tracking

- Set up an Excel worksheet that, when opened, automatically updates the GHG emissions data from Business office files on college-related air, car and train travel (including mileage information).

Increase Online Usage

- Investigate the possibility of making the 1098T (federal tuition tax form) available digitally.
- Consider ways to increase the appeal of direct deposit or to make direct deposit a College-wide requirement.
- Investigate the possibility of using this same system for employee billing that is used for student billing (Students can get billing statements online)-to eliminate paper bills.
- Allow students the opportunity of paying their student bill on-line via credit card.
- Work toward having online student timesheets to eliminate paper and streamline this process for the business office as well as departments and offices that employ student workers.
- Investigate options for streamlining the student billing/receipts process such that it requires less paperwork and accepts more digital submissions.
- Work toward online submission of credit card receipts. Determine if accepting scanned images of receipts is acceptable to auditors.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.

- Reassess goals and prospective actions.

3.2 PA-5: Business Office – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Board Meetings

- Survey the board members to determine their interest in having paperless or greener board meetings
- Rather than printing out all of the documents for all board members, conduct a survey to determine who would prefer to receive their materials digitally. For those Board Members, produce PDFs of all documents, including agendas, audits, finance, investments, advancement, annual giving, retention, enrollments, etc.; have everyone submit all document digitally to one point person who would then print the number of copies (double sided) for those who wish to receive hard copies and would send digital copies (or a link to a site where they could all be accessed on the website).

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.2 PA-6: Business Office – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.2 PA-7: Business Office – Prospective Actions: Transportation

Immediate (2013-2018)

Travel Forms

- Consider changing the travel forms for faculty and staff travel reimbursement to include distance traveled and mode of transportation; input this information to online tracking documents.
- Consider adjusting spreadsheets for business office inputs such that there is a row/column for mileage. This information is important to our ability to calculate our actual carbon footprint.

Travel Reduction Plan

- Work with Office of Sustainability staff to investigate options for future programs that would aim to reduce employees' overall miles traveled related to UC. For example:
  - Develop a comprehensive telecommute policy for the business office
  - Establish flexible work hours to facilitate carpooling.
  - Look into incentives to encourage local employees to bike or walk to work. This could be financial or a recognition of some sort.
- Encourage telecommuting and video conferencing when possible to reduce travel-related emissions.

Mid-Term (2019-2030)

Carbon Offsets

- When economically feasible, consider supporting the purchase of carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.2 PA-8: Business Office – Prospective Actions: Community Outreach

Immediate (2013-2018)

Banking Collaboration

- Continue to investigate the possibility of partnering with a local bank on student bank accounts to enable easier online transactions, reduced plastic cards (student ID would serve as bank card), decreased fees, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.

- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Administration - Chapter 3.3: Student Financial Services

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Ursinus College has five operating areas: enrollment, finance and administration, advancement, academic affairs, and student affairs. This chapter of the Climate and Sustainability Action Plan addresses the Business Office. This office coordinates closely with the College's administrators and has objectives that impact the operations of the College. Their primary goals do not revolve around day-to-day student life, but rather the overall well-being of the College.

Ursinus College offers an extensive financial assistance program designed to recognize the high school achievements of students, while at the same time ensuring access to students from varied economic backgrounds. Ursinus awards financial assistance based both on merit and on financial need. The Student Financial Services Office administers a comprehensive program of aid from Ursinus which is funded through federal, state, institutional and private sources. Approximately 98 percent of all students receive some form of assistance. Over thirty-five million dollars in scholarships and grants were awarded from Ursinus College resources for the 2012-2013 academic year, both merit and need-based. The office no longer handles student billing, which is handled through the Student Billing office.

Much of what the SFS office spend time on pertains to prospective and incoming students; however, all financial aid must be reapplied for annually. Part of the application process is digital, and part of it uses regular mail services. The SFS has found that they had poor return from only sending out financial aid information packages digitally, so they reverted to US mail. The office currently puts together and sends via US mail Financial Aid award letter packages for approximately 2,600 prospective first-year applicants. Once the packages go out, on online service called IDOC contacts deposited first year students to have them submit verification paperwork such as tax returns, W-2 forms, etc. digitally. SFS staff then review and verify all applications in house in order to make sure that aid is going to the candidates with the most need. This is a time consuming process. A second letter goes out only to students who have

submitted their deposits (about 460). This process is done for first year students and then for returning upper-class students as well. Packages are sent out to approximately 1,250 returning upper-class students.

If SFS is missing student documents and the student is on campus, they will contact them via email; if missing documents are related to parents, then parents are sent a letter through the US mail. SFS is required to keep documents for all students for three years or if a Perkins Loan borrower, until they close their loans. The U.S. Government requires that when a student graduates that they participate in an exit interview regarding their responsibility for their loan repayment. This interview is a digital tutorial that automatically populates another software program (Powerfaids) with data.

This SFS office is located in the primary administration building, Corson Hall.

3.3 Current: Student Financial Services

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.3-1: Sustainability projects & initiatives – Student Financial Services Office.

Type of Project	Sustainability Project/Initiative: Student Financial Services Office
Policy	Paperless • SFS has set a goal for the office to become paperless; and is working toward that goal.
Internal Operations	Paperless • Day-to-day operations are done largely without paper, including: ○ online viewing of bills ○ FAFSA and CSS application materials are submitted to UC online ○ Now send instructions to students for online viewing of terms and conditions of Financial Aid awards as well as any policies that go along with those awards. (these used to be printed and sent) ○ Coordinating with billing to reduce the number of mailings.
Procurement	Online Ordering • Place orders online rather than by paper when possible.
IT Changes	Online Updates • Has transitioned to online budgeting and expense submission. • Has transitioned to online billing transactions for student accounts. • Budget is online • Encouraging students to use email and digital programs. • Sends spring and fall newsletter by email
Behavior Change & Ed.	None at this time
Waste & Recycling	Recycled Paper • *Staff are encouraged to recycle shredded paper; Shredded paper is recycled by housekeeping* and during on-campus shredding events.
Transportation	Webinars and Conferences • Attend webinars instead of going to conferences; attend many meetings virtually • Have combined various mailings to reduce transportation/mailing costs • Carpool to conferences Flexible Work Schedule • From time to time staff work from home to facilitate particularly busy work periods.

	Mailings • Double up on some mailings to avoid cost.
Community Outreach	None at this time

3.3 Goals: Student Financial Services

Goal 1: Determine the SFS office's commitment to sustainability on campus, and publicize that commitment to on-campus constituents as well as to the office staff members.

Goal 2: Within the office's staff, increase awareness of the office's commitment to sustainability and the importance of conserving resources.

3.3 PA: Student Financial Services - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.3 PA-1: Student Financial Services – Prospective Actions: Policy

Immediate (2013-2018)

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-2: Student Financial Services – Prospective Actions: Internal Operations

Immediate (2013-2018)

Online Forms

- Continue investigating the possibility of moving to completely online forms for SFS.
- Work toward having digital records, as far as is allowed by government rules and regulations.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Inventory Management Tool

- Use optical scanners for inventory management, which give more details about inventory and allow for more precise ordering.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-3: Student Financial Services – Prospective Actions: Procurement

Immediate (2013-2018)

Energy Accounting

- For projects that require large capital expenditures, incorporate energy costs associated with the lifetime of the project. Take savings from energy efficiency aspects of the project into account and consider payback time.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-4: Student Financial Services – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Online Forms

- When possible, work with Instructional Technology staff to develop forms that SFS can use to facilitate the Financial Aid process.

Software

- Investigate investing in the PowerFAIDS "Net Partner" software program from the College Board. This software would substantially decrease the person hours and shipping costs to the SFS office by allowing prospective students to view the paperwork that they have submitted/that hasn't been received. It will allow students to view their financial aid award letter online. It would also allow SFS to digitally mail documents to prospective students rather than sending via snail mail.

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-5: Student Financial Services – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-6: Student Financial Services – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Training

- Please see Appendix F for recommendations on recycling training.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-7: Student Financial Services – Prospective Actions: Transportation

Immediate (2013-2018)

Travel Reduction Plan

- When possible, encourage telecommuting and video conferencing to reduce travel-related emissions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-8: Student Financial Services – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Administration - Chapter 3.4: Human Resources

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Ursinus College has a small human resources office comprised of two staff members who are responsible for hiring, benefits, new employee orientation, and employee records, among other things. Human Resources is located in the primary administration building, Corson Hall. These two staff members undertake the following:

Hiring

- the logistics of hiring new professional and student workers
- Recruitment for non-faculty positions
- Advertise positions, log and acknowledge all applicants, work with department chairs to make the offer, follow up with applicant pool after the position is offered
- new employee orientation

Benefits

- Brokers: Preparing and circulating requests for proposals, negotiations with providers on plan design (health and retirement), renewals,
- Employees: employee education around benefits and addressing employee concerns & questions,
- Legal: legal filings, form 5500 & extensions, semi-annual report, regulation compliance, dealing with outside audits

Employee Oversight & Record Keeping

- Process legal paperwork for employees
- Maintain employee records
- Handle all manner of employee/supervisor issues
- Conduct exit interviews
- Manage progressive disciplinary actions
- Track vacation and sick time
- Communicate with Business Office regarding employee changes to payroll (address, deductions, salary, withholdings, etc.)

- Student employment oversight: approval of new jobs, track hourly rates, manage website, post/remove jobs, work with departments on job descriptions and classification proposals

Policy review (College policies such as vacation, sick leave, workers compensation, harassment, etc.)

3.4 Current: Human Resources

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.4-1: Sustainability projects & initiatives – Human Resources Office.

Type of Project	Sustainability Project/Initiative: Human Resources Office
Policy	Smoking • *There is a no smoking policy in public buildings on campus. This creates healthier work spaces for all employees, potentially reduces health care* costs along with lowering our risk of fires, and reducing the need for cleaning chemicals (to remove odors and smoke-related film on surfaces) as well as the time spent cleaning.
Operations	Paper Use • Limit use of paper through scanning, emailing, double-sided printing. • Eliminated the paper copy of the College handbook. • Post new position descriptions online rather than print. • Whenever possible, use online filing, resources, communication, storage, and document exchange. This saves money on paper, printer ink and energy use as well as saving physical storage space. Benefits • Investment options for the benefits package include a socially conscious fund option.
Procurement	None at this time
IT Changes	Healthcare Plan • Virtual presentation and access for all materials, filing, and other information for the College's healthcare provider. • Open enrollment process is online. College handbook • College handbook available only online.

	Hiring Process • Positions are announced largely in online • All resumes, cover letters, etc. are submitted electronically. Applicant logs are kept online; applicants are acknowledged as received and notified of position filled electronically.
Behavior Change & Ed.	Power Usage • Electronic devices are plugged into a central power strip for each user, and then turned off at the end of the day
Waste & Recycling	Shredding • Staff are encouraged to recycle shredded paper; • Shredded paper is recycled by housekeeping and during on-campus shredding events.
Transportation	Business Office, Human Resources • Attend webinars instead of going to conferences; attend many meetings virtually
Community Outreach	None at this time
Infrastructure	None at this time

3.4 Goals: Human Resources

Goal 1: Determine each office's commitment to sustainability on campus, and publicize that commitment to on-campus constituents as well as to the broader community.

Goal 2: Within each office's staff, increase awareness of the office's commitment to sustainability and the importance of conserving resources.

3.4 PA: Human Resources - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a

later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.4 PA-1: Human Resources – Prospective Actions: Policy

Immediate (2013-2018)

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.4 PA-2: Human Resources – Prospective Actions: Internal Operations

Immediate (2013-2018)

Staff Orientation

- Expand new employee orientations so that they include campus-wide topics, including sustainability.
- Consider requiring that all new faculty (and staff) go on a Green Tour of the campus (a tour of the UC sustainability projects) for new staff/faculty. Educate all new faculty and staff members about sustainability on campus and provide them with a small document that covers the campus issues, campus goals, and what they can do to help achieve those goals.

Employee Training

- Develop online training programs around sustainability and other topics.
- Work with the Office of Sustainability to produce a resource guide that outlines sustainability-related College policies, employee responsibilities, and information about green buildings. Include a link to this online document to new employees.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

Expectations

- Work with various College departments to set expectations that UC will embrace sustainability within our financial constraints in such a way that we become a model that other schools aspire to imitate and that prospective students are eager to be part of.
- Be transparent about the reasons for embracing sustainability on campus: these may include fiscal savings, improving students' educations to better train them to address the problems in our world, time savings, being a good community member, setting an example of behavior fueled by academic research into the need to reduce GHG emissions, etc.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.4 PA-3: Human Resources – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

There are currently no identified Prospective Actions in this area.

3.4 PA-4: Human Resources – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Benefits

- Have summary plan descriptions for benefits plans distributed and/or made available electronically instead of in hard copy.
- Consider having employees fill out paperwork for benefits online. This might include the need to invest in an electronic signature machine.

Webinars

- Create webinars for group presentations on benefits and other topics so that they are accessible to all employees, regardless of work schedule.

Software Updates

- Consider software updates (such as an online HR system) that would allow HR personnel to further reduce paper use and printing as well as enabling more efficient use of other resources and potentially reducing document storage requirements..

- Consider the possibility (including legal ramifications) of transitioning to electronic personnel files. This would eliminate paperwork as well as reducing storage demands.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.4 PA-5: Human Resources – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Own Sustainability

- Participate in sustainability strategy formulation where it applies to new employees.
- Help to inculcate sustainability as a value into the Ursinus community through the hiring process and the new employee training process.
- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Local residences

- Encourage faculty and staff to purchase homes locally. Determine if there is any way to incentivize this, and do so, if possible.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.4 PA-6: Human Resources – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Training

- Conduct training, in conjunction with Office of Sustainability staff members, around recycling. This should include what can be recycled and what the limitations of the recycling program are (contamination).

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.4 PA-7: Human Resources – Prospective Actions: Transportation

Immediate (2013-2018)

There are currently no identified Prospective Actions in this area.

Mid-Term (2019-2030)

Commuting

- Work with Office of Sustainability staff to investigate options for future programs that would reduce employees' overall miles traveled related to UC. For example:
  - Develop a comprehensive telecommute policy.
  - Establish and promote telephone conferencing and webinar capabilities for faculty, students, and staff.
  - Establish flexible work hours to facilitate carpooling.
  - Look into incentives to encourage local employees to bike or walk to work. This could be financial or a recognition of some sort.
  - Educate faculty/staff about the GHG emissions related to miles traveled and mode of travel.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.4 PA-8: Human Resources – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

3.4 PA-9: Human Resources – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

Administration - Chapter 3.5: Communications & Web Office

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Ursinus College has five operating areas: enrollment, finance and administration, advancement, academic affairs, and student affairs. This chapter of the Climate and Sustainability Action Plan addresses the Communications Office. This office coordinates closely with the College's administrators and has objectives that impact the operations of the College. Their primary goals do not revolve around day-to-day student life, but rather the overall well-being of the College.

The Communications and Web offices are staffed by five members. The offices are is responsible for the College's website and messaging processes, public announcements, publication and printing of the Ursinus Magazine, content for other college print and online publications, and generally promoting the College within the media. These offices are located in the Myrin Library.

3.5 Current: Communications & Web

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.5-1: Sustainability projects & initiatives – Communications Office.

Type of Project	Sustainability Project/Initiative: Communications Office
Policy	
Operations	Website • Write articles (web and print media) about sustainability projects on campus. • Have worked closely with the Office of Sustainability to update the OS website. Printing • Have gone to limited printing. • Email and tweeting are the primary avenues of communication with outside news organizations. Emailing Lists • Add people to the email list or send them links to website rather than Postal Service mailing documents. • Our "On Campus" publication is now minimally printed; we email it to our campus list and have it available online.
Procurement	None at this time
IT Changes	Smart-Phone • Working on becoming more accessible via QR codes to smart phone users
Behavior Change & Education	None at this time
Waste & Recycling	None at this time
Transportation	None at this time
Community Outreach	Website • Almost always maintains a sustainability link on the Ursinus College website's main landing page. This photo is linked to the Office of Sustainability's webpage. • Promote Collegeville sustainability efforts via website. • Communicate about sustainability on campus via our website Outside publications • Send out articles to outside publications that highlight sustainability achievements on campus

3.5 Goals: Communications & Web

Goal 1: Determine the communications office's commitment to sustainability on campus, and publicize that commitment to on-campus constituents as well as to the office staff members.

Goal 2: Within the office's staff, increase awareness of the communications office's commitment to sustainability and the importance of conserving resources.

3.5 PA: Communications & Web - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.5 PA-1: Communications & Web – Prospective Actions: Policy

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

3.5 PA-2: Communications & Web – Prospective Actions: Internal Operations

Immediate (2013-2018)

Alumni Magazine

- Work toward collaborating with advancement to produce the alumni magazine in digital format. This will allow us to print fewer copies as well as save money on postage.
- Determine appropriate methods for encouraging Postal Service recipients to switch to digital, and work to implement those methods.
- Collaborate with Advancement Office to get email lists for the purpose of sending the alumni magazine and other appropriate mailings. Collaborate with the Advancement Office to determine what those mailings are.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Sustainability Messaging

- Consistently weave sustainability messages into multiple communications streams to demonstrate the College's commitment to sustainability

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.5 PA-3: Communications & Web – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

3.5 PA-4: Communications & Web – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

OS Website

- Work with OS staff to update the OS website so that it is up to date.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.5 PA-5: Communications & Web – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Alumni & Campus

- Work with Advancement to move alumni toward using internet and email instead of hard copy mailings.
- Educate recipients of alumni magazine about how to switch to digital service.

- Include information about sustainability in the Alumni Magazine to educate readers about current campus activities.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Community Distribution of Publications

- Work with Main Street Manager and/or Borough Hall staff to get email addresses for Collegeville residents.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.5 PA-6: Communications & Web – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.5 PA-7: Communications & Web – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

3.5 PA-8: Communications & Web – Prospective Actions: Community Outreach

Immediate (2013-2018)

There are currently no identified Prospective Actions in this area.

Mid-Term (2019-2030)

Community Collaboration

- Consider writing articles that support collaboration between Ursinus community members and the Boroughs of Collegeville and Trappe, the local school district (Perkiomen Valley), and other area employers in efforts to expand on the Collegeville Borough's Sustainability Plan.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.5 PA-9: Communications & Web – Prospective Actions: Infrastructure

Immediate (2013-2018)

Lighting in Offices

- Determine if it would be cost effective to put lighting in all offices on different switches from the library's stack lighting.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Administration - Chapter 3.6: Office of Admission

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Ursinus College has a number of operating areas, including: admission, finance and administration, advancement, academic affairs, and student affairs. This chapter of the Climate and Sustainability Action Plan addresses the Office of Admission. This office coordinates closely with the College's administrators and has objectives that impact the operations of the College. Their primary goals do not revolve around day-to-day student life, but rather the overall well-being of the College.

The Office of Admission is staffed by a vice president, a director, ten admission counselors, and four support staff. The admission counselors travel around the country and occasionally overseas to engage high school counselors and students and encourage good candidates to apply to Ursinus. Our admission counselors also conduct interviews with visiting student and their families, review all applications, make decisions regarding offers of admission, manage admission data, organize prospective student events, and track our ability to get and keep students. The Office of Admission runs a student tour guide program for prospective students as well. They also collaborate with the Athletics program to find athletes to fill our sports teams.

This office located in the primary administration building, Corson Hall.

3.6 Current: Admission

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.6-1: Sustainability projects & initiatives –Office of Admission

Type of Project	Sustainability Project/Initiative: Office of Admission
Policy	None at this time
Operations	Promotion of Programs • Promote the Environmental Studies Department and sustainability initiatives on campus to potential applicants Tracking • Began tracking itineraries for admission trips Paperless • Eliminate or redesign forms to use less paper; or switch forms (such as invoices) to electronic format. • Use e-mail blasts instead of mailings • Whenever possible, use online filing, resources, communication, storage, document exchange. This will save money on paper, printer ink and energy use as well as saving physical storage space. • Distribute documents digitally whenever possible (make use of scan and send options or make PDF documents and email); when printing is required, print official documents double-sided on recycled, recyclable paper
Procurement	None at this time
IT Changes	Applications • Ursinus uses the Common Application, which is available online. • We do not provide or mail paper applications to prospective students – it is all online. • We review all applications digitally; we only keep digital records (started 2012). • Ursinus encourages submission of online applications by waiving the application fee. • Student Financial Services Office (Suzanne Sparrow): All financial aid application materials are available online. NOTE they do a lot of paper Website • Admission website is comprehensive and accessible for students who are interested.
Behavior Change & Ed.	None at this time
Waste & Recycling	None at this time
Transportation	Conferences • Attend "reverse college fairs" where counselors go to learn about colleges; this cuts our transportation requirements. Virtual meetings • Skype with some prospective students from distant locations, including overseas. Tracking • Are investigating the possibility of having local rental car mileage tracked.
Community Outreach	None at this time
Infrastructure	Water Cooler • Facilities Services hooked the Admissions water cooler up to a faucet, allowing them

to use tap water instead of purchasing bottled and transported water.

