Delta College
Energy Conservation Guidelines

PURPOSE

Delta College and its campus centers are committed to a policy of effective energy management including conservation, efficiency, and sustainability. It is the College's intent to conserve energy and reduce consumption whenever possible through the active efforts of its faculty, staff, students, and visitors; installing and monitoring energy-saving devices and equipment in its building and operations; and through the efficient scheduling of its facilities. The reach of this program is to institutionalize energy conservation and efficiency in the Delta College culture through an educational and collaborative approach so that it becomes an integral part of campus life.

These guidelines are implemented through the Delta College Energy Conservation Program whose goals are to:

- reduce campus-wide energy consumption.
- schedule use of campus buildings and facilities for the greatest efficiency of utilities with the best interest to meet the needs of the campus community.
- identify energy, fuel, sewer, and water conservation and efficiency opportunities.
- engage with the campus community to promote energy resourcefulness and to create a comfortable and sustainable work and learning environment.

1. **PROGRAM ADMINISTRATION**
    - A. Energy Conservation Guidelines will be utilized to communicate energy conservation measures.
        - a. Guidelines will be reviewed and approved by the Director of Facilities and the Vice President of Business and Finance.
        - b. Exceptions to the Energy Conservation Guidelines must be approved by the Director of Facilities.
    - B. The Director of Facilities will appoint an Energy Manager who will administer the Energy Conservation Guidelines.
        - a. The Energy Manager will perform routine audits of campus facilities and will communicate results to appropriate personnel.
    - C. The Facilities Department and the Energy Manager will monitor environmental conditions related to temperature, relative humidity, and light levels throughout the campus's buildings to ensure compliance with industry standards.
    - D. The Energy Manager will provide detailed consumption/cost/savings reports to appropriate personnel to help communicate overall performance.
    - E. The Director of Facilities coordinates the primary environmental controls and is considered the final authority on exceptions or addendums to these Procedures.
        - a. All energy sources will be controlled and/or monitored at their point of entry to college facilities.
    - F. The Facilities Department will monitor all utility meters on campus.
        - a. Meters will be inspected periodically to ensure accurate readings are being recorded.
        - b. All meters not being used on campus will be removed as expeditiously as possible.
    - G. As energy consumers, all campus personnel are expected to also be energy savers.
    - H. Faculty and staff are responsible for the judicious use of energy in their respective areas.
    - I. Campus common and transition areas will be monitored and reported for nighttime shutdown.

2. **HEATING & VENTILATION**
    - A. HVAC systems are designed to function optimally as isolated spaces which include closed doors.
        - a. Ensure doors between conditioned space and non-conditioned space remain closed at all times (i.e. between hallways and gym or pool area) with the intention of improving the space environment.
        - b. Non-critical or non-essential exhaust fans should be turned off every day and during unoccupied hours.

3. **TEMPERATURE GUIDELINES**
    A. Temperature guidelines are in accordance with ASHRAE 55-2007 '*Conditions for Thermal Comfort.'*
        a. Heating Season - Occupied 68°F-71°F, Unoccupied 55°F
        b. Cooling Season - Occupied 72°F-76°F, Unoccupied 85°F
    B. Unoccupied time will begin when the faculty, staff, and students leave an area.
    C. Most campus building utilize an EMS (energy management system) that switches between occupied and unoccupied times.
    D. The Energy Manager will work with the Scheduling Office to make every effort to identify the most efficient occupancy patterns and to reduce the TOD (time of day) schedules to eliminate energy use in unoccupied spaces.

Heating Equipment

A. Occupied temperature settings should be 68°F-71°F unless it is a critically controlled environment.
B. Unoccupied temperature setting should be 55°F (i.e. setback). This may be adjusted to a 60°F setting during extreme weather.
    a. Exceptions will be made for areas that require specific temperature control such as laboratories and medical). Approval is required from the Director of Facilities.
C. During seasons when there is no threat of freezing, all heating systems should be switched off during unoccupied times unless required to maintain a sensitive environment.
D. Campus domestic (potable) hot water will be maintained at a temperature of 110F-120F to maximize efficiency in compliance with American Disability Act requirements.
    a. Lesser temperatures may be maintained depending on usage, location, and facility.
    b. All domestic hot water recirculating pumps will be switched off during unoccupied times and when not in use by custodial staff.

Air Conditioning Equipment

A. Occupied temperature settings should not be set below 72°F unless that area is identified as a critical environment that requires cooling below 72°F.
B. During unoccupied times, the air conditioning equipment should be off.
C. Air conditioning start times may be adjusted depending on weather to ensure student and faculty comfort.
D. Non-centralized facilities should be maintained as close as possible to designated temperatures identified for the appropriate season.
    a. When feasible, heating and cooling will be adjusted as necessary depending on the season.
E. Outside air dampers will be closed during unoccupied times.
F. Relative humidity levels should not exceed 60% for any 24 hour period. Notify the Energy Manager or Facilities if you suspect high humidity levels indoors.
G. Dry food storage areas should be maintained within code requirements. Typically, this is 55°F-75°F temperature and 35%-60% relative humidity.

4. **COMPUTERS & PERIPHERALS**
    A. All networked office machines (copy machines, network printers, etc.) should be in the 'energy saver' mode to reduce consumption during unoccupied times. Computers should be powered off.
        a. All computers, including monitor, local printer, and speakers, should be turned off each night or when use is not anticipated for extended periods of time. Network servers, switches, etc. are exempt and will remain on. (The monitor "sleeps" after 10-minutes of inactivity. Screen savers keep the monitor in 'active' mode and should not be confused with power management.)

