

Division of Continuing Education

CE-1 Building Energy Usage

Drew Chesen
Director, Building Services

CE – 1 Building

- 5 stories
- 76,000 ASF including 23 classrooms, offices, and meeting space
- Constructed between January 2014 and July 2016
- Opened August 2016
- Designed to meet LEED Platinum



Sustainability Features

- 220 photo voltaic cells generate up to 370 kWh daily



Sustainability Features

- 100% dimmable LED lighting inside and outside the building
- Design promotes natural light
- Title 24 (Building Code) compliant motion controlled outlets in offices and administrative areas



Sustainability Features

- Extensive shading of exterior windows reduces solar heat gain and glare.
- Exterior arcades provide optimal shading of classrooms and reduce air conditioning requirements.
- The solar trellis shades west facing glass reducing solar heat gain.
- Concrete mass absorbs and releases energy to temper interior conditions.



Sustainability Features

- Cool roof membrane reduces cooling load and building heat island effect.
- Wattstopper lighting system
 - Sensors near windows automatically dim lighting when outside light is present.
 - **All** interior and exterior lights are motion controlled and turn off when no motion is detected for 20 minutes.

Sustainability Features

- Ultra-energy efficient air conditioning system
 - Controlled by motion sensors with temperature set-back when spaces are not occupied
 - Low wall mounted passive air flow in classrooms



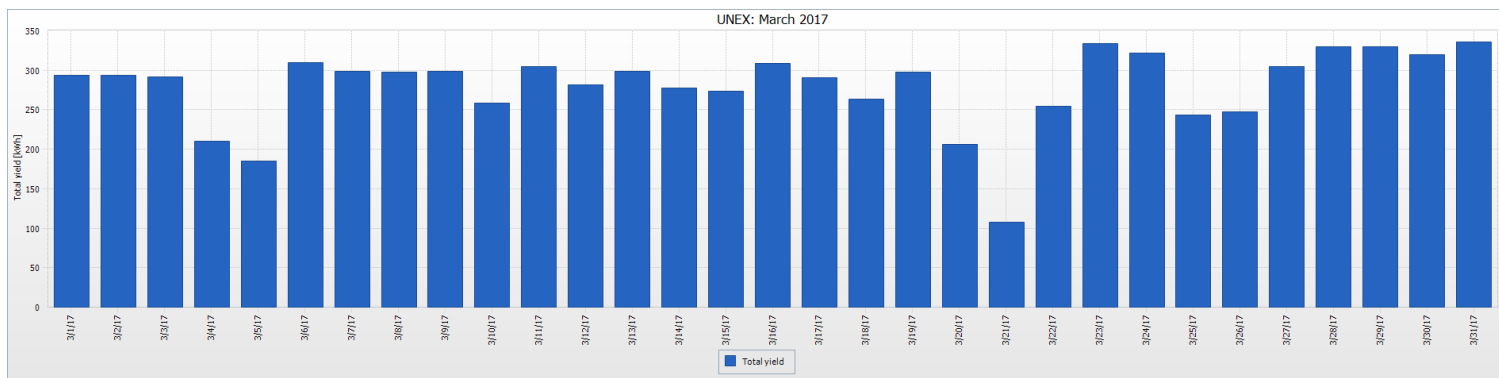
Sustainability Features

- Low flow, motion activated fixtures in restrooms and breakrooms.
- Drought tolerant landscaping with drip irrigation system using reclaimed water.



Electricity Usage

- Average building usage 1,800 kWh on weekdays and 1,140 on weekends.
- Photovoltaic array generates an average of 225 kWh daily (maximum daily generation since 8/1/16 was 369 kWh).
 - Average generating 12% of electricity on weekdays (as much as 20% on high generation, low usage days).
 - Average generating 18% of electricity on weekends (as much as 35%).



Water Usage

- Average monthly building usage: 11,370 gallons when the building is in full operation (about \$69 total monthly for water and sewage).

Division of Continuing Education

Drew Chesen
Director, Building Services