3.6 Goals: Admission

There are currently no goals identified for Admission.

3.6 PA: Admission - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.6 PA-1: Admission – Prospective Actions: Policy

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

3.6 PA-2: Admission – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.6 PA-3: Admission – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

3.6 PA-4: Admission – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Website

- Add a clickable button on the "Request Information" webpage that allows students to indicate that they wish to receive ONLY electronic information. And

then keep those people on a separate list that does not receive printed materials.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.6 PA-5: Admission – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.

- Reassess goals and prospective actions.

3.6 PA-6: Admission – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Training

- Conduct training, in conjunction with Office of Sustainability staff members, around recycling. This should include what can be recycled and what the limitations of the recycling program are (contamination).

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.6 PA-7: Admission – Prospective Actions: Transportation

Immediate (2013-2018)

Travel Reduction Plan

- Work with Office of Sustainability staff to investigate options for future programs that would aim to reduce employees' overall miles traveled related to UC. For example:
  - Establish and promote telephone conferencing and webinar capabilities for faculty, students, and staff
  - Establish flexible work hours to facilitate carpooling.
  - Promote the use of alumni for admission trips to high schools where the alums live.

Mid-Term (2019-2030)

Student Cars

- Consider supporting efforts to encourage students to leave their cars home from college. This might involve determining the cost to the College of each individual car on campus, a break-even point (where the College would begin to see an economic benefit for any given incentive program), and an analysis of how much the College would benefit from various scenarios vs. the complications for admission or student life.
- This would likely have to have an accompanying PR campaign as well as a support structure such as additional Bikeshare bikes, a weekend shuttle service, or a UC Carshare program that would give students the ability to share a car on campus.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.6 PA-9: Admission – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)
Mid-Term (2019-2030)

3.6 PA-1: Admission – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)
Mid-Term (2019-2030)

Administration - Chapter 3.7: Advancement

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Ursinus College has five operating areas: enrollment, finance and administration, advancement, academic affairs, and student affairs. This chapter of the Climate and Sustainability Action Plan addresses the Advancement Office. This office coordinates closely with the College's administrators and has objectives that impact the operations of the College. Their primary goals do not revolve around day-to-day student life, but rather the overall well being of the College.

The Senior Vice President for Advancement Office maintains a cabinet staffed by the senior director of development, the executive director of major and planned gifts, and the director of alumni relations. There are 21 staff members in this office including the SVP. The Berman Museum of Art also reports through Advancement, which includes four additional staff members. The mission of the Advancement Office is to support Ursinus College by engaging and developing all constituencies through a vibrant and successful culture of positive relationships and philanthropy.

This office is located in the primary administration building, Corson Hall.

3.7 Current: Advancement

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.7-1: Sustainability projects & initiatives – Advancement Office.

Type of Project	Sustainability Project/Initiative: Advancement Office
Policy	None at this time
Operations	Digital Storage • Paper-save conversion project underway with the goal of scanning all gift information, acknowledgements, correspondence, agreements, estate information and other legal paperwork related to charitable gifts and link to Raiser's Edge. Paper • Contacted all evening division graduates and gave them the ability to opt out of paper and opt in to our e-communications, effectively reducing hard copy mailings to this segment by half.
Procurement	Sustainability in RFP process • RFP process for print and design services requires all bidders to include the company's sustainability initiatives to be evaluated alongside product, cost, customer service, etc.
IT Changes	Online Donations • Make use of several different online giving options: credit cards, EFT, matching gifts, and payroll deductions E-Information • Make a wide array of how-to and why-to information available in electronic format, eliminating the need to send many documents via mail services. Website Upgrades & Social Media • Over the past several years, Advancement has upgraded their web presence and expanded their use of social media allowing them to reach a broader audience without having to use paper or mail services to do so.
Behavior Change & Ed.	None at this time
Waste & Recycling	Composting • There is a composting bin for coffee grounds and food waste in the Corson lunchroom.
Transportation	Conferences • Carpool for offsite events and conferences • Encourage video conferencing when possible to reduce travel-related emissions. Telecommuting and Carpooling • Have developed a comprehensive telecommute policy • Establish flexible work hours to facilitate carpooling • Encourage telecommuting
Community Outreach	None at this time

3.7 Goals: Advancement

Goal 1: Determine the advancement office's commitment to sustainability on campus, and publicize that commitment to on-campus constituents as well as to the office staff members.

Goal 2: Within the office's staff, increase awareness of the office's commitment to sustainability and the importance of conserving resources.

3.7 PA: Advancement - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.7 PA-1: Advancement – Prospective Actions: Policy

Immediate (2013-2018)

Mission Statement

- Investigate the possibility of writing a green mission statement for the advancement office and all of the programs that it encompasses. Include areas such as: procurement, operations, transportation, education & behavior change, waste reduction and recycling. Work with the Office of Sustainability on this mission.
- Hold brown bag lunches – will discuss sustainability at one of these
- For Berman Museum – see separate chapter

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.7 PA-2: Advancement – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.7 PA-3: Advancement – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.7 PA-4: Advancement – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Website

- Support the creation of a webpage that presents the Advancement's perspective on sustainability at Ursinus.
    - Expand the use of the advancement office's website as a vehicle for educating site visitors about the College's commitment to sustainability.
    - Button on side of website

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.

- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.7 PA-5: Advancement – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Alumni & Campus

- Work with the Communications Office staff to move alumni toward using Internet and email instead of hard copy mailings.
- Work with Communications staff to educate recipients of alumni magazine about how to switch to digital service.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Telecommuting & Teleconferencing

- Over half of the advancement office lives over an hour from campus and so they have developed and implemented a policy that supports telecommuting and flexible work schedules. Six staff members currently work from home one day per week.
- Nearly all volunteer development for the National Council, Young Alumni Council, Reunion Committees, etc. happens via conference call.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.7 PA-6: Advancement – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.7 PA-7: Advancement – Prospective Actions: Transportation

Immediate (2013-2018)

Travel Reduction Plan

- Work with Office of Sustainability staff to investigate options for future programs that would aim to reduce employees' overall miles traveled related to UC. For example:
  - Establish and promote telephone conferencing and webinar capabilities for faculty, students, and staff
  - Look into incentives to encourage local employees to bike or walk to work. This could be financial or a recognition of some sort.
  - Educate faculty/staff about the GHG emissions related to miles traveled and mode of travel.
  - When allowed, promote the use of alumni for admissions trips to high schools where the alums live.

Travel Cost Effectiveness

- Calculate and track travel expenses and the related carbon footprint for each office. Determine if this travel is cost effective for the College (both monetarily and with regard to the related GHG emissions)

Mid-Term (2019-2030)

Commuting

- Work with Office of Sustainability staff to investigate options for future programs that would reduce employees' overall miles traveled related to UC. For example:
  - Develop a comprehensive telecommute policy
  - Establish and promote telephone conferencing and webinar capabilities for faculty, students, and staff
  - Establish flexible work hours to facilitate carpooling.
  - Look into incentives to encourage local employees to bike or walk to work. This could be financial or a recognition of some sort.
  - Educate faculty/staff about the GHG emissions related to miles traveled and mode of travel.
  - Promote the use of alumni for admissions trips to high schools where the alums live.

Business Travel

- When appropriate to the fiscal ability of the College, track and report business travel mileage and travel mode in order to facilitate the purchase of carbon offsets in the amount of air travel-related emissions.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Whole Cost Accounting

- Consider purchasing carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

3.7 PA-8: Advancement – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

3.7 PA-9: Advancement – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

Administration – Chapter 3.8: Information Technology

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Ursinus' Information Technology (IT) department is responsible for many areas of campus operations including: computers, many of the public printers, cable TV, telephones, door card-swipe systems, and even the tower bell chimes. Ursinus is serviced by a main operations room, located in the Myrin Library, and a backup operations room, located in Pfahler Hall. These systems serve the entire campus community. There are also substantial IT systems in the Kaleidoscope Center for the Performing Arts which are the responsibility of Facilities Services. IT is divided into four groups which all report to the Chief Information Officer: Network Operations Group (NOC), Tech(nology) Support, Instructional Technology, and Administrative Systems. There is also a "Web Group" which is a collection of employees from various departments. These people are nominally part of IT, though they do not report to IT staff.

The IT department is in the process of virtualizing the College's servers, allowing us to combine multiple servers onto on hardware unit. This saves space and money, allows us to dynamically allocate resources between multiple servers, and leads to small reductions in the heat generated in the server rooms. Virtualized servers also allow more flexibility in data backup systems.

- NOC maintains the Blackboard Learning system, providing system level support, patch installation and user support. Automatic account management, course creation and enrollment are run with the assistance of Administrative Computing. Day-to-Day user support is handled by Instructional Technology.
- NOC maintains an 86 Channel Digital/Analog Cable TV system that is distributed to each Residence Hall room, common rooms and many classrooms.
- NOC supports the Blackboard transaction system and associated pay stations and order kiosks which can log over 5000 unique transactions a day and are vital to the smooth operations of dining services and feeding our student body.
- NOC is responsible for the billing, selection, configuration and user support for approximately 60 UC cell phones, smart phones and Tablet devices that are intended for business use.

- The College maintains an email/groupware system that services all current students, faculty, staff, contract employees and emeriti. Many departments and student organizations also have group mailboxes monitored by multiple individuals. The system contains 2,806 mailboxes and 1118 distribution lists.
- NOC works closely with Facilities Service to allow common communication and monitoring of various building control and monitoring systems.
- Ursinus maintains a Shoretel Phone system with 794 extensions and 488 voice mailboxes deployed across campus. Three models of IP phones and various analog phones are in use. Analog fax services are also supported via Xerox Copiers and various standalone fax machines.
- The College leases Dell laptop computers for students to use while they are at UC. These laptops are rotated out every two years on a staggered schedule: first year students receive their laptops in the fall; sophomores receive their replacement computers at the end of their second year. The IT department manages the repair/replacement of all laptops as well as college-wide systems.
- IT maintains the servers in Myrin and Pfahler as well as the Data Closets that exist in each building.

What is IT's kW load?

The use of computers and other office equipment is a major source of energy consumption on the UC campus and for this reason is an important focus of mitigation initiatives. 'Plug loads' are estimated to be responsible for 15-20% of electricity consumption in a typical office environment. Mitigation efforts connected to the purchase and use of information technology include the following:

- The College operates on a lifecycle replacement of 4 years (on average) for computer hardware. This allows for the removal of less efficient computing hardware in favor of newer, more energy efficient hardware. This is an ongoing process which started in 2001.

IT operations require large back-up batteries called UPS units. The UPS units ensure that vital systems are functional in the event of an emergency and allow systems to be safely powered down when utility power becomes unavailable during prolonged outages. These batteries last for approximately five years before they must be recycled. Our hazardous waste is handled by

a company that will reclaim, reuse and then break down all components of these batteries for proper disposal.

3.8 Current: Information Technology

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Figure 3.8-1: Sustainability projects & initiatives – Information Technology.

Type of Project	Sustainability Project/Initiative: Information Technology
Policy	None at this time
Operations	Energy Management • Computers in the Ritter Mac Lab are centrally managed and automatically shut down when not in use. • IT monitors the energy use of our servers. Laptop power management • IT has created an "image" for all laptops that sets the power management settings on the computer. This image is designed to reach a balance between power saving and performance. Printers • IT is currently collaborating with campus stakeholders on the possibility of eliminating the student printer program. This would represent a savings in electricity and would decrease our e-waste at the end of each school year when students leave their printers behind. • IT couples the use of print-monitoring software with IT approved policy to monitor and charge for the printer usage of students. Projectors/Podiums • Summer 2012, IT is evaluating a program that would have the projectors tied to podiums shut down automatically when not in use, saving energy and extending the lives of the expensive projector bulbs. This initiative would be accompanied by an educational campaign directed at faculty and staff. Server Virtualization • IT has virtualized 80% of its servers. The virtualized servers can each take the place of up to eight regular servers, depending on the requirements of the regular servers. This reduces the electricity demand from the servers (though this is not a large demand), and also produces the heat of a single server, thus lessening the cooling requirements for the space. Virtualized servers also improve systems functions. IT has virtualized the email servers and plans to virtualize the administrative servers by

	FY 2012-13. Savings for virtualization is estimated to be between 10-40%. Thin Clients • IT has several "Thin Client" machines that it runs in the Library. These stripped-down machines are Energy Star rated and are set to go into deep hibernation at night.
Procurement	Laptops • Ursinus leases laptop computers for students, and most faculty and staff. Laptops use 50%-80% less energy than desktops – a significant energy savings for our campus. Printers • IT has leased Xerox "Color Cube" printers in the past 2-3 years. These printers are energy efficient and use biodegradable wax-based ink that arrives in a cardboard box and has no disposable components. In addition to being more environmentally friendly than laser printers, the supplies for these printers are less expensive. UPS Batteries • IT purchases refurbished UPS batteries for many applications.
IT Changes	Telecommuting and Video-Conferencing • IT has enhanced telecommuting and video conferencing abilities for the campus community to provide the option of reducing travel-related GHG emissions.
Behavior Change & Ed.	None at this time
Waste & Recycling	Computer Packaging • IT works with Facilities Services and the Office of Sustainability (OS) to recycle the boxes in which laptops are shipped. The computers are shipped in large cardboard boxes, shipped together in pallets. Each large cardboard box contains several smaller boxes. The laptops, cables and software are in these smaller cardboard boxes with bamboo packaging protecting the laptops themselves. IT breaks down and saves the large boxes to use for returning used laptops to Dell. They remove excess packaging, paperwork and CDs from the smaller boxes, which are then given to the students. Students receive new computers in the Fall of their first year and the spring of their sophomore year. For the first year students, computers are given out during Move-In. OS student volunteers are on hand to collect the boxes and bamboo packaging from the students during that time. For the sophomores, OS student volunteers work at the pick-up site to collect the boxes and bamboo packaging, and/or IT staff collect these from students who do not want to take the box and packaging with them and hand it over to IT • When offered by our vendors, we work with vendors to bundle laptops together for a 'green' shipping and handling. E-waste • Dell computer, with whom we contract for our computers, has a plan for the computers that it takes back from UC. The hard drives are wiped and computers are resold in secondary markets or they are cannibalized (taken apart) for parts. • IT coordinates with the Office of Sustainability (OS) and Facilities Services staff to collect e-waste for proper disposal. Our e-waste handler Hazardous Waste • IT contracts with a company that reconditions used UPS batteries, allowing them to be used for longer.
Transportation	Remote desktop • IT has installed a remote desktop program as well as the VPN network capabilities on

	all college laptops that allows students and staff to work remotely and save the greenhouse gas generated from commute trips.
Community Outreach	None at this time
Infrastructure	Server Room – Myrin • In 2008 the server room was redesigned to take advantage of cooling provided by the central chiller plant. Facilities Services is evaluating the possibility of using outside air for cooling in the winter. • Servers have variable speed drives installed for more efficient energy usage. Airflow Management Strategies (energy star recommendations) • Hot aisle/cold aisle layout • Containment/enclosures • Variable speed fan drives • Properly deployed airflow management devices, or blanking panels Cable layout • All cables are routed overhead in order to avoid energy inefficiencies that result from floor penetrations. • We have structured cabling in place.

3.8 Goals: Information Technology

Goal 1: Determine the IT Department's commitment to sustainability, and make that commitment public within the UC community.

Goal 2: Increase awareness of IT-related sustainability actions that could be undertaken by the campus community.

Goal 3: Maintain current levels of energy efficiency on IT server and switch units. Decrease when possible.

3.8 PA: Information Technology - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a

later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.8 PA-1: Information Technology – Prospective Actions: Policy

Immediate (2013-2018)

Mission Statement

- Investigate the possibility of writing a green mission statement for IT that includes: procurement, operations, transportation, education & behavior change, waste reduction and recycling. Work with UCGreen on this mission.

Goal Setting

- Set goals and benchmarks for waste reduction, procurement and energy-use reduction within IT.
- Set a timeline for achieving benchmarks and implementing these goals.
- Commit to (1) discover best practices; (2) innovate when solutions don't exist; (3) reduce waste and inefficiencies; (4) adopt and embrace new habits; and (5) measure and celebrate progress.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Program

- Consider joining a program, such as the one run by U.S. EPA's Energy Star program, designed to lower IT-related carbon emissions. http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_mgt_low_carbon

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-2: Information Technology – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Energy Use

- Consider making the following changes that were made for the Fayetteville Public Library (a LEED certified building with a progressive sustainability program in place). [1]
    - **Automate power down.** When procuring new PCs, buy those with Intel VPro. They'll let you remotely set power cycles for all your PCs. Set monitors that are not turned off to go into a power save mode (this mode can draw less than one watt).
    - **Find efficient CPUs.** Computer companies are producing far more energy-efficient CPUs. New models can save approximately 130 kilowatt-hours a year per PC.

[1] To see the entire text of this article, go to: http://www.libraryjournal.com/article/CA6727897.html.

Energy Savings

- Prior to distribution, set every computer to maximize battery life and have maximum energy saving features set up. (this may require negotiations with the manufacturer)
- Set all office equipment that is controlled by IT to shift into power-save mode (or shutdown) at 5 p.m.
- Reevaluate the power save "image" that computers are set to, with an eye toward saving additional power.
- Consider instituting a desktop energy saving program that includes elements such as:
    - centrally-funded desktop power management software for all faculty, staff and students,
    - moving backups and patches from night to day,
    - putting computers in sleep mode,
    - reducing peripheral energy usage by encouraging the use of "smart" power strips (and then selling them, perhaps through the bookstore, at a low price).

Monitors

- Implement power management strategies for monitors across campus
    - Set power saver settings on all campus computers to automatically turn off the monitors after 15 minutes of inactivity. This will not only extend the life of the monitor, but will also lower the cooling load of the building in the summer.
    - Disable screen savers. These not only do not save the screen, they may use additional electricity to continuously run a program.

Printers

- Eliminate the printer program for students; have students print on campus printers. This would eliminate printer e-waste and would discourage students from printing excessively. Work with stakeholders to develop equitable alternatives for students.
- Work with OS staff, the Academic Dean, and UC administration officials to implement a change that would have all printers default print setting be for double-sided printing.

Office Machines

- Activate sleep settings on all office equipment. Most printers, copiers, fax machines, scanners, and multifunction devices have a low-powered sleep mode that can be set to activate when the devise is inactive.

Power Management

- Better educate the Ursinus community about enabling power management features on computers and turning off their monitors when they are not in use.
- Investigate participation in the Google/Intel Climate Savers Initiative.
- Institute energy efficiency practices, such as setting all computers to their most efficient energy saving settings before they are put into circulation with students/staff/faculty,

Sever Virtualization

- Continue to virtualize campus servers in order to save space, electricity, and cooling.
- Decommission unused servers
- Consolidate lightly utilized servers
- Work to improve management of data storage

Laptop Program

- Identify alternative, sustainable packaging materials for sending laptop computers back to the vendor. Work with OS and Facilities Services staff to problem solve short-term storage issues.
    - Determine if old laptops could be swapped for the new in the bamboo packaging, eliminating the need for bubble wrap to return the used computers to the vendor. The packaging may be stackable, making the short-term storage fairly space efficient between the time the laptops are received, wiped clean, and shipped.
    - Work with OS staff to develop and install an "IT Sustainability Manual" to be installed on the desktop of each new laptop.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.

- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-3: Information Technology – Prospective Actions: Procurement

Immediate (2013-2018)

Waste Electrical and Electronic Equipment

- In contracts for the purchase or lease of computers and other technology equipment, ensure that the contract includes lifecycle, or cradle to grave, costs and specifications.
    - Renegotiate our contract with Dell.
    - Include specifics on disposal of products at the end of their lifecycle.