5. **APPLIANCES**
    A. Personal audio devices and equipment will be permitted for use within college facilities by individuals at their respective work station.

B. Other personally-owned appliances such as cooling fans, heaters, foot warmers, candle heaters, etc. are not permitted for use on campus.
    a. Exceptions may exist when areas are not able to be heated or cooled to the temperature guidelines in Section 10. A written exception for a college-issued heater or cooling fan must be requested from Facilities Management and approved by the Director of Facilities. The Director of Facilities or designee will notify the individual to remove non-permitted appliances.
C. Departmental appliances such as microwaves, refrigerators, and coffee pots require written approval by the Director of Facilities and will be restricted to common-use areas only.
    a. Exceptions may exist depending on health issues, location, and usage. A written exception must be requested from Facilities Management and approved by the Director of Facilities. The Director of Facilities or designee will notify the individual to remove non-permitted appliances.

6. **LIGHTING**
    A. Campus lighting will be maintained by the Facilities Department.
        a. Lighting will meet acceptable standards for all facilities as it relates to classrooms, conference rooms, offices, laboratories, etc.
        b. All ballast and lamp replacements will be energy efficient models when changed-out and/or upgraded.
    B. All unnecessary lighting in unoccupied areas should be turned off.
        a. Refrain from turning on lights unless needed. (Lights not only consume electricity but also generate heat which increases air conditioning equipment loads and the electricity necessary to cool the room.)
        b. Utilize natural lighting where appropriate. *"Make the Switch to Off"* is the concept to adopt on campus.
        c. Faculty, staff, and students should make certain that lights are turned off when leaving an empty classroom or other area.
        d. Custodians will turn on lights only in the areas in which they are working.
    C. Exterior campus lighting will be maintained by the Facilities Department.
        c. Lighting will meet acceptable standards for all interior drives, parking lots, pedestrian walkways, and athletic game areas.
        d. All ballast and lamp replacements will be energy efficient models when changed-out and/or upgraded.
    D. All outside lighting should be off during daylight hours unless required for a sponsored event and/or security reasons.
    E. All unnecessary lighting in unoccupied areas will be appropriately dimmed or powered off.

7. **WATER / SEWER**
    A. Ensure all plumbing and/or intrusion (i.e. roof) leaks are reported and repaired immediately.
    B. If possible, water the grounds only during the hours between 12:00am-7:00am.
    C. Install and monitor water saving fixtures (faucets, showers, bottle refill stations, etc) as needed to maintain operating efficiency.
    D. Maintain hot water temperature to ensure output is working efficiently to meet the needs of the specific campus area/use.

8. **CONSTRUCTION**
    A. All construction should be designed and built to minimize energy use. The most recent version of ASHRAE Standard 90.1 - *Energy Efficient Design of New Buildings Except Low Rise Residential Buildings* will be the minimum energy efficiency guideline since it has been shown that further reductions in energy use are economically achievable.
        a. The design process should include energy life-cycle costing analyses.
        b. New construction should be added to the existing college's environmental control system for enhanced energy management capabilities.

B. Alternative energy sources such as passive solar heating and heat recovery should be considered, as well as day lighting and other strategies for decreasing building energy consumption in accordance with green building concepts.
C. Primary consideration should be given to connecting and/or extending central systems for heating, cooling, and other electrical and lighting systems.
    a. Year-round cooling needs should be met by utilizing the most energy efficient systems.
D. All new construction should include utility metering for electricity, natural gas, steam, and water.

9. **GROUNDS / LANDSCAPING**
A. To the greatest degree possible, a low impact development of grounds and outdoor space will be utilized.
    a. Select native and drought tolerant plants in accordance with the Campus Landscape Master Plan that, once established, require minimal or no watering.
    b. Reduce the coverage of manicured grass lawns by using plants native to the region and landscaping that reduces lawn coverage.
    c. Apply low/no mow operations.
    d. Refrain from using automatic irrigation systems and potable water as much as possible and access the rainwater harvest system overage for watering the grounds as needed.

10. **PURCHASING**
A. The College will use sustainable purchasing by applying the methodology of "Reduce, Reuse, Recycle, and Recover." Whenever practical, attention should be given to the environment through the evaluation of this methodology along with performance, life expectancy, quality, and value for money. For product categories that have ENERGY STAR rated products available, the College will purchase Energy Star equipment whenever financially possible and wherever practical. Energy efficient products should be purchased whenever possible.

11. **SUGGESTIONS**
A. Faculty, staff, or students with suggestions for energy efficiency and conservation should contact the Facilities Management Department at sustainability@delta.edu.

12. DEFINITIONS

Utilities refers to any natural or man-made source of power or commodity, such as, natural gas, steam, water, sewer and electricity used in lighting, heating, cooling, sanitation, and environmental functions.

Energy Conservation is the act of reducing energy through using less of an energy service. Energy conservation differs from efficient energy use, which refers to using less energy for a constant service.

Energy Efficiency is the act of delivering more services for the same energy input or the same services for less energy input.

Energy Management System is a system of computer-aided tools used by utility operators to monitor, control, and optimize the performance of the building utilities.

HVAC refers to heating, ventilation, and air conditioning

Potable Water is water safe enough for drinking and food preparation.

13. **Next Review/Revision Date**
A. Annually or as public awareness, equipment, processes, and technologies deem necessary.