Sustainability at UTM

Facilities Management & Planning
Green Building by Design

- LEED – Leadership in Energy and Environmental Design
- 5 LEED certified buildings, 1 LEED certified renovation
- 4 LEED silver, 1 LEED gold, 1 LEED gold renovation
- All large academic and research capital projects built to LEED silver minimum since 2006
LEED Buildings at UTM

- LEED silver
  - HMALC
  - Instructional Building
  - Deerfield Hall
  - Innovation Complex
  - North Building Reconstruction B (minimum target)

- LEED gold
  - Health Sciences Complex
  - Davis Building 3rd floor renovation
LEED features

- All LEED buildings feature:
  - Green cleaning program
  - Low-flow fixtures
  - Energy-efficient mechanical & electrical systems
  - Low-emitting materials
  - Recycled & regional construction material
  - Green roofs

- Some LEED buildings feature:
  - Rainwater reuse systems
  - Occupancy sensors
Geothermal

- Instructional Centre is 100% heated and cooled by geothermal system
- Boreholes drilled in field next to building
  - 117 holes, 550 ft deep each
- Saves significant amount of energy compared to conventional building
  - Only uses a small amount of electricity to run the pumps
  - Building uses no natural gas
Solar

- 2 solar arrays:
  - Davis building (5.4 kW)
    - Installed 2005
  - Instructional Centre (21 kW)
    - Installed when building was built (2011)
    - Panels tilted at 45° angle to sun
    - Panels double as sun shades
Protecting Green Spaces

- 21 sites removed from mowing and planted with native trees and wildflowers
- Invasive species removal
- Monitoring of health of planted areas is ongoing
- Large areas of campus designated protected from development
Transportation

- U-pass allows students unlimited travel on MiWay
- Shuttle bus between UTM and St. George, Sheridan campuses
- Best parking spots reserved for carpools
- Parking rebates for fuel-efficient vehicles
- BikeShare
  - Free, 48-hour bike rentals and DIY repairs
  - Annual community bike ride in partnership with Mississauga Cycling Advisory Committee
Water conservation

- Rainwater collection systems for Instructional Centre, Health Sciences Complex, Deerfield Hall
- Water used for irrigation, flushing toilets
- Reduction of water use in Central Utilities Plant
  - Softened cooling tower water
  - Cooling tower replacement
- Bottled water ban
  - Bottle-filling fountains installed
  - Tri-campus initiative
Stormwater management pond

- Collects all campus stormwater
- Water is naturally filtered before entering Credit River
- Water quality monitoring ongoing
- Habitat for wildlife
- This area used to be a parking lot!
Energy Savings – Electrical & Mechanical

- Low-flow fume hoods
  - Reduced face velocity from 100 fpm to 60 fpm
  - Energy savings of up to 60%
  - As safe as conventional hoods
  - Air quality monitoring system saves an additional 40-60% by reducing air changes when research not taking place & labs unoccupied

- Numerous LED lighting retrofits

- High-efficiency boiler replacement at Central Utilities Plant

- Steam trap audit
Strategic Investment Fund

- Research normally energy-intensive
- Retrofit of mechanical systems to be highly energy-efficient
  - Davis building research wings
- Updated with more energy-efficient systems
- New back-up power for critical research equipment
Repair Café

- People can bring broken items to be fixed
- Keeps useful items out of landfill, encourages repair culture, discourages throw-away mindset
- Clothing, small appliances, electronics, jewelry
- Held twice per year
Student Engagement

- Green Team work-study positions
- Green Ambassadors volunteer group
- Participation at O-week fair, Exam Jam
- Outreach to student body
  - Waste sorting game, eco-Jeopardy
  - Tours of Central Utilities Plant
- Food services
  - Vertical farm at OPH dining hall
  - On-campus apiary
  - Campus community garden
Staff engagement

- Staff and faculty are welcome to attend all our events
- Participating in the People Power Challenge
  - Takes place in summer
  - Friendly competition
- Earth Day litter clean-up
- Dish service for department events
  - Free – we supply and pick up reusable plates
Future plans

- EV charging stations
- Interactive energy dashboard
- Ongoing efficiency upgrades to HVAC systems & central utilities systems
  - Solar pool heating at RAWC
  - Upgrade to Central Plant air conditioning systems to be highly efficient
- Continuing education & engagement of staff & students
- Regular updates to design standards to maintain best energy efficiency