Energy Efficiency

- Purchase energy efficient laptops, printers, servers, and other equipment.
    - Renegotiate our contract with Dell.
- Use cycles/watt and other energy criterion in the selection of IT hardware and related equipment.
- Purchase/lease newer, lower-power hardware when replacing computers and monitors (where available) in order to reduce power consumption.
- Give preference in purchasing and leasing to EPEAT-rated hardware; preferably EPEAT Gold.
- Add Energy Star requirements to all RFPs where available.
- Purchase more energy-efficient servers, UPSs, and PDUs

Sustainability Procurement

- When purchasing or leasing office equipment, consider energy efficiency, health impacts (e.g., fumes from laser printers), and lifecycle costs as part of the overall cost to the College.
- Coordinate with the Copy Center on copier leases with a particular interest in energy savings and lowering our environmental impact.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Energy Accounting

- For projects that require large capital expenditures, incorporate energy costs associated with the lifetime of the project. Take savings from energy efficiency aspects of the project into account and consider payback time.
- Work to more fully implement centralized decision-making around the purchase of equipment for offices such that purchases or leases are made with energy efficiency and overall lifecycle costs are accounted for.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-4: Information Technology – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-5: Information Technology – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Technology

- Promote energy saving practices with end users, such as: turning computers off rather than leaving them running, energy saving settings, creating/installing an energy saving folder on the desktop of all UC computers that gives users information about how to change settings, etc.

Laptop Program

- On each computer desktop, install a folder with tips on sustainable computer and printer use. The folder should include a document should include ways to make the battery life last longer, how to dim the screen, a reminder to turn computers off at night, how to download and use note taking programs, popular environmental web-sites, the UC Environmental Action blog, and how to use double-sided printing.
- The desktop folder should also include the UC Green materials that are available on the UC Green website.
- Promote energy saving practices with end users, such as: turning computers off rather than leaving them running, energy saving settings, creating/installing a energy saving folder on the desktop of all UC computers that gives users information about how to change settings, etc.
- Educate students/faculty/staff about the benefits of using power strips to reduce the Phantom Load of electricity from electronics that have power lights (e.g., TVs, stereos), including reduced electricity usage and protection against power surges.

Energy Awareness Information

- Work with Office of Sustainability staff to write a document to be installed on every computer's desktop that describes:
    - How students can set the power saving setting so that they save even more power
    - How to help the laptop last longer (and why that is important – how it affects the bottom line for students)
    - Energy basics for a laptop (e.g., how much energy a laptop uses when it's being used, the importance of turning the computer off when it's not being used, etc.)

    - Printing responsibly (no cover pages, smaller fonts, smaller margins, double sided printing, etc.)
- Install the energy-saving document on all computer desktops before they are distributed.
- Discourage campus community members from using screen savers. Screen savers do not save energy. Certain graphics-intensive screen savers can cause the computer to burn twice as much energy and may prevent a computer from entering sleep mode!
- Work with OS staff to create informational signs for Color Cube printers (Chemistry, Corson, Myrin, Pfahler) that include information about the biodegradable inks that are used in these printers as well as their energy-saving features.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Staff Training

- Train IT staff in "green computing" best practices, ENERGY STAR and EPEAT (Electronic Product Environmental Assessment) ratings, so that they will be better positioned to answer questions about and make use of environmental friendly computers and peripherals.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-6: Information Technology – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Printers

- Eliminate the printer program for students (lowering our upfront cost as well as the waste going into the landfill or being recycled.
- Ask students to turn in their old printers at the end of the year rather than throwing them out.

Packaging

- Work with our hardware vendors to further decrease the amount of packaging for our computers, printers, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-7: Information Technology – Prospective Actions: Transportation

Immediate (2013-2018)

Video Conferencing

- Expand our use of conferencing tools for routine meetings, prospective employee searches, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-8: Information Technology – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

3.8 PA-9: Information Technology – Prospective Actions: Infrastructure

Immediate (2013-2018)

HVAC

- Investigate the possibility of raising data center(s) thermostat and monitor inlet air temperatures at top-of-rack components, taking into account the need for minimal temperature changes throughout the room as well as the need for the A/C units to run at efficient load levels. Current temperature set point is 70^{o}
- Redistribute heat from servers to other areas in building where the servers live.
- Investigate the possibility of installing a variable speed motor in the A/C unit in the Myrin server room.

Energy

- Conduct a data center energy audit to determine a baseline of current levels of energy use.

HVAC Adjustments (Energy Star Recommendations)

- Make server inlet temperature and humidity adjustments to more energy-saving settings.
- Air-Side Economizer
- Water-Side Economizer
    - Adjust the humidity in the server room so that the equipment operates at optimal levels: this is 30-40% humidity; currently at 9%.

Best Practices

- Consider the following "best practices" strategies, such as these below, recommended by 42U (an IT energy management firm). Percentages are potential savings. (42U 2012):
    - Consider upgrading our structured cabling from CAT6 to CAT6a as we expand the 10gb Ethernet.
    - Aisle Containment Systems - 5-10%
      In data centers with hot/cold aisle arrangements containment systems can reduce energy expense by 5-10%. This is a lower-cost solution that contains the airflow and directs it directly to the equipment in an efficient manner. Containment can focus on either the hot aisle or the cold aisle, but cold aisle containment has been proven to be more efficient.
    - Power Equipment Efficiency - 4-10%
      When our UPS systems are older, consider refreshing older UPS systems with new best-in-class technology can reduce energy expense by 4-10%. Newer technologies have 70% less losses than legacy systems at typical load levels. A focus on light load efficiency, not peak load efficiency, is the key parameter because this is the typical operating state for the UPS.
    - Virtualization - 10-40%
      This solution has a very significant impact that can reduce energy expense by 10-40%. While not technically a physical infrastructure solution, it involves consolidation of application onto fewer servers.
    - Infrastructure Right-Sizing - 10-30%
      This solution can result in energy savings of 10-30%. This deploys a modular approach to power and cooling architecture that allows scaling these aspects of the infrastructure to the specific needs of the data center. The savings comes in the form of eliminating over-provisioning.

Mid-Term (2019-2030)

Datacenters

- Consider investing in instrumentation that would monitor the datacenter's PUE with regard to capturing cooling and lighting.
- Consider investing in automated controls that would maximize outside air cooling.
- Evaluate the Pfahler server room to determine energy efficiency and make design recommendations.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Glossary of Terms & Acronyms

Blanking Panel installation:	Blanking panels are a fundamental airflow control strategy that improves airflow through equipment and avoids inefficient airflow around the equipment needing cooling. This practice decreases server inlet temperatures as well as increases the CRAC return air temperature, both of which improve operational efficiency.
e-waste:	Electronic waste
EPEAT:	A comprehensive environmental rating for computers and other electronic equipment.
hot aisle/cold aisle:	The name given to a specific layout of computing cabinets such that all of the hot sides are facing the same direction and the cold sides face the opposite direction enabling more efficient cooling of equipment which must be maintained at a specific temperature range.
Image:	An exact replica of a hard drive.
kWh:	Kilowatt Hour – a unit of energy equal to 1,000 watts of energy expended for one hour (or 3.6 megajoules). A computer rated at 1000 watts (1 kW) and operated for a one hour period would used 1kWh of energy.

LAN	Local Area Network: A group of computers in a small geographic area that are linked together with shared network media, allowing for high data transfer speeds.
PDU	Power Distribution Unit: a device fitted with multiple outputs that is designed to distribute power to racks of computers or networking equipment.
Plug Load	The energy used to power a piece of equipment which is powered by a regular AC plug.
PUE	Power Usage Effectiveness: A measure of how effectively a computer data center uses power (specifically how much of the power is used to run the equipment vs. how much is used to cool the equipment and other overhead costs)
RFP	Request for Proposal: a request sent out to vendors soliciting bids on a specified project.
Server	A system of computer programs and hardware that meets the needs of other computer programs. Typical servers include: mail server, computing server, list server, file server.
Thin Client	A computer that relies on a server to provide most of the computing power. Thin client computers require much less energy to run because they do not contain all of the equipment and programs that would be required to run a stand-alone computer.
UPS	Uninterruptible Power Supply: these are battery backup units that ensure the data integrity of computers by ensuring that there is power to the essential servers during a power outage.
Virtualized Server	Like time-sharing, virtualized servers all share space in one computer with the idea being that not all of the servers are needed at one time.

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Appendices

Appendix A: American College & University Presidents' Climate Commitment Text

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We, the undersigned presidents and chancellors of colleges and universities, are deeply concerned about the unprecedented scale and speed of global warming and its potential for large-scale, adverse health, social, economic and ecological effects. We recognize the scientific consensus that global warming is real and is largely being caused by humans. We further recognize the need to reduce the global emission of greenhouse gases by 80% by mid-century at the latest, in order to avert the worst impacts of global warming and to reestablish the more stable climatic conditions that have made human progress over the last 10,000 years possible.

While we understand that there might be short-term challenges associated with this effort, we believe that there will be great short-, medium-, and long-term economic, health, social and environmental benefits, including achieving energy independence for the U.S. as quickly as possible.

We believe colleges and universities must exercise leadership in their communities and throughout society by modeling ways to minimize global warming emissions, and by providing the knowledge and the educated graduates to achieve climate neutrality. Campuses that address the climate challenge by reducing global warming emissions and by integrating sustainability into their curriculum will better serve their students and meet their social mandate to help create a thriving, ethical and civil society. These colleges and universities will be providing students with the knowledge and skills needed to address the critical, systemic challenges faced by the world in this new century and enable them to benefit from the economic opportunities that will arise as a result of solutions they develop.

We further believe that colleges and universities that exert leadership in addressing climate change will stabilize and reduce their long-term energy costs, attract excellent students and faculty, attract new sources of funding, and increase the support of alumni and local communities. Accordingly, we commit our institutions to taking the following steps in pursuit of climate neutrality.

1. Initiate the development of a comprehensive plan to achieve climate neutrality as soon as possible.

a. Within two months of signing this document, create institutional structures to guide the development and implementation of the plan.
b. Within one year of signing this document, complete a comprehensive inventory of all greenhouse gas emissions (including emissions from electricity, heating, commuting, and air travel) and update the inventory every other year thereafter.
c. Within two years of signing this document, develop an institutional action plan for becoming climate neutral, which will include:
    i. A target date for achieving climate neutrality as soon as possible.
    ii. Interim targets for goals and actions that will lead to climate neutrality.
    iii. Actions to make climate neutrality and sustainability a part of the curriculum and other educational experience for all students.
    iv. Actions to expand research or other efforts necessary to achieve climate neutrality.
    v. Mechanisms for tracking progress on goals and actions.

2. Initiate two or more of the following tangible actions to reduce greenhouse gases while the more comprehensive plan is being developed.

    a. Establish a policy that all new campus construction will be built to at least the U.S. Green Building Council's LEED Silver standard or equivalent.
    b. Adopt an energy-efficient appliance purchasing policy requiring purchase of ENERGY STAR certified products in all areas for which such ratings exist.
    c. Establish a policy of offsetting all greenhouse gas emissions generated by air travel paid for by our institution.
    d. Encourage use of and provide access to public transportation for all faculty, staff, students and visitors at our institution.
    e. Within one year of signing this document, begin purchasing or producing at least 15% of our institution's electricity consumption from renewable sources.
    f. Establish a policy or a committee that supports climate and sustainability shareholder proposals at companies where our institution's endowment is invested.
    g. Participate in the Waste Minimization component of the national RecycleMania competition, and adopt 3 or more associated measures to reduce waste.
3. Make the action plan, inventory, and periodic progress reports publicly available by submitting them to the ACUPCC Reporting System for posting and dissemination.

In recognition of the need to build support for this effort among college and university administrations across America, we will encourage other presidents to join this effort and become signatories to this commitment.

Signed,

The Signatories of the American College & University Presidents' Climate Commitment

Appendix B: Ursinus College Campus Map

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Campus Map Legend

Academic & Administrative Locations

By Name

20 Baseball Field
3 Berman Museum of Art
5 Bomberger Hall
11 Bookstore
13 Campus Safety
1 Corson Hall
14 Facilities Services
5a Fetterolf House (Center for Continuous Learning)
15 Floy Lewis Bakes Center (including Helfferich Hall Gym)
7 Hillel House
25 Hunsberger Woods
10 Kaleidoscope Performing Arts Center
6 Myrin Library
4 Olin Hall
18 Patterson Football Field
8 Pfahler Hall
23 Practice Field (North)
17 Practice Field (South)
16 Ritter Center
19 Snell Field Hockey Field
24 Soccer and Lacrosse Field
22 Softball Field
21 Tennis Courts
9 Thomas Hall
2 Unity House
12 Wismer Center

By Number

1 Corson Hall
2 Unity House
3 Berman Museum of Art
4 Olin Hall
5 Bomberger Hall
5a Fetterolf House (Center for Continuous Learning)
6 Myrin Library
7 Hillel House
8 Pfahler Hall
9 Thomas Hall
10 Kaleidoscope Performing Arts Center
11 Bookstore
12 Wismer Center
13 Campus Safety
14 Facilities Services
15 Floy Lewis Bakes Center (including Helfferich Hall Gym)
16 Ritter Center
17 Practice Field (South)
18 Patterson Football Field
19 Snell Field Hockey Field
20 Baseball Field
21 Tennis Courts
22 Softball Field
23 Practice Field (North)
24 Soccer and Lacrosse Field
25 Hunsberger Woods

Residence Halls

By Name

C 201-203 Ninth Avenue
Z 30-32 Sixth
NN 424-426 Main
MM 444 Main
S 624 Main
P 702 Main
F 732 Main
I 777 Main Street
B 942 Main Street
A 944 Main Street
KK Barbershop (476 Main)
AA Beardwood Hall
O Brodbeck Hall
LL Clamer Hall (409 Main)
D Cloak House (811 Main)
II Commonwealth (500 Main)
M Curtis Hall
U Duryea Hall (612 Main)
G Elliott House (785 Main)
FF Fetterolf House (554 Main)
X Hobson Hall (568 Main)
E Isenberg Hall (801 Main)
HH Kelgwin Hall (513 Main)
GG Maples Hall (512 Main)
W Musser Hall (23 Sixth)
JJ New Hall
EE North Hall
R Olevian Hall
K Omwake Hall (701 Main)
BB Paisley Hall
L Reimert Hall
DD Richter Hall
Q Schaff Hall
V Schreiner Hall (600 Main)
XX Sprankle Hall
CC Stauffer Hall
Y Sturgis Hall (26 Sixth)
H Todd Hall (724 Main)
J Wicks House (716 Main)
N Wilkinson Hall
T Zwingli Hall (620 Main)

By Letter

A 944 Main Street
B 942 Main Street
C 201-203 Ninth Avenue
D Cloak House (811 Main)
E Isenberg Hall (801 Main)
F 732 Main
G Elliott House (785 Main)
H Todd Hall (724 Main)
I 777 Main Street
J Wicks House (716 Main)
K Omwake Hall (701 Main)
L Reimert Hall
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II Commonwealth (500 Main)
JJ New Hall
KK Barbershop (476 Main)
LL Clamer Hall (409 Main)
MM 444 Main
NN 424-426 Main

Appendix C: Ursinus College Sustainability History

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The table below shows the history of sustainability programming at the College, however, it does not reflect the many programs, courses, and actions taken throughout the College which have a positive impact on our ecological footprint or our educational efforts.

History of Sustainability Programming at Ursinus College

Date	Type	Event
2000	Academic Program	The Ursinus College Environmental Studies (ENV) curriculum was established in January 2000 by a committee of Ursinus faculty interested in promoting environmental pedagogy. These faculty members all taught classes that fell within the Environmental Studies discipline. Collectively, their courses, with the addition of a new introductory class, were organized to form the ENV major and minor. The founding faculty each had full-time appointments in departments other than ENV, and contributed courses to the Environmental Studies major and minor which were cross-listed between their home departments and ENV.
2002	Faculty Hire	Richard Wallace, the first full-time faculty member in ENV, was hired to serve as director (later department chair) and build a program around the major. Dr. Wallace was the first of what is now three full-time tenure-track faculty hires in Environmental Studies since the establishment of the major. His work focuses on policy and programs that protect biological diversity and sustainable agriculture.
2002-current	Speakers	The Environmental Speaker Series was initiated. Speakers have included Wendell Berry, Francis Moore Lappé, Anna Lappé, Scott Weidensal, Stephen Schneider, and others.
2003 (sp)	Recycling	ENV 100 class researched and convinced the administration to start a recycling program on campus. After that a student committee overseen by ENV faculty, was responsible for collecting the green bins on campus. In late 2008 or 2009, it became the responsibility of Housekeeping because it had grown so large…and as such became part of the infrastructure of the college.
2002	Students	Students in the Environmental Studies Department began a student recycling committee, called UC Recycles. internship program, called Sustain UC, that enabled students to pursue projects in sustainability and recycling.
2003 (fall)	Garden	The organic garden initially conceived and planned by students/faculty.
2004??	Membership	Ursinus College became a member of Pennsylvania Environmental Resource Consortium (PERC).
2004 (spring)	Garden	The Ursinus Organic Garden was established through the efforts of a student/faculty collaboration as an initiative of the College.
2004	Faculty Hire	A second Environmental Studies faculty line was approved in 2003 and Leah

		Joseph was hired in 2004. Dr. Joseph's work focuses on climate change through analysis of deep sea sediment.
2004	Stormwater Basin	The Ursinus naturalized stormwater basin (also known as the constructed wetland) was conceived by a student as part of an ENV course. It evolved into a Summer Fellows and then an Honors project for a student. It was presented to and approved by the College administration.
2004 - current	Policy & Program	The College committed to purchasing Energy Star appliances. The Facilities Services Department has also upgraded lighting across campus, installed motion sensors in most classrooms and academic offices, conducts a light bulb exchange for CFLs, has installed variable speed drives on A/C units, uses Vending Miser programs for vending machines, manages parking lots for energy efficiency, uses green carpeting and low VOC paints, and purchased high efficiency laundry machines, among many other actions.
2005-current	Outreach	The Environmental Studies Department sponsors an annual Environmental Roundtable event with Senator John Rafferty (44th District).
2005 (summer)	Garden	The Ursinus Organic Garden had its first growing season.
2006	Student Leadership	UC Recycles was transformed into Sustain UC – a student fellowship program with students working on a variety of sustainability programs.
2007	Membership	Ursinus College became a member of the American Association for Sustainability in Higher Education (AASHE).
2007 (fall)	Stormwater Basin	Engineering and landscaping for the Naturalized Stormwater Basin was completed.
2007	Climate	President John Strassburger signed the American College and University Presidents' Climate Commitment (ACUPCC), committing the College to creating a plan to become carbon neutral.
2007	Program	The College formed a temporary Sustainability Committee.
2007	Policy	The College began implementing a policy to build new structures to LEED Silver construction standards.
2008	Move-In	The first Move-In event (recycling of cardboard primarily) was run by a student. This program grew into one supported by the Office of Sustainability.
2009 (fall)	Move-In	Move-In oversight shifted from an ENV class to sustainability staff. Students continue to help coordinate this initiative.
2007	Green Roof	A green roof project (proposed and run by a student) was installed on the roof of our largest science building. This pilot program is still functioning and has allowed our facilities staff to become more familiar with how green roofs function. This project has been used by students to conduct research.
2008	Faculty Hire	The third Environmental Studies faculty line was approved in 2006 and Patrick Hurley was hired in 2008. Dr. Hurley's work focuses on political ecology and human interactions with the natural world.
2008 (sp)	Climate	The College hosted a four-day conference-style event as part of the national Focus The Nation event about global climate change and solutions to which campus and public were invited and attended, led by ENV faculty members, but with help and support of many faculty and staff members across campus. This multi-day conference featured 21 different speakers and events around the topic of climate change.
2008 (spring)	Climate	Environmental Studies students conducted the first GHG inventory, as required by the ACUPCC. This was conducted as part of a course.
2008	Climate	President John Strassburger committed Ursinus College to hiring a Summer

(summer)		Fellow to work on the college's annual greenhouse gas inventory.
2008 (fall)	Stormwater Basin	A planting and maintenance plan for the Ursinus naturalized storm water basin (constructed wetland) was completed by a contractor and implemented by the Facilities Services Department.
2008	Bikeshare	A student cycling enthusiast worked with the College to start a student bike sharing program, called UCBikeshare.
2009	Recycling	The College began participating in the national Recyclemania contest.
2009	Climate	The College's first unofficial Climate Action Plan (CAP) was completed by students as part of the ENV Senior Seminar. This plan led to many changes being undertaken by the Facilities Service Department. It was never submitted for ratification by the College.
2009 (spring)	Hire	A part-time position of Sustainability Coordinator was created in March, 2009. Kyle Rush was appointed to this position. Environmental Studies faculty had requested a full- or part-time sustainability coordinator to act as liaison between students, faculty, and staff in promoting stewardship and leadership projects and initiatives on and off campus.
2009	Energy	Energy monitoring equipment was purchased for installation in all campus buildings.
2009	Dining	Wismer Dining Hall began its existing composting program.
2009 (fall)	Dining	Wismer Dining Hall installed a tray-less system for handling food service.
2010	LEED construction	The addition to the Berman Art Museum was built to LEED Silver standards (though not certified).
2010	Green Roof	The Berman Art Museum addition included a green roof. Though primarily an art installation, the green roof is an excellent educational tool about environmental efforts on campus.
2010 (spring)	Move-Out	The first large-scale Move-Out event was held. Move-Out was conceived as a project by students in an Environmental Studies capstone course on Waste as a Resource (now called Talking Trash) and coordinated with the SPC.
2010 (fall)		ENV capstone students complete analysis of campus landscape management, making recommendations about future changes to campus (e.g., native species enhancements, expanded edible landscaping). Recommendations incorporated within newly completed Master Tree Plan.
2010 (fall)	Staff	A part-time position of Sustainability Program Coordinator (SPC) was established to handle increasing program demands. This position was filled by Maryanne Berthel ('10). This position reported to ENV.
2010 (fall)	Staff	A part-time position of Climate Action Manager (now Campus Sustainability Planner) was established to address the commitment made to the ACUPCC. This position was/is filled by Shannon Spencer. This position reported to Facilities.
2010	Program	The UC Bikeshare program came under the umbrella of the Sustainability Program. Bikeshare provides bicycles to campus community members. The program was student run and was previously housed in ResLife.
2011 (spring)	Program	The College agreed to change the designation of the sustainability program to the Office of Sustainability (OS).
2011 (spring)	Program	The OS submitted its first combined budget. This streamlined budget items from multiple College departments, including ENV, Residence Life, and the President's budget.
2011 (spring)	Climate	2009-2010 GHG Inventory was completed. This was undertaken by a Summer Fellows student with oversight by Leah Joseph, Environmental

		Studies Department Chair, and Shannon Spencer, Climate Action Manager.
2011	Climate	A new organizational structure was approved for the Climate and Sustainability Action Plan, involving separate chapters for each administrative unit at the College, with the goal of facilitating implementation in mind.
2011 (spring)	Advertising	The first issue of the UCGreen Connection newsletter was published.
2011 (spring)	Staff	The College made a further commitment to sustainability by making the SPC position into a full time position.
2011	Staff	Facilities Services tasked one person, Mike Degler, with handling recycling. He worked with the SPC in the OS.
2011	Events	First Sustainability Week event held (to date, this has not been repeated)
2012 (spring)		Final plan and recommendations for the creation of a campus ethnobotany garden are completed. Garden installation awaiting funding.
2012 (sp)	Staffing	First SPC left the College; replacement hiring process began summer of 2012.
2012	Organizational	The OS was shifted into the Facilities Services Department. Both OS staff members now report to Andrew Feick, Director of Facilities Services.
2012 (fall)	Staff	Brandon Hoover was hired to fill SPC position.
2013	Education	The first 1-credit course for Sustainability Fellows was offered by the Office of Sustainability in conjunction with ENV.
2013 (spring)	Grounds	First online map of campus urban forest, highlighting ecosystem services and cultural values, completed by ENV student as part of independent research project.
2013 (sp)	Energy	The first Mock Energy Bills were created and distributed to residents of our Main Street houses as an educational campaign to raise awareness of energy use on campus.
2013	Climate	The Climate and Sustainability Action Plan was completed for review by President Bobby Fong.
2014	Energy	Real-time energy monitoring software expected to go online for students to use for educational purposes.

Appendix D: UC - Sustainability Initiatives List

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Sustainability initiatives on the Ursinus College campus, by type or sector.

Sector	Sustainability Activity	Who is Responsible	Dept
Building	Energy - Reduce VFDs - various buildings; some with AHU	Facilities - Andrew Feick	Fac
Events	Initiative - Greeks Go Green	Senior Seminar Class Project	Var.
Educ.	UC Organic Farm	Office of Sustainability	OS
Building	Green Building - Berman Addition LEED silver	Facilities - Andrew Feick	Fac
Building	Green Building - Green Roof on Berman Museum	Facilities and ENV	Fac/ENV
Building	Green Building - green roof on Wismer (outside of dining area)	Facilities - Andrew Feick	Fac
Building	Policy - Green building - UC commitment that all major renovations will be built to LEEDS standards	Facilities; Administration	Fac
Educ	Education - Courses (see separate list of sustainability-related courses)	ENV faculty: Patrick Hurley, Leah Joseph, and Rich Wallace	ENV
Educ	Education - Speaking about ENV Studies topics at student/parent orientations, with dorm Ras, at alumni events	OS, ENV Faculty & staff	ENV
Educ	Education - Eco-Art - bringing sustainable artists on campus	Various Art Dept., Berman	Art
Educ	Event - Energy management competition in dorms	OS	OS
Educ	Event - Environmental Art Award	ENV faculty: Patrick Hurley, Leah Joseph, and Rich Wallace	ENV
Educ	Event - Environmental Roundtables with Senator John Rafferty	ENV	ENV
Educ	Event - Environmental Speaker Series (Anna Lappe, Frances Moore Lappe, Manny Howard, Katie Tripp, Scott Wiedensaul, Douglas Tallamy, etc.	OS and ENV faculty	ENV
Educ	Event - Focus the Nation (Climate Change Conference)	ENV: Rich Wallace, Leah Joseph	ENV
Educ	Event - Food-leftovers scraped and weighed over the course of a week (3/day).	ENV	ENV

Educ	Event - Just Food	OS	ENV
Educ	Event - Local Food Banquet	Rich Wallace, Food, Society & Envt class members	ENV
Educ	Event - Recycled Art & Presentations	ENV, Art, Psychology	ENV
Educ	Event - Tree planting on campus	Facilities & various departments	Var.
Educ	Event - Unplugged program	OS	OS
Educ	Habitat - Bat houses installed/maintained	ENV & facilities	ENV
Educ	Habitat - Bird Houses	ENV - Rich Wallace	ENV
Educ	Initiative - Student "service hours" working the garden/wetland/recycling program	UCARE	UCARE
Educ	Initiative – Sustainability Fellows	OS	OS
Educ	Initiative - EcoReps	OS	ENV
Educ	Initiative - UCEA	Student organization	Student
Educ	Organic Farm	OS - Farm Director (student)	OS
Educ	Organic Farm - Bee Keeping	OS – Farm Director (student)	OS
Educ	Organic Farm - chickens	OS – Farm Director (student)	OS
Educ	Organic Farm - Orchard	OS – Farm Director (student)	OS
Educ	Personnel - faculty and staff hired with sustainability as part of their job responsibilities	OS and various	OS
Educ	Policy - Presidents' Climate Commitment Signatory	President of College & OS	Admin
Educ	Research - Biodiesel converstion of vehicles -found Mercedes worked - VW didn't	student	ENV
Educ	Research - Faculty (see list)	various	Var.
Educ	Research - Reducing Pesticides in Agriculture	Biology: Cory Straub	Bio
Educ	Research - Climate Change Perspectives Survey	Bruce Rideout	Psych
Educ	Signage at major Sustainability initiative sites (garden, wetland, green roof)	OS & Facilities - Andrew Feick	Fac
Elec	2x Electricity Grid Emergency Response	Facilities	?
Elec	Energy - A/C - variable speed drives	Facilities - Andrew Feick	Fac
Elec	Energy - CFC Replacement Program	Facilities - Andrew Feick	FAC
Elec	Energy - efficiency - motion sensors on lights in bathrooms, offices, classrooms, dorm rooms?; AHU VFDs?; winterize A/C; lighting study in gym; flourescent & LED lights, etc	Facilities - Andrew Feick	Fac
Elec	Energy - Light bulb exchange	Facilities	Fac

Elec	Energy - Vending Miser in vending machines	Facilities - Andrew Feick	Fac
Elec	Energy - West Parking Lot - closed at times to save energy	Facilities	Fac
Elec	Policy - UC committed to replacing outdated appliances with Energy Star certified efficient models, when available	Facilities	Fac
Elec	Purchase - carpet green (Cool Carpets)	Facilities	FAC
Elec	Purchase - Energy Star - replace outdated appliances with more efficient energy star models	Facilities - Andrew Feick	Fac
Elec	Purchase - Increased Laundry Efficiency with machines that use 1/3 of energy and water	Facilities	FAC
Elec	purchase - LED lights for outdoor walking lights (last 10x longer than flourescents)	Facilities - Andrew Feick	Fac
Elec	Purchase - Printers replaced to be more efficient	Facilities	FAC
Elec	Purchase - updates in science buildings (e.g., fume hoods)	Facilities	FAC
Food	Composting - area behind New Hall	Facilities	FAC
Food	Composting - food	Dining Services	
Food	Composting - Ucompost	OS/Students - UCompost Volunteer Team and Supervisors (not currently functioning)	OS
Food	Organic Dinner	SIFE	Food
Food	Organic Dinner benefitting WWF	Greeks Go Green	Food
Food	Energy - Trayless Dining Hall (Implementation)	Dining Services, Facilities	Food
Food	Research - Trayless Dining Hall (Research Project)	Dining Services, Facilities	Fac
Food	Wismer on Wheels?	UCARE	
Grounds	Green Building - Green Roof Maintenance	Facilities and ENV	
Grounds	Habitat - Constructed Wetland	Facilities	
Grounds	Habitat - Wetland cleanup by Frat	Fraternity	
Grounds	Athletic fields dressed with compost instead of topsoil	Facilities - Andrew Feick	Fac
H&C	Energy - efficiency - boiler tune-up	Facilities - Andrew Feick	Fac

H&C	Energy - Heating - conversion of many Main St. houses to natural gas from oil over last several years (2009)	facilities	Fac
H&C	Energy - Insulation in ceilings & walls	Facilities - Andrew Feick	Fac
H&C	Energy monitoring meters w/ visual system purchased for all buildings	Facilities - Andrew Feick	Fac
H&C	Energy - Offset purchases (same as power purchase agreement?)	ENV	ENV
H&C	Energy - Thermostats - updated to electric & separate for each room to take into account windows left open	Facilities	Fac
H&C	Purchase - energy efficient windows (as needed/able)	Facilities	FAC
H&C	Purchase - Water savers: Low flow toilets/shower heads/faucets. Moving to power assist toilets	Facilities	Fac
Outreach	Event - Earth Day	UCEA/OS	ENV
Outreach	Organic Farm at Collegeville Farmers' Market	OS	OS
Outreach	Outreach - Bullfrog Creek Restoration Project (with Lower Salford Township and PWC)	ENV - Rich Wallace	ENV
Outreach	Outreach - CISPES - El Salvador water testing at mining site	Christian Rice	UCARE
Outreach	Outreach - Climate Club at Springford Elementary	Leah Joseph (a project of the Global Climate Change class)	ENV
Outreach	Outreach - DEP Air monitoring	Leah Joseph	ENV
Outreach	Outreach - Owl Banding	UCEA	ENV
Outreach	Outreach - Partnership with Farmers' Market Steering Committee	Rich Wallace - class; Foods, Society, and the Envt	ENV
Outreach	Outreach - PWC Watershed Cleanup	Leah Joseph	ENV
Outreach	Outreach - Sustainable Landscape/Senior Seminar	Patrick Hurley & Senior Seminar Students (ENV 470w)	ENV
Outreach	Outreach - OS Website	OS	OS
Transport	Coordination of bus schedules for athletic teams	Athletics Dept	Athletics
Transport	Policy - Local purchasing	Business Office	BO
Transport	Purchase - Biodiesel and electric powered vehicles for Facilities	Facilities	FAC
Transport	Purchase - Campus Safety replace with electric cart	Facilities/Campus Safety	FAC
Transport	Purchase - electric golf cart for environmental studies department and OS	ENV & Facilities	ENV

Transport	Purchase - Local Food Sources	Dining Services	Food
Transport	Purchase - local purchasing (Lamp posts bought locally - Spring City; other??)	Facilities	Fac
Transport	Purchase/Lease - hybrid cars for Admissions/ administrative use	Facilities	FAC
Transport	Transport – UC Bikeshare Program	OS	OS
Transport	Transport - Philly Car Share	Student Activities Office	SAO
Transport	Transport - Ride Share Program	Student Activities Office	SAO
Transport	Transport - Shuttle Bus	Residents Life/SAO office	SAO
Transport	Transportation - drinking water tanks provide filtered tap water rather than using transported plastic or glass water bottles	Dining Services	dine
Waste	Composting - cardboard (used to recycle)	Facilities - Andrew Feick	Fac
Waste	Composting - Compostable "plastic" spoons Wismer	Dining Services	
Waste	Composting - Compostable bowls Wismer	Dining Services	
Waste	Event - Recycle team move in/move out	Sustainability Fellows/OS	OS
Waste	Event- Recyclemania	SIFE, Sig Pi	
Waste	Policy - Computer packaging more sustainable - Dell	Env; facilities	Fac
Waste	Policy - Garbage contract - renegotiated	Facilities	FAC
Waste	Policy - Inclusion of sustainability concepts within contracting (i.e., waste, housekeeping)	Business Office	BO
Waste	Policy - No More plastic bottles sold on campus (not a currently functioning initiative)	President	PRES
Waste	Purchase - green cleaning products, chemicals, etc.	Housekeeping	House
Waste	Purchase - Recycled paper - business cards	Facilities	FAC
Waste	Purchase - Recycled Paper use (30% + FSC)	Facilities	FAC
Waste	Purchase - recycled toilet paper	Housekeeping	House
Waste	Purchase - vinyl flooring over carpet (which is thrown out annually)	Facilities	FAC
Waste	Recycling - bottles & cans	Facilities	FAC
Waste	Recycling - cardboard	Facilities	Fac
Waste	Recycling - Mixed	Facilities	Fac

Waste	recycling - paper - Sig Pi		
Waste	Recycling - paper (extended to dorms)	Facilities	FAC
Waste	Recycling - Plastics 1-7	Facilities/OS	FAC/OS
Waste	Recycling - Rechargeable Batteries, Flourescent & other specialty Lamps	Facilities	Fac
Waste	Recycling - technology	Technology Services	Tech
Waste	Recycling -Newspaper		
Waste	Waste - compacter to be installed to reduce the number of wast pick-ups	Facilities?	FAC
Waste	Waste - Oil sold for biofuel	Facilities	Fac
Waste	Waste - Pelletized organic fertilizer on fields from composted product	Facilities - Andrew Feick	Fac
Waste	Waste - Pesticides - integrated pest management focuses pesticide application only to trouble areas - not everywhere)	Facilities	Fac
	Education - Red & Gold Day	OS	OS
	Funding - Grant proposals written (unfunded) to Chiller PEDA, LOI greenroof, Energy Harvest LED lights (PEDA too?)	ENV/OS/Facilities	ENV
	Initiative - Carbon Inventory	OS	OS
	Initiative - President's Climate Commitment - Implementation	OS	OS
Waste	Shipped old/unused furniture to Haiti in partnership with IRN	Facilities - Andrew Feick	Fac

Appendix E: Ursinus' Academic Course Listings for Sustainability Related Courses

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This appendix includes a list of courses offered in our catalogue that cover topics related to sustainability. They include courses from the following academic departments: Environmental Studies, Anthropology, Business & Economics, Biology, Chemistry, English, Philosophy, Political Science, Psychology, Sociology, and French.

Course listings for sustainability-related topics at Ursinus College

ENV-100 **Issues in Environmental Studies(**Faculty) An introductory interdisciplinary course with readings and research on topics across all fields of environmental studies. This course examines environmental issues through many lenses, including ecology, economics, ethics, policy analysis, and the arts. Issues explored include (but are not limited to) population, energy, biodiversity and ecosystem conservation, food and agriculture, global warming, ozone depletion, air pollution, water resources management, and solid waste. Student projects include investigations of local environmental issues and applied conservation activities within the Ursinus and surrounding communities. Open to first-year and sophomore students or others by special permission of instructor. Four hours per week. Four semester hours.
ENV-268 **Wetlands** (Faculty) An exploration of the features common to all wetlands, the great variety of wetlands that exist due to differences in climate and geomorphology, and the many ways in which humans are connected to wetlands. Weekend field trips to area wetlands will broaden our view of regional types and increase awareness and appreciation of the vital role wetlands play. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three hours of lecture per week plus three or four, one-day, weekend field trips. Four semester hours.
ENV-272 **Marine Mammal Conservation and Management** (Dr. Wallace) This course addresses historical and current issues concerning the conservation and management of marine mammals, their habitats, and related marine resources. It integrates the biological sciences, policy, law, economics, and humanities (in the form of ethics and values) in presenting and engaging the students in discussions about the history of human-marine mammal interactions, changes in human values and attitudes about the marine environment, the role of human-marine mammal interactions in societal changes, and the policy arena that has developed around marine mammals in the past century. Prerequisite: ENV-100. Three hours per week. Four semester hours.
ENV-299 **Readings in Environmental Studies** (Faculty) Individual study and directed reading of a particular topic or book within the discipline. Students will work closely with a member of the ENV faculty in selecting, reading, and discussing the topic, and in determining a proper written assignment. Prerequisites: ENV-100 and permission of the instructor. One semester hour.
ENV-332 **Urbanization & the Environment** (Dr. Hurley) An introduction to the diversity of environmental transformations that accompany the process of urbanization and their implications for urban sustainability through exploration of the historical, political, social, economic, and ecological dimensions of the human-environment interactions .Field trips to local neighborhoods, nearby towns, and sites in Metropolitan Philadelphia are required. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three lecture hours per week. Four semester hours.
ENV-336 **Environmental Planning** (Dr. Hurley) An introduction to a diversity of conceptual approaches in the field of environmental planning and management, including smart growth management, regional planning, land-use planning, collaborative planning, natural hazard mitigation, conservation planning, and watershed management. Field trips in the Philadelphia region will occur. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three lecture and three laboratory hours per week. Four semester hours.
ENV-340W **Food, Society, & the Environment** (Dr. Wallace) Few issues are as complex and interdisciplinary as what we eat. The seemingly simple every-day choices we make about our food have repercussions far beyond our diets and wallets. We will explore the food systems in which we live from many different perspectives to achieve an understanding of what food and food decisions mean in terms of personal health, welfare, and budgets, and in the context of society, economy, and sustainability. Written and oral communication of critical thinking is emphasized. Sophomores and above welcomed. Prerequisite: ENV-100. Three hours of lecture plus three hours of field or lab work per week. Four semester hours.
ENV-342 **Globalization & the Environment** (Dr. Hurley) An examination of the cultural, political, and economic linkages that characterize globalization and the consequences these linkages (e.g. through consumption practices) have for specific

places, diverse peoples and cultures, and the environments where they live. Students will examine specific cases from Africa, South America, East and Southeast Asia, and Australia. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three lecture hours per week. Four semester hours. (G.)

ENV-350 **Topics in Environmental Studies** (Faculty) A study of a contemporary issue or specific subject area relating to the environment. Topics are often cross-disciplinary and vary according to the special interests of students and faculty. Potential topics include: energy and the environment; landscape architecture; urban environmental studies; and birds in their habitats. Prerequisite: permission of the instructor. Independent written work required. Lab and field work required in some cases. Three hours of class per week. Four semester hours.

ENV-360 **Conserving Biological Diversity** (Dr. Wallace) A study of the conservation of biological diversity in the United States and abroad. Interdisciplinary analytical methods are used to investigate the loss and conservation of wildlife and habitats, with an emphasis on the development of conservation policy in the United States and comparative international case studies of endangered species protection. Specific topics include current trends in global biodiversity loss; the role of human values in biodiversity conservation; international biodiversity conservation strategies, initiatives at zoos and aquariums; and the protection of forests, rangelands, oceans, and coastal zones, birds, fish, marine mammals, and endangered species in the United States. Prerequisite: ENV-100. Three hours per week. Four semester hours.

ENV-362 **Managing Parks & Protected Areas** (Dr. Wallace) A study of strategies for managing parks and protected natural areas locally and internationally. Emphasis is on learning the interdisciplinary tools necessary for developing management plans and implementing protected area policies. Case studies will address issues such as urban and suburban sprawl, pollution, natural resource extraction, biodiversity conservation, and the rights and concerns of indigenous peoples. Local field trips will supplement in-class learning by exposing students to protected areas studied in the classroom. Prerequisite: ENV-100. Three hours of lecture plus three hours of field work per week. Four semester hours.

ENV-364 **Ecosystem Management (**Dr. Wallace) Sustainability is an important social goal, but learning how to achieve it at large scales is challenging and complex. This course examines the conceptual and contextual basis for managing and conserving nature at the ecosystem level. We will explore methods and theories for large-scale conservation, discuss how science, management, and policy are integrated in these efforts, apply problem solving methods to the challenges of large scale conservation, and investigate cases from the terrestrial and marine environments. Prerequisite: ENV-100. Three hours per week. Four semester hours.

ENV-366 **Ecological Change in Historical Perspective** (Dr. Hurley) An introduction to longer-term perspectives on human-environment interactions, drawing on approaches found within environmental history, historical ecology, and historical geography. Particular emphasis is placed on case studies from North America and on regional ecosystems in the Eastern United States. Saturday or Sunday field trips to regional sites are required. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three lecture hours per week. Four semester hours.

ENV-370 **Global Climate (**Dr. Joseph) This course focuses on the science of climate, investigating what climate is and what factors determine and influence the climate of an area. Both the natural and anthropogenic (human) forces that may cause climate change are presented from a geological and historical perspective in addition to covering current climatic trends and predictions for future climate. Prerequisite: ENV-100 or permission of the instructor. Offered every other year. Three hours of lecture and three hours of laboratory per week. Four semester hours. (LS.)

ENV-372 **Environmental Issues in Oceanography** (Dr. Joseph) An introduction to the basic scientific concepts of oceanography, focusing on the aspects of oceanography that affect and are affected by humans. Topics include plate tectonics, properties of seawater (chemical and physical), coastal processes (coastal erosion, tsunamis, hurricanes), the effects of/on the ocean in climate change, el Niño/la Niña, the ocean as a resource (fisheries, mining), and pollution of the ocean (ocean dumping, mercury, and oil spills). Saturday or Sunday fieldtrips may be required. Prerequisite: ENV-100 or permission of the instructor. Offered every other year. Three hours of lecture; three hours of laboratory per week. Four semester hours. (LS.)

ENV-381A **Internship (**Faculty) An off-campus academic/work experience under the supervision of a faculty internship advisor and an on-site supervisor, comprising between 120 and 159 hours of work during the course of the internship. Students must have completed 12 semester hours of environmental studies courses including ENV-100 and have permission of the supervising faculty member to be eligible for an internship. Students must document their experience according to the requirements delineated in the College catalogue section on Off-Campus Study. Graded S/U. Three semester hours. (I.)

ENV-381B **Internship (**Faculty) An off-campus academic/work experience under the supervision of a faculty internship advisor and an on-site supervisor, comprising at least 160 hours of work during the course of the internship. Students must have completed 12 semester hours of environmental studies courses including ENV-100 and have permission of the supervising faculty member to be eligible for an internship. Students must document their experience according to the requirements delineated in the College catalogue section on Off-Campus Study. Graded S/U. Four semester hours. (I.)

ENV-382 **Political Ecology** (Dr. Hurley) An introduction to an interdisciplinary field of inquiry concerned with the ecological and social drivers of environmental change and their politicization. Students will explore cases representing a diversity of

ecosystems at local, regional, and national scales from a diversity of locations across the globe, including in Africa, North America, South America, and Southeast Asia. Prerequisite: ENV 100. Offered every other year. Three lecture hours per week. Four semester hours.

ENV-430W **Advanced Environmental Policy Analysis** (Dr. Wallace) An intensive seminar in methods of interdisciplinary environmental problem solving designed to improve professional development and practice in the many fields of conservation. This course will help students develop an understanding of and technical proficiency in using qualitative analytical methods. Theory and cases will address environmental concerns at the local, regional, national, and international levels. Prerequisite: ENV-100, at least one ENV synthesis course, and junior standing. Three hours per week. Four semester hours. (SS.)

ENV-470W **Environmental Studies Senior Seminar** (Faculty) This is a capstone seminar in the methodology and application of critical thinking and other applied analytical and practical skills in environmental studies. It is designed to help students learn practical problem solving skills, and the theories that underlie them, that will help them to identify, define, and analyze environmental problems and develop responses to them. The seminar is designed to provide a synthesis experience for environmental studies majors and will entail group and individual work on a semester-long project. Project-related work will draw from the natural and social sciences as well as from ethics and the study of rhetoric. Prerequisites: ENV-100, junior or senior standing, and at least three additional ENV courses. This course fulfills the ENV capstone and oral presentation requirements. Three hours per week. Four semester hours.

ENV-481W **Research/Independent Work** (Faculty) An independent project conducted using research methods in environmental studies, and including original work in the field, laboratory, or other scholarly forum. Students must have completed 12 semester hours of environmental studies courses including ENV-100 or have permission of their adviser to be eligible for independent research. Four semester hours. (I.)

ENV-482W **Research/Independent Work** (Faculty) See course description for ENV-481W. Four semester hours. (I.)

ENV-491W **Research/Independent Work** (Faculty) Students who are eligible for departmental honors can complete independent research work in this course. Work should be comprised of an independent project conducted using research methods in environmental studies, and including original work in the field, laboratory, or other scholarly forum. Students must have completed 12 semester hours of environmental studies courses including ENV-100 or have permission of their adviser to be eligible for independent research. Four semester hours. (I)

ENV-492W **Research/Independent Work** (Faculty See course description for ENV-491W. Four semester hours. (I)

ENV/ANTH-352. **Peoples & Their Environment** (Dr. Oboler) Human cultural patterns and social institutions are adaptations to particular physical and social environments, and also have impacts on those environments. This course is concerned with the relationship between environments and subsistence systems on the one hand, and social/political institutions and belief systems on the other, using case studies from a variety of traditional societies. We will also consider the relationship between the global ecosystem and problems of Third World development, patterns of peasant production, causes and consequences of rapid population growth, and the fate of indigenous peoples. Prerequisites: ANTH-100 or permission of the instructor. Three hours per week. Four semester hours. (SS.)

ENV/BE-213. **Economics of Environment and Natural Resources (**Dr. Randall) Economic analysis is used to inform, analyze, and evaluate current environmental and natural resource policy decisions. Analyses of environmental problems use cost-benefit or efficiency criteria. Topics include externalities, public goods, common property rights, and sustainability. Prerequisite: BE-100. Three hours per week. Four semester hours. (SS.)

ENV/BIO-215 **Biology of Maya Mexico (**Dr. E. Dawley, Dr. R. Dawley) A study of the environments, fauna, and flora of tropical Mexico and their relation to the Maya people who inhabit that region. We will examine coral reefs, coastal waters, and lowland and highland forests, focusing on animals and plants of particular importance to the ecosystem they inhabit and to the Maya people, past and present. Prerequisite: None. Field investigations accompanied by readings, lectures, and an independent project resulting in a review or research paper. Four semester hours. (This course is part of the UC in Maya Mexico Program.)

ENV/BIO-250 **Environmental Biology(**Dr. Sidie) A study of the biological basis of environmental issues. Includes ecosystems, communities, populations, water, energy, geologic resources, biodiversity, weather/climate, pollution, agriculture/hunger, soil resources/pests, solid/toxic hazardous waste, toxicology, land use. Prerequisite: BIO-101Q or permission of the instructor. Three hours of lecture. Three hours of lab per week. Four semester hours. (LS.)

ENV/BIO-270 **Aquatic Biology** (Dr. Goddard) A study of the path that water takes from the headwaters of a creek down to the deepest oceanic trenches plus all of the aquatic communities found along the way. Human use of freshwater and marine resources and impacts of humans on the freshwater and marine environments will be discussed. Laboratories will include studies of fish and invertebrate anatomy and taxonomy, a visit to a beach, salt and freshwater marsh, and creeks and ponds. Students must be available for two Saturday fieldtrips to estuarine and coastal habitats. Three hours of lecture; three hours of laboratory per week. Prerequisites: BIO-101 and BIO-102; or permission of the instructor. Four semester

hours. (LS.)

ENV/BIO-310 **Biological Oceanography** (Dr. Goddard, Dr. Sidie) A study of the biological bases of ocean science. Topics discussed include: ocean basins, seawater physics and chemistry, currents, waves, tides, upwelling zones, tidal rhythms in organisms, ocean habitats/biota, marine virology, marine microbiology, plankton, trophic relationships, hydrothermal vent communities, coral reefs. Prerequisite: BIO-101Q or permission of the instructor. Three hours of lecture; three hours of laboratory per week. (Course may be conducted in part at a marine field station). Four semester hours. (LS.)

ENV/BIO-320 **Biology of the Neotropics** 9Dr. E. Dawley, Dr. R. Dawley) A field study of Costa Rican tropical habitats including rain forests, montane forests, seasonally dry forests, and wetlands conducted at research sites throughout the county. Topics include diversity and natural history of key plants and animals, ecological interactions and evolutionary processes, and conservation. May include side trips to cloud forests or coral reefs. Prerequisite: Permission of instructor and BIO-101Q. Field investigations accompanied by readings, lectures, and a directed research project. Course will meet 15 hours on campus and three weeks in Costa Rica between the Fall and Spring semesters. Four semester hours. (LS.)

ENV/BIO-325 **Insect Biology** (Dr. Straub) This course will introduce students to the insects—the most diverse group of organisms on the planet. We will examine the physiology, development, behavior, ecology, and evolution of insects to better understand why they are so successful, and special emphasis will be placed on understanding the importance of insects to human welfare. Students will learn the taxonomy of local insects by completing an insect collection. The laboratory component of this course will include insect rearing, experiments, and field trips to collect insects from terrestrial and aquatic habitats. Prerequisite: BIO-101 and BIO-102; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. Four semester hours. (LS.)

ENV/BIO-330 **Marine Biology** (Dr. Sidie) A field-oriented study of the important marine habitats, including pelagic and benthic zones, and intertidal communities. Topics include marine biodiversity-plants, protists, invertebrates, vertebrates; marine ecology; primary production in the sea; estuaries; plankton; nektron; marine mammals. Prerequisite: Permission of the instructor and BIO-101Q. Lecture and field investigations. (Course conducted in part at a marine field station.) Four semester hours. (LS.)

ENV/BIO-394 **Watershed Investigations & Actions** (Dr. Goddard) This course combines class time, research, and community action. Scientific and historical aspects of the Darby Creek watershed examined will include a brief survey of creek flora and fauna and physical properties (limnology), land development directly adjacent to the creek starting in the U.S. colonial period and the industries along the creek that lead to the declaration of a Superfund Site along the creek. Laboratory research is an investigation of pollution in a species of creek fish. Community action is a survey of pollution-indicator macroinvertebrate species with elementary schools throughout the watershed. Prerequisite: BIO-201W; or permission of the instructor. Two hours of lecture and 7 hours of laboratory/community action per week. Four semester hours.

ENV/BIO-415W **Ecology** (Dr. Small) Studies of the interrelationships between organisms and their environments that determine their distribution and abundance in natural systems. Aspects of energy flow, biotic and abiotic limits, population growth and community organization are considered in the context of the ecosystem. Laboratories include local field work and emphasize techniques for collecting and analyzing data. Prerequisites: BIO-101Q and 102Q and 201W, or permission of the instructor. This course fulfills the ENV capstone requirement. Three hours of lecture, three hours of laboratory per week. Four semester hours. (LS.)

ENV/CHEM-101 **Introduction to Environmental Chemistry** (Faculty) This course, intended for non-science majors, will examine selected topics in environmental chemistry through an understanding of basic chemical principles. Topics may include global warming, ozone depletion, pollution, and waste management. Three hours of lecture. Three semester hours. (LS if taken with CHEM-101LQ.)

ENV/CHEM-101LQ **Laboratory in Introductory Environmental Chemistry (**Faculty) Laboratory work related to CHEM-101. In addition to mastering basic chemistry laboratory skills, students will analyze air, water, and soil samples using a variety of techniques. Prerequisite: CHEM-101 (or concurrently). Three hours of laboratory per week. One semester hour.

ENV/ENGL-262 **The Environment in Literature (**Faculty) Students in this course will study literature inspired by a variety of environments. Readings will range from classic essays "Nature" by Emerson and "Walking" by Thoreau to Terry Tempest Williams' 1991 environmental/autobiographical study, "Refuge: An Unnatural History of Family and Place." Ecocriticism, the study of the relationship between literature and the physical environment will provide the theoretical framework for the course. Writing for the class will be half-analytical (critical responses to texts), and half-original, creative student writings about their own environments. Prerequisite: CIE-100. Three hours per week. Four semester hours. (H.)

ENV/GEOL-102Q **Geology: The Earth Around Us (**Dr. Joseph, Faculty) This course examines the current state of knowledge about the Earth and investigates the forces and processes that shape it. Topics include the formation of the Earth and solar system, the materials that comprise the Earth, the forces that currently act on, around, and within the planet, and the relationship of these forces to the processes and features we observe and/or experience at the Earth's surface. To address complex and dynamic geologic processes, this course utilizes knowledge and methods from several disciplines in addition to geology, including biology, math, physics, and chemistry. Three hours of lecture and three hours of laboratory per week.

Four semester hours. (LS.)
ENV/GEOL-105Q **Environmental Geology** Dr. Joseph, Faculty An introduction to environmental geosciences. Includes a study of the earth's environmental systems: lithosphere, hydrosphere, atmosphere, mineral resources, weathering, soils, rivers and flooding, ground water, climate, oceans and coastline erosion, energy sources, human populations, and environmental change. Three hours of lecture and three hours of laboratory per week. Four semester hours. (LS.)
ENV/PHIL-248 **Environmental Ethics** (Dr. Sorensen) The central issue in environmental ethics concerns what things in nature have moral standing and how conflicts of interest among them are to be resolved. After an introduction to ethical theory, topics to be covered include anthropocentrism, the moral status of non-human sentient beings, preservation of endangered species and the wilderness, holism versus individualism, and the land ethic. Three hours per week. Four semester hours. (H.)
ENV/POL-326 **Environmental Law** (Dr. Kane) The study of various state, national, and international legal patterns that have arisen to address environmental concerns. The environmental field will be used to examine the nature and effectiveness of civil, criminal, and administrative action to address a complicated and important social issue. Topics will include federal administrative law; international trade and environmental regulation; control of toxic substances and hazardous wastes; the impact of scientific uncertainty on regulation; federal regulatory programs; civil liability under federal regulations; citizen suits; and the preservation of natural areas. Prerequisites: POL-218 for Politics and International Relations majors or permission of the instructor. Three hours per week. Four semester hours. (SS.)
ENV/PSYC-282 **Environmental Psychology** (Faculty) Study of the interrelationship between human behavior and experience and the manmade and natural environments. Topics include: influences of weather, climate, noise, crowding, and stress; personal space and territoriality; work, leisure, and learning environments; the natural environment and behavioral solutions to environmental problems. Prerequisite: PSYC-100. Three hours per week. Four semester hours. (SS.)
ENV/SOC-220 **Environmental Justice (**Dr. J. Clark) This course will examine how the burdens of local and global environmental problems are distributed across race, class, and gender. Through the examination of local, national, and international case studies, we will gain an understanding of how the risks associated with exposure to toxic pollutants and other environmental hazards coincide with pre-existing patterns of inequality, both globally and in the United States. Close attention will be paid to the political-historical processes through which the distribution of environmental hazard has been produced, and how affected communities have resisted these processes. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. Four semester hours. (SS.)
ENV/SOC-285 **Environmental Sociology** (Dr. J. Clark) This course will introduce the field of environmental sociology – the study of interactions between humans, groups and the environment. Students will become familiar with a variety of theoretical frameworks for analyzing environmental problems and apply them to a range of environmental issues scaled from the local to the global. Participants will emerge with a critical ability to analyze popular accounts of environmental problems and proposed solutions with a sociological eye. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. Four semester hours. (SS.)
ENV/SOC-288 **Animals & Society** (Dr. J. Clark) In recent years there has been an explosion of research in the humanities and social sciences on what has come to be called the animal question. This course introduces students to the interdisciplinary field of animal studies, with a particular focus on the sociological literature. Students will emerge from the course with a nuanced sociological understanding of some of the most controversial issues raised by our relationship with other animals. Among the issues we will explore are genetic engineering, factory farming, animal experimentation, and the war on "animal rights terrorism." Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. Four semester hours. (SS.)
ENV/SOC-290 **Science, Technology, and Society** (Dr. J. Clark) Society shapes science and technology, which, in turn, help make society what it is. This course introduces students to the interdisciplinary field of Science and Technology Studies (STS). Students will emerge from the course with a sociological understanding of science and technology. Though the course will focus mainly on biotechnology, it will give students a theoretical toolkit that will help them understand other areas of science and technology as well. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. Four semester hours.(SS.)
FRENCH 201 (Colette Trout) This class has a unit that focuses on notions and vocabulary in French about ecological issues. Students are informed about what was been done at UC to have a green campus. Though this course is not cross-listed with ENV, it does focus on sustainability.

Appendix F: Ursinus - Sustainable Office Guidelines

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This is not meant to be an exhaustive list, but a set of ideas and guidelines. If you have questions or ideas to add to this list, please contact the Office of Sustainability at sustainability@ursinus.edu.

Policy & Planning

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.
- Participate in the OS's Green Certification Program, once it is established.

Power Usage

- Centralize devices by plugging them into a power strip, and then turning them off at the end of the day with the flip on a single switch
- Unplug devices and appliances that you seldom use
- Reduce your use at night, over weekends, and holidays by unplugging them.
- Turn off all lighting and electronic devices when not in use.
- Get rid of energy intensive water coolers. Replace with tap water cooled in a refrigerator (or drinking fountains with bottle attachment).

Responsible Consumption

- Instead of using disposable cups (especially polystyrene), ask everyone in the office to bring in their own mug/cup to keep in the office. The mugs/cups just need to be rinsed out at the end of the party.
- Avoid the use of "hard to recycle" materials such as packaging made from StyrofoamTM (polystyrene).
- In the lunch/break room, replace disposables with reusable kitchenware (e.g., mugs, utensils, etc.) and use refillable containers for sugar, salt & pepper, etc. to avoid individual condiment packets.

- For office functions, utilize reusable kitchenware.
- If tea and coffee are provided, make sure they are Fair Trade certified and have low environmental impact (e.g., organic, shade grown, etc.)
- Reduce paper use in the bathroom (toilet paper, paper towels) using informational signage, dispensers that regulate sheet length, etc.
- Prohibit the use of bottled water for office functions.
- Reduce use of products wherever possible and implement sustainability practices in everyday operations.
- Print promotional materials with low or no-VOC inks.
- Designate a sharing and reuse area for office supplies such as binders, folders and staplers.
- If office has a water cooler with disposable cups, use paper cups that can then be recycled.

Paperless

- Whenever possible, use online filing, resources, communication, storage, document exchange. This will save money on paper, printer ink and energy use as well as saving physical storage space.
- Distribute documents digitally whenever possible (make use of scan and send options or make PDF documents and email); when printing is required, print official documents double-sided on recycled, recyclable paper
- Eliminate or redesign forms to use less paper; or switch forms (such as invoices) to electronic format.
- Design marketing and outreach materials that use less paper – such as e-newsletters.
- Conduct more meetings without paper
- For drafts and internal documents, print on previously printed paper; designate a draft printer tray; and/or reuse office paper as scratch pads.
- Send all meeting materials, including agendas, to meeting attendees ahead of time. Set the expectation that attendees will bring their computers with them, if possible, to the meeting (or ask them to let you know if they will need paper copies).

Computer Power Management

- Don’t use a screen saver

- When buying a computer, look for the ENERGY STAR label
- Turn down the brightness setting on your monitor
- Close unused applications and turn off your monitor when you're not using it
- Turn off peripherals such as printers, scanners, and speakers when not in use

Staff Education

- Incorporate sustainability into staff meeting discussions.
- Offer brown bag lunches and workshops with sustainability as a focal topic.
- Elicit staff input into greening the workplace through surveys, suggestion boxes, or other means.
- Hold an annual think tank meetings to strategize about sustainability within the department. Invite students to participate in these discussions.
- Highlight sustainability efforts on your office's website.
- Post educational information in your office space or building about steps you are taking to be a sustainable organization.
- Provide opportunities for employees to learn about greening their personal lives.
- Use signage at light switches reminding staff to turn off lights.
- Put up signs at elevators to encourage the use of stairs.
- Offer in-house training to help staff change old practices so that lights get switched off, waste is recycled/reused, etc.
- Purchase books about sustainability in your particular department. Keep the books somewhere that they can be accessed easily.
- Consider conducting training, in conjunction with Office of Sustainability staff members, around recycling. This should include what can be recycled and what the limitations of the recycling program are (contamination).

Transportation

- Calculate and track travel expenses and the related carbon footprint for each office. Determine if this travel is cost effective for the College (both monetarily and with regard to the related GHG emissions)
- Consider purchasing carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

Appendix G: Ursinus Green Events Guidelines

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When organizing an event, please consider adopting some or all of these "green" guidelines to help lower the impact that your event has on the Earth. Did you know that the plastic utensils that are thrown away after one use don't break down for hundreds of years? Your grandchild's grandchild's grandchild could come across a fork that you used once at a party! As an alternative, use reusable utensils, plates, and glasses and help lower your environmental impact. Below you will find guidelines for organizing and implementing "green" events. Good luck!

- Advertising
  - Print advertising for your event on recycled paper with soy-based inks.
  - Send invitations out digitally rather than printing and sending them through the U.S. mail.
  - Make information available online.
  - Allow for online RSVPs
  - Claim your glory – advertise your event as a "Green Event"
- Carbon Footprint
  - Work to decrease the carbon footprint of all campus events. This could include any of the following (or others):
    - Vegetarian food
    - Local and/or organic food
    - No plastic water bottles
    - Recycled paper in any printed materials (with a statement to that effect)
    - Reduce travel required for the event
    - Use reusable tableware and serving dishes
- Composting
  - Work with Sodexo and/or other caterers to ensure that composting takes place at your campus events.
  - Compost all food, paper napkins, paper plates.
  - Encourage guests to participate in our composting efforts. It will help us and will help them feel that they are part of our cause.

- Event goods
    - Give priority to:
        - Reusable dishes, utensils, glasses
        - Washable linens (napkins and table cloths) rather than disposable.
        - Consider serving finger food rather than foods that require utensils.
    - Rent items that you need for your event rather than purchasing and throwing them away).
    - Ban Styrofoam cups and plates from your event.
    - Use paper plates rather than recyclable plastic plates if at all possible. These can be composted.
    - Use compostable utensils rather than throw-away plastic utensils.
- Food
    - Work with Sodexo and/or other caterers to provide organically grown foods (including vegetables, meats, dairy products) whenever possible and feasible.
    - If tea and coffee are provided, make sure they are Fair Trade certified and have low environmental impact (e.g., organic, shade grown, etc.)
    - Work with Sodexo to ensure that food provided is grown on farms that are committed to protecting the human rights of their farm workers.
    - Work with Sodexo and/or other caterers to provide whole foods that are prepared by the caterer (rather than processed foods that are reheated).
    - Serve only tap water (no bottled water, which contains toxic chemicals and creates trash and/or recycling).
    - Offer water bottle refill stations (or allow guests to refill their water bottles/glasses from pitchers that are at the event).
- Recycling
    - Work with Sodexo and/or other caterers to ensure that recycling takes place at your campus events.
    - Provide recycling bins for staff to use as well as for guests.
    - Recycle all glass bottles, plastic bottles, recyclable plates and cups
    - Encourage guests to participate in our recycling efforts. It will help us and will help them feel that they are part of our cause.
- Signage at Your Event

- Post signage to clearly indicate what can and cannot be recycled. (Digital versions of this signage will be available from the Office of Sustainability's website.)

Caterer

- Request of the event caterer that recycling containers be made available at all events. Recycling bins should be larger than trash receptacles to provide a visible illustration of the campus' commitment to sustainability.
- Request of the event caterer that, for events where food is served and taken away by staff, that a composting container be provided and that food be composted by Sodexo staff. Materials put into the compost would then be added to our compost at Wismer.
- Request of the event caterer that all food-related materials used at events be reusable, compostable or recyclable.

Appendix H: Ursinus Green Purchasing Guidelines

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The following Green Purchasing guidelines are meant to serve as a starting point. They reflect some good practices. If you have suggestions for amending this list, please email them to: sustainability@ursinus.edu

- Beginning the green purchasing process:
  - Identify one person who can help facilitate green purchasing within the department.
  - Track green purchases for future planning and assessment (set up attributes for sustainability aspects)
  - Work with the OS to find sources for materials that are needed.
  - Create a list of preferred vendors based on environmental criteria and purchase from them when possible.
  - Encourage purchasers to consider whether existing items can be used rather than purchasing new items, including sharing or renting as options.
  - Use whole life costing rather than awarding contracts on the lowest price basis.
  - Source giveaways that are recycled whenever possible, including t-shirts, reusable water bottles, pens, paper and other products.
  - Focus on purchases that involve products that have high environmental impact, are expensive, and/or are easily influenced (biggest bang for the buck).
- Before purchasing, ask:
  - Does another department have a surplus that they would be willing to share?
  - Does another department have a surplus that they are not using?
  - If there is an existing item, can it be easily/economically repaired (rather than making a new purchase)
- Prioritize purchasing products that are:
  - Locally produced
  - Locally sold by local business
  - Energy Star rated
  - Durable and well made (built to last)
  - High in recycled/reused content
  - Made from materials that are easily taken apart and are then recyclable at the end of their life

- Reusable and/or refillable
- Easily repaired (in whole or in part) rather than having to be replaced.
- Water and energy efficient
- Made from sustainably managed timber products (e.g., both Lowe's and Home Depot sell products that are certified by the Forest Stewardship Council (FSC)).
- Made from natural materials with no or low-VOC; never purchase teak or other woods that are unsustainable forested.
- Can be bulk ordered/shipped
- Shipping materials are compostable, recyclable, or reusable, and/or the vendor is willing to take back and reuse the packaging.

Appendix I: Ursinus Sustainability Projects/programs that Originated in Academic Courses

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Sustainability projects and programs that originated in academic courses

Type of Project	Sustainability Project/Initiative
Sustainability Projects that Resulted **from** Courses (all approved by Academic Council)	• Organic Farm • Constructed Wetland • Recycling Program • Sustainable Move-In • Sustainable Move-Out • Climate Action Plan (first draft) • Greenhouse Gas Inventory (first year) • Green Roof project on Pfahler • UCompost – residential hall composting (this program is not currently functioning) • Trayless System in the dining hall • Reduced packaging in the Dell laptop shipments; bundling of computers; switch from Styrofoam packaging to compostable bamboo packaging • Development of Science in Motion curriculum on Climate Change for students at local schools • Hunsberger Woods Restoration Plan – project that allowed the College partnered with the local government and NGOs. Included tree planting, rain garden creation, stream restoration. • American Chestnut Foundation Partnership to plant a research orchard of chestnuts. Part of program to develop blight resistant chestnut trees. (This project has not yet been implemented) • Local foods banquet • Plastic water bottle free campus policy (Though this is no longer the case on campus, we are working toward

	reducing the number of disposable plastics used on campus.) • Climate Action Club in Springford School District. • ENV has worked with the Facilities Services Department to expand the student-run organic farm to include an orchard, fruits/vegetables, bees, chickens, a community garden, and a stall at the local Farmers' Market. • ENV faculty is working with the Facilities Services Department to design and implement an an ethnobotany garden on campus, possibly starting in one of our existing planting beds. • Tree planting on campus • Tree mapping project for campus. • Bat & bird houses installed and maintained • Organic Dinners* • Environmental Speaker Series. This is run by faculty who bring in speakers during the academic year. Past speakers include: Wendell Berry, Anna Lappe, Frances Moore Lappe, Manny Howard, Katie Tripp, Scott Wiedensaul, and Douglas Tallamy, among many others.
Sustainability Projects that Continue to be Used in Academic Courses	Recycling program Composting Organic Farm Hunsberger Woods Restoration Plan Ethnobotany garden Farmers' Market Constructed Wetland
Courses that Incorporate Sustainability Concepts	There are over 45 courses offered in the UC curriculum in 11 departments that address sustainability in some way. (see complete list of sustainability-related courses in Appendix E).

Appendix J: Ursinus Sustainable Living Guide

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Energy

- Lighting
  - Replace incandescent bulbs with CFLs.
  - Fact: A fluorescent bulb uses 66% less energy and lasts 10 times longer than an incandescent bulb.
  - By replacing one incandescent light bulb with an energy-saving CFL light bulb, you prevent 1,000 pounds of carbon dioxide from being emitted into the atmosphere, and you save $67 dollars in energy costs over the bulb's lifetime. [2]
- Passive solar heating/cooling.
  - Use drapes to help heat/cool residential rooms. Sunlight is our most efficient source of energy. Here's how it works:
    - In cold weather: open drapes and allow the sun to warm your room – even in winter; close drapes at night to keep warmth in.
    - In warm weather: close drapes (and shut your window) to keep hot sun out/cool air in; at night open up the windows and let the cool air in – use a fan to help draw in fresh cool air from outside.
- Fans vs. A/C
  - Bring a window fan to school with you. It will blow a breeze around your room, cooling you off, while allowing you to wear shorts/tank tops (etc) and not be too cold in your room! Fans use MUCH less electricity, and allow you to remember what season your are in.
  - Make sure you head over to the Facilities office to request a window screen if you bring a fan. You don't want a bat to fly into your room! (yes, they do sometimes fly into open windows!!)
- Appliances
  - Limit the number of appliances in your room. Share TVs, microwaves, mini-friges.
  - Use only Energy Star rated appliances.
  - Unplug appliances and cell phone chargers that are not used regularly (and then only plug them in when you need them; some continue to

[2] http://www.housing.berkeley.edu/green-rssp/rssp_green_sustain.html

consume power even when turned off. This burns out the unit faster and heats up the space around it.
    - Plug all your regularly used appliances into a power strip. Turn that off at night so save electricity use called the "phantom load" of electricity use… power that is being used for no reason by appliances that are just waiting to be used.
- Computers
    - Turn off the screen saver function. These do not "save" your screen (that was for several technologies ago). They do use more energy than Sleep mode does.
    - Set your computers energy use settings to low. Check with IT for help with these settings.
    - Turn your computer off when you are not using it.
- Feng Shui – sort of
    - Keep furniture away from the heating and cooling vents to ensure that air is free to flow from the vent. This allows cooled or heated air to reach your room for efficiently.
- Clothing
    - Dress appropriately to the season: wear sweaters in the winter; wear lightweight clothing in the warmer months.
- Laundry
    - Wash your clothes in cold water (in addition to not having to heat the water, it helps your clothes last longer and look better and reduces shrinkage)
    - Line dry your clothes. Invest in a clothes drying rack and hang your clothes in your room.

Food & Drink

- Dining services currently purchases most of it's food within a 75 mile radius of our campus – so rejoice!
- Eat lower on the food chain. Vegetarian meals require much fewer natural resources to produce than meat-based meals.
- Eat organic! Lobby your food service provider to provide more organic food options and to label them as such.
- Avoid drinks delivered to you in plastic. Did you know that it takes over 2 liters of water to produce the bottle that is used for **every** plastic water bottle…and that doesn't include the water in the bottle!

- BYOB – Bring your own Bottle. And make it a stainless steel bottle if you can…you don't want those plastic chemicals leaching into your water!
- Fill your metal water bottle at one of the three water filling stations on campus (there are two in Wismer; one in the Myrin Library). Ask the College to add more of these. If they know you care, they'll be more likely to prioritize it!
- Compost all your food. Dining Services makes this easy to do: composting happens behind the scenes, but you can do your part by putting your paper napkins and food boats on the conveyor belt in Upper Wismer. They can get composted right along with the food! And if you're really motivated, collect your food waste in your room and bring it with you to Wismer to compost (no plastic bags though).
- Vending machines. Our vending machines are on Vending Misers (they turn off when no one is around), but the food out of vending machines is still low quality. Make healthy choices with your money.

Paper

- Reuse paper (turn it over!)
- Don't print multiple drafts of papers – edit on your computer and print only the final.
- Even better: ask your professors if you can turn your paper in electronically.
- Encourage the faculty in your major to adopt paper-free classes (turn in all papers electronically).
- Fact: The average college student discards (to a landfill) 320 pounds of recyclable paper each year. This means that 6.25 students could recycle 1 ton of paper each year with staggering results:
    - One ton of recycled paper will save:
    - 17 Trees
    - 7,000 Gallons of water
    - Enough energy to heat an average home for 6 months
- We have 1,750 students at Ursinus College. If every student at UC recycled their 320 pounds of paper annually, we could save the following amount of resources:
    - (1750/6.25) = 280 tons of paper recycled
        - 280 x 17= 4,760 Trees Saved
        - 280 x 7,000= 1,960,000 Gallons of Water Saved
        - 280 / 2= 140 Homes could be heated for one year

- The entire Ursinus College population (students, faculty, and staff) is 2,200 people. If every student at UC recycled their 320 pounds of paper annually, we could save the following amount of resources:
    - (2,200/6.25) = 352 tons of paper recycled
    - 352 x 17= 5,984 Trees Saved
    - 352 x 7,000= 2,464,000 Gallons of Water Saved
    - 352 / 2= 176 Homes could be heated for one year

Purchasing

- Before you arrive, consider what you'll need to bring. Here's our Green Purchasing Guide for College (this is not an exhaustive list, just some suggestions):
    - Recycled paper, notebooks, etc.
    - Pens that are refillable
    - Pencils that don't have plastic shells…regular wooden pencils are more sustainable!
    - Bike – bring your bike from home. Or join Bikeshare for $10/year and use one of ours!!
    - Fan – to cool your room off
    - Clothes drying rack
    - Environmentally sensitive laundry detergent
    - Organic cotton or bamboo sheets
    - Storage totes that can be used all year (instead of just for transporting to and from school)
    - Reusable bags for shopping (just say "No Thanks!" to plastic bags at **every** checkout you come to)
    - A set of take-out containers for when you go out to dinner and have leftovers.
    - Stainless steel water bottle and a bottle brush to clean it
    - One or two place settings of reusable utensils and plates/bowls to use in your room.
    - Insulated shades or drapes for your window to keep hot sun in or out (depending on time of year)
    - Sweaters, socks, blankets for cold weather.
    - CFL light bulbs
    - Energy-star appliances, if you must bring appliances. Make sure you collaborate with your roomie to make sure you're not duplicating.
    - Power strips – one for things you don't often use; one for things you use all the time.

Transportation

- Join UCBikeshare and ride to local destinations.
- Use public transportation when possible (SEPTA buses run past campus frequently)
- Bike or walk instead of driving.
- Carpool to go to local attractions like the King of Prussia Mall or local movie theaters
- Leave your car at home

Water:

- A five-minute shower uses between 25-50 gallons of water; shorten your shower by one minute and save 5-10 gallons.
    - If every UC student shortened their daily shower by a single minute, we would save 1,960,000 gallons of water over the course of the 32-week academic calendar.
- Turn the water off when you brush your teeth or shave.
- If you live in an apartment, don't run your dishwasher until it is full.
- Throw your food waste in the compost instead of using the trash.
- Watch for leaky faucets, showers, or toilets and enter a work order as soon as you notice one. A leaky faucet can waste 200 gallons of water a month.
- Wash your clothes in a full load of laundry (not a load of just one or two items of clothing).

Get Involved:

- Join a student club that is involved in environmental themes, like UC Environmental Action.
- Apply to work with one of the Office of Sustainability's student groups:
    - UCGreen Sustainability Fellows
    - EcoREPs
- Join UCBikeshare and ride a bike.
- Become an RA and apply to work on the Sustainability Committee
- Encourage the other clubs and activities that you are involved with to embrace sustainability concepts in their actions or activities.
- Encourage your professors to allow electronic submission of papers.

- Participate in the OS's Green Certification Program for Residence Hall Rooms (once in place).
- Write to your local, state and federal elected officials about environmental and/or sustainable topics that are important to you.
- Volunteer at a local environmental organization. Many local organizations have summer internships available.

Appendix K: Ursinus Facilities Equipment

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Updated 1/27/2012

Year Purchased	Make	Model/Description
	Rogers	Leaf Sweeper
	Jacobson	6 Gang Mowers/Frames
1990	Case/IH	Diesel Tractor
		Gang Rollers
	Power	Roller Lawn All AR1 14-62
	Onan	Portable Generator (Trailer)
1985	Yale	Fork Lift #2P28
1985	York	Rake
1985	Wood	Dixie Mower M5-4
1985	ARPS	Model 90 3 PT Hitch Backhoe
	Karcher	Elect. High Press. Sprayer HD820
1985	Turfco	Top Dresser F12B
1987	Case/IH	Diesel Tractor - 385 UT
1987	Case/IH 485	Utility Diesel Tractor\Loadbuc
1987	Jacobson	Turfcat II DW 224
1989	Heinke	Tornado Chipper Grinder-CG650
1991	Mitsubishi	SF27-D 4 WL. Might MIT w/CAP
1992	John Deere	F935
1992	Case/IH	1862 Cub Cadet
	Telescope	
	Coin Changer	
1996	Ditchwitch	2200 Trencher
1996	Hanson	52" Snowblower - T422D
1996	Ariens 12 H.P.	924085 36" Self Prop. Snowthrow
1994	CAB	For Turfcat
1996	Mighty Mac	PS350T 50 Gal. Sprayer
1995	Vicon	PS203 Spreader Seeder
1994	Cub Cadet Diesel	1782 #144-714-100/54" Mower DK
1994	Cub Cadet Diesel	1782 #144-714-100/54" Mower DK
1994	Case IH	2250 Mount O Matic Loader/BKT.
1996	Cub Cadet	44A Used Mower Deck for 1811
1994	Cub Cadet	54" Snow Blades
1994	Cub Cadet	54" Snow Blades
1994	Cub Cadet	190401 Snow Blades
1994	Cub Cadet	190401 Snow Blades
1994	Cub Cadet 8 HP	826T Snowthrower
1994	Cub Cadet 8 HP	826T Snowthrower

1994	Vicon	P50005G2 Salt Spout
1994	Yamaha	Recond. Gia Golf Cart
	Turf Cat	72" Mower Model 66119
	Cub Cadet	42" Snow Blade
1994	Vicon	PS403DM Seed Spreader
	Cub	54" Mower
	Cub	54" Mower
	Cub	54" Mower
	Cub	54" Mower
	Myers	Turfline Sprayer-1 Piston Pump
	Roto-Hoe	Tiller, Model 904
	Delta	Bench Grinder
	Giant	Vac Push Blower (Mag 8)
	Giant	Vac Push Blower (Old 8)
	Giant	Vac Self-P Vac. Model 1780-K
	Jacobsen	Seeder (Self-P) Model 524
	Jacobsen	Areator/Seeder 3 PT. Model 548
	Line Pro	Line Painter
	Shin Daiwa	Back Pack Blower EB-45
		CP-E Pump Sprayer
	Nelson	Rain Train Model 8401
	Muchinex	Dump Trailer
	Parker	Trial Vac
	E-Z Vac	Trail/Vac
	Water Wagon	101 GAL (3 Piston Pump_
	Myers	Truch Plows 7' - (2 of them)
		Snow Chains- 16", 1 Set
	AMT	3" Mud Pump, Model 335
	AMT	2" Trash Pump Model 3930-96R
	Solar	200 Battery/Engine Starter
	Super Pro	800 Exp System
	Little Wonder	Hedge Trimmers
		Tire Machine (Manual)
	Miller	M-180 Elect. Welder
	Ames	Hose Wagon
	Ames	Hose Wagon
	Stihl	Blower BG-72
	Stihl	Blower BG-72
	Stihl	Blower BG-72
	Stihl	Weedeater
	Stihl	Chain Saw
1992	Cub Cadet	20" Push Mower 072R112/072
1992	Cub Cadet	20" Mulching Mower 098R112
	Power	Pole Saw TT21A
	Karcher	Gas Power Washer HD-950
	McCulloch	Pro-Scraper 11-HD
	Black & Decker	5/8" Drill
1994	Turf Cat	SHT-20 M-B Sweeper Attach.
	Sodmaster	Bantam Model J-12

	Scott	Push Spreader
	Fisher	Push Spreader
	KIFCO	Water Reel B-140
	Pallet Jack	BT- Litter
1998	Club Car	Golf Cart, gasoline (Used)
1999	Stihl	F585 Weedwacker
2001	Trynex SP-1075	10.75 CU Salt Spreader with Mount
2001	Ariens	924506 ST1336 Snowblower
2001	Kubota	L3010D 4 Wheel Drive Tractor
2001	Kubota	RC72-29A 72" Mower
2001	Kubota	L2174 61" Two Stage Snowblower
2001	Sims	Cab for 3010 Kubota Tracto
2001	Club Car	Carry All Utility Vehicle
2001	Edge-R-Rite	N2S/P TF8F303
2002	Bobcat	S185 Bobcat Loader
2002	Bobcat	30C Bobcat Auger
2002	Bobcat	84" Bocat Snowblade
2001	Tennant	Model 7200 Disk Brush Bat.Scrub
2002	Turf 2	RG02 Golf Cart
2004	Villager 4	TG04 Gasoline Golf Cart w/canopy
2004	Turf 6	Gasoline Utility Vehicle VGo4 w/cab
2004	Villager 4	Gasoline w/canopy top & windshield
2003	Curtis	8.5' Power V Plow
2003	Stahl	BG85 Blower
2003	Echo	SRM260S Trimmer-Solid
2003	Echo	PB200 Blower-Handheld
2003	Echo	Deep Root Auger
2003	Echo	EDR260 Gas Drill
2004	Scag	STT29KA 29EFI Power Mower
2004	Scag	SMSST72A 72" Tiger Deck
2005	Stihl	Blower Model BG65C
2005	Scag	Sabor Tooth Tiger Rider Model STT31BSD
2005	Scag	72 " Tiger Mower Deck Model SMST72
2005	Scag	Striper Kit Model SGU9269
2005	Carryall 2	2005 Gasoline Pick-up Utilitiy (Golf Cart)
2005	Carryall 2	2006 Electric Golf Cart w canopy & enclos
2005	Genie (Scissor)	Push Around Personnel Lift Model AWP40S-DC
2005	Kubota	RTV900W-H Utility Vehicle
2005	Kubota	Soft Side Cab
2005	Kubota	72" Blade
2005	Trynex	375 Spreader SP-375
2005	Boss	7'6" Super Duty w/RTC Plow
2006	Blower	RMUEBZ8000 Blower
2006	Power Pruner	ECUPPT260 Power Pruner
2006	Line Trimer	ECUSRM261T Line Trimmer
2006	Honda	Rotary Mulching Mower 21" Self Propelled
2006	Vantage	VV-08-06 Model C1000-AT Van Go Cargo Van
2007	Carryall 6	2007 Carryall 6 Electric Flat-bed Utility Vehicle
2007	Carryall 6	2007 Carryall 6 Electric Flat-bed Utility Vehicle

	John Deere	Gator - Small mower for fields donated
2007	Scag	Turf Tiger Model STT61V27CH
2007	Honda	Walk Behind Push Mower Model HRS216K3SDA
2007	Echo	Hedgetrimmer 20 ECUHC150
2007	Curtis	Curtis Soft Sided Cab for 6x4 Gator Heater
2007	Boss	76" Super Duty Boss Plow
2008		Blade Grinder 1 Hp. SIL88-018
2008		GSTT-61V Bagger
2008		Blower
2008		Line Trimmer
2008	Leinbach	Pulverizer 60" LYT51
2008	Fimco	UTL-40-12V 40 Gallon Utility Sprayer, 12 Volt
2009	V-Max	8500 8' long Spreader
2009		BM18522 72" Front Blade
2009		Trimmer
2009	Ariens	Snowblower ST-1028, 10 HP
2010	Ariens	Snowblower ST26DLE Model 926037
2010	Tiger Cat	72" Diesel Deck
2010	Tiger Cat	Tiger Cat Diesel
2010	Echo	Bed Redefiner Flower Bed Edger BRD-280
2011	Ariens	Snowblower ST26DLE
2011	Kubota	Utility Vehicle RTV900W9-H
2011	Subaru	Blower
2011	Super Duty	Plow RT3

Appendix L: Ursinus Main Buildings List

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Campus buildings, by year, size, average kWh/sq.foot, facilities, and programs served.

Building Name	Year Built	Square Footage	Building Facilities	Programs (if applicable)
Bakes Athletics Center	2001	126,329	The recently renovated facility contains a state-of-the-art fitness center and weight room, a 200-meter indoor track, indoor tennis courts, dance studio, three full-sized basketball courts, spacious locker rooms and team rooms, wrestling room, classrooms, regulation collegiate-sized swimming pool, racquetball court, gymnastics space and the Helferrich gym	Houses the academic department of Exercise and Sport Science and the Department of Athletics and is home to the colleges intramural sports teams
Berman Museum	1921, 2010 (ad'n)	15,447	An art museum and multipurpose space that is used for seminars, lectures and films; a non-circulating art library; three separate exhibition galleries; and complete storage and work areas. Henry and June Pfeifer wing was added in the spring of 2010 and includes a lecture hall, a paper works room, and an outdoor sculpture terrace. Building was formerly a library.	Fine arts museum with exhibition and research spaces. Departments of Art and Art History use this space for classes and exhibits. The space is also used for special events.
Bomberger Hall	1891 (2009r)	20,746	Classrooms, offices, meditation chapel, large auditorium, Heefner Memorial Organ, the second largest organ in Pennsylvania.	Departments of Economics and Business Administration, Anthropology and

				Sociology, Career Services, Campus Chaplain, the Education Department, and Music.
Corson Hall	1969	23,148	Administrative offices	Admission, Advancement, Business Office, Human Resources, President's Office, and Student Financial Services
Kaleidoscope Theater	2005	60,271	Two theaters (black box and a 350-seat proscenium arch theater), dance studios, prop & costume shops, set construction, atrium, green rooms, dressing rooms, classrooms, offices, teaching support space and a gallery and art work space	Houses the Theater and Dance Department. Is used by art students for work and exhibit space. Is also used for special events and is rented to outside groups for events.
Myrin Library	1970	41,640	Book storage (420,000 volumes), lending library,study space for up to 500 people, coffee shop, computing center, offices.	In addition to the library's holdings, Myrin houses the College's Academic Computing Center, the Pennsylvania Folklife Archives, the Ursinusiana Collection of College-Related Artifacts, and

				the offices of the Academic Support, College Communications and Information Technology
F.W. Olin Hall	1990	31,937	Contains a 400-seat lecture hall, a 63-seat tiered classroom, a 42-seat tiered classroom, the college's writing center, eight traditional classrooms and four seminar rooms	Departments of English, History, Modern Languages, Classics, and Philosophy and Religion
Pfahler Hall	1932, 1998r	72,322	Science labs, classrooms, offices, dark room, auditorium, meeting rooms, student work spaces,	Chemistry, Computer Science, ENV, Geology, Mathematics, Physics
Ritter Center	1927, 1980	25,759	An art studio, a television studio, classrooms, auxiliary rooms, offices,	Houses the Media and Communication Studies and Art Departments, and the College's Copy Center.
Thomas Hall	1970, 1991r	34,005	Science labs, classrooms, offices	Biology and Psychology departments
Unity House	1928	2,030	Offices, meeting space, classroom	Multicultural Services, Crigler Institute
Wellness Center	1955	2,652	This building is a converted home and includes offices and examination rooms.	Student Health
Wismer Center	1965, 2009-2011r	59,989	dining facilities, social lounges, an office complex for student activities, retail space, a convenience store, an entertainment room and a	Dining Hall, Zack's, Bookstore, Dean of Student's Office, Residence Life

			multipurpose lounge	Offices, UCARE, Sodexo offices, Student Leadership Offices
Residential buildings - 43	Var.		Consists of approximately 30 houses in a variety of sizes, the majority of which are located on Main Street. All include laundry rooms, common areas, and kitchens	See Appendix M for a list that includes these buildings as well as their square footage and number of residents.

Appendix M: Ursinus Building List, by Type

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Campus Buildings, by type.

Type	St #	St Name	Building Name	Usable Sq. Ft.	Total Sq. Ft.	Construction Date	# of Residents
Academic - Art Studios	511	Main Campus Dr	Ritter Hall & Art Studio	25,759	25,759	1927	
Academic - Classrooms	508	Main Campus Dr	Bomberger Hall	34,042	40,642	1891	
Academic - Classrooms	506	Main Campus Dr	Olin Hall	31,937	45,467	1990	
Academic - Science	610	Main Campus Dr	Pfahler Hall	72,322	72,322	1922	
Academic - Science	700	Main Campus Dr	Thomas Hall	34,005	48,626	1970	
Academic - Theater	612	Main Campus Dr	Kaleidoscope Theater	51,622	60,271	2005	
Administrative Offices	502	Main Campus Dr	Corson Hall	23,148	23,148	1969	
Art Museum	504	Main Campus Dr	Berman Art Museum	18,447	26,833	1921	
Athletics Center	701	Main Campus Dr	Bakes Center/Helferich Gym/Field House	126,329	184,934	1972, 2001	
Dining Hall/Student Center	509	Main Campus Dr	Wismer Center	55,003	59,989	1965	
Library	600	Main Campus Dr	Myrin Library	41,556	55,408	1970	
Wellness Center	789	Main St	Wellness Center (Wagner)	2,652	3,890	1955	
DORM	201-203	E 9TH Ave	201-203 E 9th	6,090	6,090	Not Known	10
DORM	732	Main St	732 Main	5,698	8,688	1925	12
DORM	777	Main St	777 Main	2,128	3,128	1955	7

Type	St #	St Name	Building Name	Usable Sq. Ft.	Total Sq. Ft.	Construction Date	# of Residents
DORM	942	Main St	942 Main	2,744	3,883	1942	9
DORM	944	Main St	944 Main	4,200	4,398	1939	12
DORM	476	Main St	Barbershop - Residence Hall	2,410	4,241	1934	5
DORM	503-507	Main Campus Dr	Beardwood, Paisley, & Stauffer Halls (BPS)	57,778	57,778	1957	163
DORM	604-608	Main Campus Dr	Broadbeck, Wilkinson & Curtis Halls (BWC)	31,761	42,716	1927, 1966 (Wilkinson Hall)	108
DORM	732	Main St	Carriage House	1,628	2,146	1925	3
DORM	409	Main St	Clamer Hall	4,499	7,285	1921	15
DORM	811	Main St	Cloake House	2,584	3,364	Not Known	6
DORM	500	Main St	Commonwealth	6,096	8,762	1920	14
DORM	612	Main St	Duryea Hall	4,110	6,066	1900	9
DORM	785	Main St	Elliot House	3,338	5,298	1958	7
DORM	554	Main St	Fetterolf House	5,033	7,076	1792	9
DORM	33	6TH Ave	Hillel House (Yost)	2,322	3,731	1913	4
DORM	568	Main St	Hobson Hall	3,411	5,793	1898	12
DORM	801	Main St	Isenberg House	4,422	6,057	1895	11
DORM	513	Main St	Keigwin Hall - UC	2,694	4,435	1935	6
DORM	702	Main St	Lynnewood Hall	4,056	6,018	1935	9
DORM	512	Main St	Maples Hall	6,498	6,543	1930	10
DORM	23	6th Ave	Musser Hall	12,036	12,274	Not Known	38
Dorm	514	Main Campus Dr	New Hall	37,677	52,144	2007	127
DORM	640	Main St	Olevian Hall	4,525	6,652	1932	9
DORM	701	Main St	Omwake Hall	3,846	5,515	1925	9
DORM	708	Main Campus Dr	Reimert - Complex A	5,040	7,560	1967	129
DORM	708	Main Campus Dr	Reimert - Complex B	10,890	10,890	1967	
DORM	708	Main Campus Dr	Reimert - Complex C	18,252	18,252	1967	

Type	St #	St Name	Building Name	Usable Sq. Ft .	Total Sq. Ft.	Construction Date	# of Residents
DORM	708	Main Campus Dr	Reimert - Complex D	10,890	10,890	1967	
DORM	30-32	6TH Ave	Residence Hall	3,842	5,594	1920	10
DORM	624	Main St	Residence Hall	2,550	3,720	1910	7
DORM	510	Main Campus Dr	Richter/North Hall	46,388	46,388	2002	109
DORM	646	Main St	Schaff Hall	3,711	5,299	1938	7
DORM	600	Main St	Schreiner Hall	6,432	9,303	1892	16
DORM	55	E 5th Ave	Sprankle Hall	4,217	4,217	1925	13
DORM	26	6th Ave	Sturgis Hall	2,088	3,132	1935	6
DORM	724	Main St	Todd Hall	4,284	6,306	1932	10
DORM	716	Main St	Wicks	5,856	8,332	1936	17
DORM	620	Main St	Zwingli Hall	4,056	6,060	1935	13
DORM	424-426	Main St	424/426 Main	3,055	5,227	1934	10
DORM	444	Main St	444 Main	1,973	3,273	1927	3
DORM & Multi-cultural Affairs	500	Main Campus Dr	Unity House	2,030	3,594	1928	4
Private Residence	65	6TH Ave	65 6th	2,670	4,130	1955	
Private Residence	99	E 9TH Ave	99 9th - President's	4,210	5,889	1943	
Private Residence	100	E 9TH Ave	100 9th	1,380	2,779	1957	
Private Residence	155	E 9TH Ave	155 9th	3,519	3,519	1955	
Private Residence	175	E 9TH Ave	175 9th	1,584	2,996	1962	
Private Residence	275	E 9TH Ave	275 9th	2,260	3,570	1955	
Private Residence	542	Main St	Super House	3,831	5,704	1892	
RENTAL	319	E 9TH Ave	319 9th	1,924	1,924	Not Known	
RENTAL	324	E 9TH Ave	Farmhouse	3,266	3,442	1900	
RENTAL	325	E 9TH Ave	325 9th	1,754	3,508	Not Known	
Facilities	400	Main Campus Dr	Facilities, incl. shop	9,684	9,684	1957	
Facilities	401	Main Campus Dr	Heat Plant	4,453	4,453	1962	
Facilities	408	Main Campus Dr	Chiller Plant	2,500	2,500	~2003	

Type	St #	St Name	Building Name	Usable Sq. Ft.	Total Sq. Ft.	Construction Date	# of Residents
Facilities - Storage/ Private	99	E 9TH Ave	99 9th Garage	0	441	1943	
Facilities - Storage/ Private	99	E 9TH Ave	99 9th Pool House	0	333	1943	
Facilities - Storage	324	E 9th Ave	Barn	0	2041	1900	
Facilities - Storage	325	E 9TH Ave	Garage	0	440		
Facilities - Storage	324	E 9TH Ave	Storage	0	546		
Facilities - Storage	402	Main Campus Dr	Equipment Barn	4,838	4,838	1961	
Facilities - Storage	406	Main Campus Dr	Pole Barn	5,000	5,000	1989	
Facilities - Storage		Main Campus Dr	DLH Garage	0	525		
Facilities - Storage	444	Main St	444 Main Shed	0	200	1927	3
Facilities - Storage	777	Main St	777 Main Garage	0	391	1955	7
Facilities - Storage	785	Main St	Elliot House Garage	0	525	1958	
Facilities - Storage	942	Main St	942 Main Garage	0	418	1942	9
Facilities - Storage	424-426	Main St	424/426 Garage	0	1710	1934	10
Facilities - Storage/ Athletics	701	Main Campus Dr	Utility Storage - Gym	0	759	1972	

Appendix N: Ursinus Fleet Vehicles, Owned and Leased

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Ursinus College Fleet Vehicles – Owned

Year	Make	Model	Dept/Use	Use
1988	EZ	Trailer	DLH	
1991	Dodge	Van	Facilities	
1995	Ford	Super Club Wagon	Facilities	Dining Services
1996	Jeep	Cherokee	Campus Safety	EMS
1999	Ford	F350 Truck	Facilities	
1999	Ford	Altec Lift Bucket Truck	Facilities	
2000	Ford	E-350 SD Cutaway	Chemistry	Science in Motion
2003	GMC	Sierra 1500	Facilities	
2003	Chevrolet	Silverado Pickup	Facilities	
2004	Chevrolet	Express Cargo Van	Chemistry	
2004	Long Chih	LCI-830T Trailer	Facilities	
2005	GMC	Dump Truck	Facilities	
2006	Vantage	VanGO	Facilities	Mail Services
2011	Chevrolet	Silverado 1500	Facilities	

Ursinus College Fleet Vehicles – Leased

Lease Expiry	Year	Make	Model	Dept/Use	Use
2012-03	2009	Toyota	Avalon	President	Personal
2012-08	2010	Toyota	Sienna Van	Facilities	Van #5
2012-09	2010	Toyota	Camry Hybrid	Admissions	
2013-01	2010	Toyota	Sienna Van	Facilities	Van #2
2013-01	2010	Toyota	Sienna Van	Facilities	Van #3
2013-03	2010	Toyota	Camry Hybrid	Admissions	
2013-08	2010	Toyota	RAV 4	Campus Safety	
2014-08	2011	Toyota	Sienna Van	Facilities	Van #4
2014-09	2011	Toyota	Sienna Van (LE)	Facilities	Van #1

Appendix O: Eco-Driving Recommendations

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This is not meant to be an exhaustive list, but a set of guidelines. The list below is from the Automobile Association (a British equivalent of AAA) below.[3] If you have questions or ideas to add to this list, please contact the Office of Sustainability at sustainability@ursinus.edu.

- **"Easy does it:** drive smoothly, accelerate gently and read the road ahead to avoid unnecessary braking.
- **Decelerate smoothly:** when you have to slow down or stop, decelerate smoothly by releasing the accelerator, leaving the car in gear (or put into neutral if driving a stick shift vehicle).
- **Rolling**: in traffic, if you can keep the car moving all the time, so much the better; stopping then starting again uses more fuel than rolling. You should always obey stop signs.
- **Cut down on the A/C:** air-conditioning increases fuel consumption at low speeds, but at higher speeds the effects are less noticeable. So if it's a hot day open the windows around town and save the air conditioning for high speed driving. Don't leave air-conditioning on all the time but aim to run it at least once a week throughout the year to maintain the system in good condition.
- **Turn it off:** electrical loads increase fuel consumption, so turn off your heated rear windscreen, demister blowers and headlights, when you don't need them
- **Stick to speed limits:** the faster you go the greater the fuel consumption and pollution. Driving at 70mph uses up to 9% more fuel than at 60mph and up to 15% more than at 50mph. Cruising at 80mph can use up to 25% more fuel than at 70mph.
- **Don't be idle:** if you do get caught in a queue, avoid wasting fuel – turn the engine off if it looks like you could be waiting for more than three minutes.
- **Don't get lost:** plan unfamiliar journeys to reduce the risk of getting lost and check the traffic news before you leave
- **Don't top off the tank:** Don't "top off" your gas tank. Stop at the click. Topping off your tank allows emissions to escape, sometimes spilling gas.
- **Fuel when cool:** Fuel vehicle when it is cool, not in the heat of the day.
- **Small is good:** Use the smallest vehicle possible for the task. In other words, don't use a van if you really only need an economy car."

[3] See the AA's Eco-Driving advice on their website: http://www.theaa.com/motoring_advice/fuels-and-environment/drive-smart.html

Appendix P: Ursinus Science Labs & Equipment

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Ursinus College Science Labs, Equipment and Fume Hoods

Pfahler Hall Rooms:	Types of Labs	Building Square Footage 72,322	Lab Square Footage	Energy Intensive Equip.	VAV Fume Hoods	CAV Fume Hoods
Chemistry:						
201	Biochemistry			X	4	-
206	Prep Room		410	X	-	1
215	Inorganic Chemistry Lab		1,620	X	7	-
301	Advanced Chemistry Lab		1,050	X	8	-
302	Physical Chemistry Lab		1,040	X	3	-
304	Research Lab			X	-	2
306	Research Lab			X	-	2
307	Research Lab			X	-	2
309	Research Lab			X	-	2
310	Research Lab			X	-	2
312	Research Lab			X	-	2
314	General Chemistry Lab		1,445	X	9	-
314b	Chemistry Stockroom		686	X	-	1
315	Organic Chemistry Lab		2,133	X	29	-
316	General Instrumentation Lab		973		-	-
Physics:						
013	Bio A&P shared with Physics		1,675	X	6	0
013A	Advanced Physics Lab					

013B	Electronics Lab		410			
108	Intro Physics Lab		1,505			
108C	Research Lab			X		
4th Floor	Marsteller Observatory					
Thomas Hall Rooms:	Types of Labs	Square Footage 72,322	Lab Square Footage	Energy Intensive Equip.	VAV Fume Hoods	CAV Fume Hoods
Biology:						
126	Multi-use			X	-	1
128	Intro Biology Lab			X	-	1
206 (wet)	Diatom Population Biology				-	-
220	Physiology/Neurology	34,005	850	X	-	1
007	Ecology				-	-
008	Neurobiology		850	X	-	1
107	Microbiology			X	-	1
110 & Greenhouse	Entomology					
112 (renov.)	Developmental Biology & Neurobiology			X	1	-
118	Biochemistry		1,770	X	-	1
120	Biochemistry		315	2 Bio-Safety Hoods	-	-
121	Developmental Biology & Neurobiology			X	-	-
202	Various			X	-	1
210 (renov.)				X	1	-
217	Cardiac Function			X	-	1

Appendix Q: Pfahler Hall Science Labs & Equipment

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Science labs in Pfahler Hall, descriptions, square footage, and fume hoods.

	Type	Additional Rooms, Special Equipment, Special Features	Net Square Feet (NSF)	VAV Fume Hoods	CAV Fume Hood
PFAHLER					
Chemistry					
Teaching Labs					
Room	Type	Additional Rooms, Special Equipment, Special Features	9,357		
201	Biochemistry			4	-
206	Prep Room	NMR room adjacent (410 sf)	410	-	1
215	Inorganic Chemistry Lab	Unoccupied Setting	1,620	7	-
301	Advanced Chemistry Lab	Equipment: Flame Atomic Absorption (AA) Spectrometer; High Performance Liquid Chromatography (HPLC) attached to Mass Spectrometer	1,050	8	-
302	Physical Chemistry Lab		1,040	3	-
304	Research Lab	Equipment: Fourier-Transform Infrared (FT/IR) Spectrometer		-	2
306	Research Lab	Equipment: High Performance Liquid Chromatograph (HPLC)		-	2
307	Research Lab			-	2
309	Research Lab			-	2
310	Research Lab	Web research Mossbauer Spectrometer		-	2
312	Research Lab			-	2
314	General Chemistry Lab	Unoccupied Setting	1,445	9	-
314b	Chemistry Stockroom	Lab prep & GC - balance room (216sf)	686	-	1
315	Organic Chemistry Lab	Has unoccupied Setting; instrument room (130 sf); balance room (133 sf) - square footage added in; Equipment: HP GCD G1800A (GC/MS)	2,133	29	-
316	General Instrumentation Lab	FT/IR Spectrometer; Thermometric TAM Isothermal Calorimeter; Gold HPLC; Capillary Electrophoresis; HP GC/MS; HP Gas Chromatograph connected to Mass Spectrometer (MS); Electrochemical Analyzer; Flourescence Spectrometer; 2S UV-Visible Spectrometer; 3S UV-Visible Spectrometer; UV-Visible Molecular Absorption Spectrometer; UV-NIR Molecular Absorption Spectrometer	973	-	-

Chemistry Subtotals	14 labs; 1 stockroom		60	14

Math and Computer Science

Teaching Labs

Room	Type	Additional Rooms, Special Equipment, Special Features	690
	Calculator Room		690

Research Labs

Room	Type	Additional Rooms, Special Equipment, Special Features	415
	Hardware Lab		415

Math and Computer Science	1 lab

Physics and Astronomy

Teaching Labs

Room	Type	Additional Rooms, Special Equipment, Special Features	1,915
013	Bio A&P shared with Physics	HVAC air exchange	1,675
013A	Advanced Physics Lab		
013B	Electronics Lab		410
108	Intro Physics Lab	Storage area	1,505
4th Floor	Marsteller Observatory		

Research Labs

Room	Type	Additional Rooms, Special Equipment, Special Features	190
108C	Research Lab	UC Parallel Computing Cluster & HVAC to cool them	190

Physics and Astronomy	5 labs and 1 observatory

Appendix R: Thomas Hall Science Labs & Equipment

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				Net Square Feet (NSF)	VAV Fume Hoods	CAV Fume Hood	Other Hoods
THOMAS							
Biology					VAV hoods	CAV Hoods	
Teaching Labs (all wetlabs)							
Room	Type	Specifics	Additional Rooms, Special Equipment, Special Features	850			
126	Multi-use	genetics, developmental biology; cell biology	refrigerator/freezer; 126A - prep room: autoclave; 2 refrigerator/freezers		-	1	
128	Intro Biology Lab	ecology; cell biology	heated fish tanks		-	1	
206 (wet)	Diatom Population Biology	Teaching and Research			-	-	
220	Physiology/ Neurology			850	-	1	
Research Labs (all wetlabs)							
Room	Type	Specifics	Additional Rooms, Special Equipment, Special Features	2,935			
007	Ecology	Fish	n/a		-	-	
008	Neurobiology	Prenatal Alcohol Exposure (Animal lab - mice)	refrigerator/freezer	850	-	1	
107	Microbiology	Microbiology	Glove Box, autoclave		-	1	
110 & Greenhouse	Entymology	Conservation & ecology of beneficial insects	Greenhouse & 110 (lab)				
112 (renov.)	Developmental Biology & Neurobiology	C. Elegans, (microscopy)	Equipment Room (rm 114): -80oC freezer; 3 incubators; regular freezer; door to		1	-	

			Greenhouse				
118	Biochemistry	Biochemistry & Cell bio	Tissue culture room; cold room (195 SF), -80oC freezer; -20oC freezer; ice maker (all day); centrefuge (unused)	1,770	-	1	
120	Biochemistry	Cold Room? (150 sf) Prep lab? (165 sf)		315	-	-	2 HEPA Biosafety Cabinets
121	Developmental Biology & Neurobiology	C. Elegans, wetlab	Incubator (2)		-	-	
202	Various	Chemo Reception Invertibrates (salamanders & mice)/ Ecology of Suburban mice/ Genetics of fish populations	Animal room; storage; pumps; -80oC; -20oC freezer?; frige/freezers (2); confocal microscope (lasers); facs machine (cell sorting)		-	1	
207					-	1	
210 (renov.)		Prion Proteins in Yeast	Equipment Room: -80oC		1	-	
217	Cardiac Function	Cardiac Function (Animal lab) - mice			-	1	
Biology Subtotal					2	9	2

				Net Square Feet (NSF)	VAV Fume Hoods	CAV Fume Hood	Other Hoods
THOMAS							
Psychology					VAV hoods	CAV Hoods	
Teaching Labs							
Room	Type	Specifics	Additional Rooms, Special Equipment, Special Features	440			
	Quiet CPU Room		multiple computers	190			
	Demonstration CPU Room		multiple computers	250			
Research Labs							
Room	Type	Specifics	Additional Rooms, Special Equipment, Special Features	720			
	Sleep lab			260			
	EEG Lab	two rooms		160			
	Neuro Lab			100			
	Social Process Lab			200			
Psychology Subtotal				1,160			

Appendix S: Sodexo Sustainability Student Promotion Coordinator Job Description

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Sustainability Student Promotion Coordinator

The Sustainability Student Promotion Coordinator (SSPC) supports the on-site campus dining team in the process of developing and implementing sustainable dining promotions, using their input at every stage of the process to inform and inspire creative ideas, and guide the implementation of the resulting promotion campaigns.

In this role, the SSPC interacts with internal team members; district marketing specialist; student promotion coordinator; Pepsi intern; creative agencies (if applicable); media and public relations personnel; client stakeholders, and customers. This person will have a high level of customer contact and must be comfortable assuming a leadership position. The position reports directly to an assigned Dining Manager or District Marketing Specialist.

Qualifications:

- Good Academic Standing – Environmental Sciences Major, Art Major, Media and Communications Major, Theatre Major.
- Demonstrate Strong Presentation, Teamwork, and Leadership Skills.
- Excellent Verbal and Written Communication Skills.
- Dynamic Leadership Abilities.
- Proficient in computer skills, Microsoft Office and Intermediate level of Adobe® Photoshop. Graphic Design and Web Site Design skills are preferred.

Projects: Below is a brief summary of projects for the Sustainability Student Promotions Coordinator.

- Increase awareness of sustainability practices within dining services. Create a clear communication to students, faculty, staff, and the entire College community by the following methods:
    - create advertising plans.
    - develop creative sustainable advertising practices (parents plaza bed sheets, side walk chalk, viral marketing, etc.).
    - messaging, Face book updates, D-txt text messaging.
    - media, web updates, viral marketing.
    - event planning and execution.
- Develop detailed action plans and creative strategies for assigned dining promotions and special events.
- Obtain approval from their Supervisor on all actions including of promotion partners, media coverage, and event hosting/coordination.
- Coordinate with Supervisor to ensure staff is up-to-date on current sustainable facts and activities.
- Positively and professionally represents dining services at any student/campus events they

attend.
- Inform their Supervisor immediately of any potential promotion problems or concerns (budget over-expenditures, partner sponsorship issues, media coverage, etc.)
- Review all media regarding sustainable dining events and awareness to ensure accuracy, content, and plan compliance.

Hours and Compensation:

An average of 10-15 hours per week is expected. Hours are flexible based on academic calendar. Compensation can be hourly or stipend based on experience and skills.
$8.50 to $10.00 per hour or a stipend per semester $500.00 - $900.00 per semester

Tracking: Tactic Sheets and Portfolio:
A digital or printed portfolio is expected at the end of the semester. The portfolio will be a summary of promotion activities, events, tracking results, photos, customer comments, projects from the semester and future recommendations.

Appendix T: Sample AASHE STARS Checklist for Dining Services

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Ursinus College Dining Services
2010-2011 "Green Report Card"
Annual Food Budget

1. Total annual food budget (2010-2011).

2. Please indicate the dollar amount spent in the 2010-2011 academic year on products within each category below.

FOOD PRODUCT	DOLLAR AMOUNT (2010-2011)
Fruits and vegetables	
Dairy	
Eggs	
Meat and poultry	
Seafood	
Coffee	
Locally Grown and Produced Food	

3. Please check the items that you purchase from local growers or processors. We define "local" food as food that has been grown, raised, produced, or processed within 150 miles of campus.

[ ] Vegetables
[ ] Fruits
[ ] Milk
[ ] Processed dairy products (ice cream, cheese, yogurt, butter)
[ ] Grains and beans
[ ] Meat
[ ] Poultry
[ ] Eggs
[ ] Seafood
[ ] Baked goods
[ ] Granola/cereal
[ ] Maple syrup, honey, etc.
[ ] Beverages
[ ] Sauces, spreads, hummus, salad dressing, etc.
[ ] Other. Please describe:

4. What dollar amount of the 2010-2011 food budget was spent on purchasing food that was grown or raised locally?

5. From how many local farms or growers do you purchase food (excluding on-campus farms/gardens)?

Number from which you purchase directly:
Number from which you purchase through a distributor:

Please specify name and location of distributor:

6. How much did you spend in the 2010-2011 academic year on purchasing food that was processed locally?

7. From how many local processors do you purchase (excluding on-campus farms/gardens)?

Number from which you purchase directly:
Number from which you purchase through a distributor:
Please specify name and location of distributor:

8. Do you source any food from an on-campus farm or garden?

If yes, please provide details below.
Source:
Items procured:
Dollar amount spent:
Organic and Sustainably Produced Food
9. Please check items that you purchase that are organically grown or produced. "Organically grown or produced" can be defined accord to USDA or Quality Assurance International standards.

[ ] Vegetables
[ ] Fruits
[ ] Milk
[ ] Processed dairy products (ice cream, cheese, yogurt, butter)
[ ] Grains and beans
[ ] Meat
[ ] Poultry
[ ] Eggs
[ ] Seafood
[ ] Baked goods
[ ] Granola/cereal
[ ] Maple syrup, honey, etc.
[ ] Beverages
[ ] Sauces, spreads, hummus, salad dressing, etc.
[ ] Other. Please describe:

10. How much did you spend on organically grown or produced food in the 2010-2011 academic year?

Please note: For questions 11-14, indicate the percentage based on dollar amount spend in the 2010-2011 academic year.
11. Do you purchase cage-free/free-range eggs and/or confinement-free animal products?

If yes, please provide details below.

	PRODUCT NAME	PERCENTAGE PURCHASED
Cage-free/free-range eggs:		
Confinement-free product 1:		
Confinement-free product 2:		
Confinement-free product 3:		
Confinement-free product 4:		

12. Do you purchase any vegetarian-fed animal products?

If yes, please provide details below.

	PRODUCT NAME	PERCENTAGE PURCHASED
Vegetarian-fed product 1:		
Vegetarian-fed product 2:		
Vegetarian-fed product 3:		
Vegetarian-fed product 4:		
Vegetarian-fed product 5:		

13. Do you purchase any hormone- and antibiotic-free meat and/or dairy products?

If yes, please provide details below.

	PRODUCT NAME	PERCENTAGE PURCHASED
Hormone-free product 1:		
Hormone-free product 2:		
Hormone-free product 3:		
Hormone-free product 4:		
Hormone-free product 5:		

14. Do you purchase seafood that meets Monterey Bay Aquarium Seafood Watch guidelines and/or Marine Stewardship Council Blue Ecolabel standards?

If yes, please provide details below.

	PRODUCT NAME	PERCENTAGE PURCHASED
Seafood product 1:		
Seafood product 2:		
Seafood product 3:		
Seafood product 4:		
Seafood product 5:		

15. Do you offer specifically labeled vegan entrees on a regularly scheduled basis?

If yes, please provide the average number of labeled vegan meals offered each week.

16. Please list and give the dollar values for any other sustainably produced food items you purchase that are not included above:

PRODUCT NAME	DOLLAR AMOUNT
Other food item 1:	
Other food item 2:	
Other food item 3:	
Other food item 4:	
Other food item 5:	

Fair Trade Products

17. Do you purchase Fair Trade Certified coffee?

18. Do you purchase other Fair Trade Certified food products?

If yes, check all that apply:

[ ] Chocolate

[ ] Tea
[ ] Bananas
[ ] Other. Please describe:

Dishware and Eco-Friendly Incentives

19. If you offer disposable dishware at your dining services locations, please indicate materials used.

Check all that apply.
[ ] Plastic
[ ] Polystyrene (Styrofoam)
[ ] Post-consumer recycled content
[ ] Biodegradable/compostable
[ ] Other. Please describe:

20. Do your dining facilities offer discounts or cash incentives to individuals who use reusable dishware, bring a bag, or bring reusable containers?

If yes, please indicate items for which incentives are offered, and describe the incentives below.

DESCRIPTION

[ ] Reusable bag
[ ] Reusable dishware
[ ] Reusable mug
[ ] Reusable to-go container
[ ] Other. Please describe:

Food Composting and Waste Diversion

21. Do your dining facilities compost pre-consumer food scraps?

If yes, please provide details below.

Percentage of meals for which pre-consumer food scraps are composted:
Additional information:

22. Do your dining facilities compost post-consumer food scraps?

If yes, please provide details below.

Percentage of meals for which post-consumer composting is available:
Additional information:

23. Do your dining facilities donate excess food to a food bank, soup kitchen, or shelter?

If yes, please describe below.

24. Do your dining facilities have a trayless dining program?

If yes, please describe below.

Percentage of meals served on campus that are trayless:

Year trayless program was started:
Additional comments:

25. Please tell us about any other steps your dining facilities have taken to reduce waste.

Mark all that apply and describe.

[ ] Food waste audit or study.
[ ] Recycling used cooking oil for biodiesel production.
[ ] Removal of bottled water from all facilities operated by dining services.
[ ] Other. Please describe:

Recycling of Traditional Materials

26. Please indicate which traditional materials your dining facilities recycle. Check all that apply.
Please discuss only the materials you recycle specifically in the dining facilities. Recycling of used cooking oil for biodiesel production should be described in Question 25.

[ ] None
[ ] Aluminum
[ ] Cardboard
[ ] Glass
[ ] Paper
[ ] Plastics (all)
[ ] Plastics (some)
[ ] Other. Please list:

27. Are recycling receptacles located throughout dining locations?

28. What is the dining services' current waste-diversion rate (the percentage of recyclable/compostable waste diverted from traditional disposal)?
Please provide information specifically about your dining services' operation. If information is unavailable, leave blank. Do not use the overall rate for the campus-wide

Appendix U: Ursinus Athletic Facilities List

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Athletics facilities, by type.

Indoor facilities	**Floy Lewis Bakes Athletics Center** • Fitness Center and Weight Room • A regulation collegiate-sized pool • Dance studio • Athletic training room • Racquetball court • 3 classrooms and an exercise lab • Locker rooms • Academic/Administrative/Coaches offices
	Helfferich Gymnasium • Basketball court • Volleyball court • Wrestling room • Gymnastics gym
	Field House • 200-meter track • Three indoor tennis courts • Three full-sized basketball courts • Two batting cages
Outdoor facilities	**Baseball Field** • Baseball diamond is unlighted – used only for day games
	Eleanor Frost Snell Alumnae Field • Artificial turf field hockey field (including lighting and an irrigation system)
	Patterson Field • This is our newly renovated artificial turf football and soccer field. This field was completed during the summer of 2011. • The field is surrounded by a newly resurfaced track. • Lights are installed at this facility and are turned on all night for campus and community runners and walkers.
	Outdoor Field Events • Our field events take place on one of our lower fields, below Patterson. We have a full complement of field

	event venues: pole vault, high jump, long jump, triple jump, discus, shot put & hammer throw
	Eleanor Frost Snell Softball Field • This is an unlit field used for day games.
	Hunsburger Woods Field • This field is located across 9th Ave. from the main campus. • Club Sports practice and potentially competition space
	Practice Fields • Wilkes Field • Lower Football Field (with lighting) • Facilities Field (the old field hockey field)
	Tennis Courts • Ursinus has eight outdoor tennis courts. • Two of the courts have lighting for night practice and/or games

Appendix V: Ursinus Green and Bear It Team Goals

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Green and Bear It Team Goals

Area	Activity	Details
Outreach & Collaboration	Team Development	• Develop draft guidelines for a Green Team certification program. ○ Could include: purchasing carbon offsets for team travel, recycled content uniforms, "green" community service, commitment to environmentally friendly laundry detergents, net zero games, net zero seasons, etc. • Draft ideas for how what incentives might work for team competitions that relate to sustainability. • Create ideas for awards that Athletics Department could give out to seniors for "Green" service to the program.
	Game Day	Green Team members will work together to ensure that sustainability practices are in place for games. This will include: ▪ Placement of appropriate number of recycling containers at game events. ▪ Messaging during games about recycling, the Green & Bear It program, Sustainable Game Days, etc. ▪ Information Booth. Set up information tables at games to inform fans of sustainable programming in Athletics or on their particular team. ▪ Development and publication of an Athletics brochure (scan-able rather than printed).
	Outreach	Work with local school district to collaborate on recycling programs.
Education:	Resource Development	Brochure • Develop brochures about green athletics programming aimed at prospective students, alumni, other audiences. Signage • Create and post signs/posters reminding users to turn off lights, take shorter showers, use stairs, etc. (may include calories burned, energy savings, resource savings, etc). Resource list Create a resource list for the campus community about sustainability in Athletics at UC. This list should have sections on purchasing, recycling, operations, education, outreach and transportation. Each section should provide

		guidance on who to contact, what options are available, and where to find more information. For example: • Recycle used tennis balls (www.rebounces.com); • Recycle used athletic shoes (www.nikereuseashoe.com); • Donate used sporting equipment to www.goodwill.org or Play It Again Sports; • Old sporting trophies can be recycled at www.greentrophyproject.org; and • Yoga mats can be recycled at www.recycleyourmat.org.
	Fan Education	▪ Develop a program within the Athletics Department that will educate and encourage UC Bears fans to participate in energy reduction, waste reduction, and sustainability programming. ▪ Strategize what the message to fans should be, how to communicate the message, how to encourage participation.
	In house education about Sustainability programs	Educate Athletics administrators, coaches and staff on the following aspects of sustainability in athletics ○ Program overview ▪ It will be good if all Athletics staff members know about the Green Athletics program so they can talk to others about it. ▪ Having a brochure will help (online or printed). ○ Student involvement ▪ How student athletes are engaging in the sustainable athletics program. ▪ Benefits of the program to the athletes. ○ Purchasing guidelines for Athletics ▪ Recycled content paper. ▪ "Green" alternatives for athletics supplies/equipment: balls, pads, shoes, uniforms, hats, etc. ○ Promoting your green strategy with sponsors and advertisers
Mission Development		Draft a green mission statement for UC Athletics' Green & Bear It program, e.g., "In considering [Ursinus'] athletic and environmental goals, the department of athletics, through its intramural, club and varsity programs as well as through its physical facilities and interactions with the general public, works to promote a sustainable culture in all of sport."