

2008 Georgia Tech Sustainability Summary:



In 1992, Georgia Tech embarked on a twenty-year program of institutional transformation.

- Our goal is to incorporate concepts of sustainable technology and development into every academic program, to promote innovation through our research and development programs, and to model sustainable practices in the way we manage the built environment of our campus.
- We believe that sustainability is everyone's responsibility, and that each discipline, inter-discipline, and profession has a particular contribution to make.
- Sustainability is incorporated in both our mission statement and strategic plan.
- Georgia Tech is a leader in research in fields of energy, climate change, nanotechnology, biomedical technology, engineering, management and public policy.
- Our students are taught to be collaborative, innovative, interdisciplinary, and global.
- They operate at the intersection of technology, policy, business and sustainability.

In 2007, Georgia Tech signed the President's Climate Commitment and has met the milestones associated with it. Tech has many fulltime sustainability staff including:

- Campus Sustainability Director,
- Sustainable Systems Research Director,
- Energy Management Manager,
- LEED accredited Capital Projects Director,
- LEED accredited Landscape Master Planner,
- Alternative Transportation Manager,
- Recycling Manager,
- As well as numerous Center Directors, Researchers, and Faculty focusing on sustainability.

The impact of our visionary efforts in sustainability is to increase our rankings in the academic, research, and sustainability fields while we better prepare our students to compete in the increasingly complex and competitive global workplace which includes more and more serious environmental issues. A sampling of these benefits is listed below:

- Princeton Review Green Honor Roll 2008 – recognized for our
 - Campus quality of life that is healthy and sustainable
 - Prepare students live/work in world w environmental challenges
 - Overall commitment to environmental issues
- National Wildlife Federation Exemplary Green Campus 2008 - recognized for
 - Ecology and Sustainability Education
 - Interdisciplinary Programs
 - Supporting Faculty, Green Personnel Orientation
 - Environmental Goals
 - Transportation Programs
 - Landscaping, Conservation, Efficiency, Renewable Energy, etc.
- American Forrest and Paper Recycling Award 2008
- Top 10 public university
- Top 5 engineering research program
- Top 2 engineering research
- Top 10 urban transformative urban development
- Top 12 value in public education
- Top 12 academic places to work

Sustainability Permeates our Curriculum:

Varied and numerous in nature, the educational aspects of Georgia Tech's commitment to environmental sustainability reflect our promise to produce the technological leaders of the future.

- Georgia Tech has a goal that every student will take at least one course in sustainability.
- We have more than 100 courses with an emphasis in sustainability spanning every college at Georgia Tech.

Research and Interdisciplinary Research Centers Focus on Sustainability:

- Georgia Tech has 21 Endowed Chairs and 23 Research Centers that include significant sustainability components or a sustainability focus.

- Interdisciplinary Research Centers, Corporate Partnerships, NSF and SEED funding all support major sustainability research at Georgia Tech.
- We have many award winning researchers and highly referenced (h-index) in sustainability. Examples include:
 - Presidential Green Chemistry Award,
 - Power Finance & Risk Magazine's one of the five most influential people in renewable energy,
 - National Medal of Technology Laureate and LED technologist, and
 - Nobel Peace Prize 2007 co-recipient, for her work on Climate Change
 - As well as many accomplished graduate and undergraduate researchers in the area of environmental sustainability.
- The collaborative research culture at Georgia Tech invites all members of the campus community to take part in the innovation.
 - Examples of Research Centers include:
 - Strategic Energy Institute,
 - University Center for Excellence in Photovoltaic's,
 - Center for Innovative Fuel Cell and Battery Technologies,
 - Center for Quality Growth and Regional Development,
 - Sustainable Design and Manufacturing, etc.
 - Examples of Interdisciplinary Research Centers include:
 - Center for Urban and Regional Ecology,
 - National Electric Energy Testing, Research, and Applications Center, and
 - The Institute for Leadership and Entrepreneurship.
 - Our researchers are establishing new fields such as nanomedicine, systems biology and Piezo electricity.

Building Green:

- Georgia Tech is an established forerunner in innovative technology and one of the first universities to include LEED in the building process. Tech's Management Building was the 2nd LEED Silver certified building in Georgia and the 13th in the US.
- Georgia Tech has 26 sustainability buildings, representing 3.5 million square feet, after nearly doubling the square footage on campus since 1994 and retrofitting many of the campus buildings built between 1994 and 2004 for energy and water efficiency.
- Tech's policy requires buildings and renovations meet LEED Silver at minimum. We are registering new projects with the USGBC and seeking LEED Silver/Gold certification on projects. Georgia LEED Silver was added to our design standard in 2002. As older buildings are renovated, they are brought to LEED Silver standards or better.
- Energy efficient building systems are an ongoing program.
- Purchasing EnergyStar products is part of our green purchasing program.
- Georgia Tech has committed to reduce its energy use 20% by 2020.
- Long a leader in renewable energy use in operations, Georgia Tech installed the world's largest solar pv roof of its type in 1995 and has kept it in operation on our Campus Recreation Center along with a solar thermal hot water system. This is a 324 kw solar PV system, which is still the 19th largest solar implementation on a US college campus, per AASHE
- Similarly, Georgia Tech led the way in installing a commercial geothermal heat pump on campus. This system has been in operation since 1995 and is a 250 ton system.
- Georgia Tech's students received 6th place in our Institute's first entry in the solar decathlon house competition in 2007.
- R&D Magazine recognized Georgia Tech's Molecular Science and Engineering Buildings as an exemplary Green Lab
- Georgia Tech currently has 6 buildings in design phases with solar PV, solar thermal hot water, garden roofs, geothermal and or wind systems. One building will be our first Net Zero Energy Carbon Neutral Building.
- Our buildings have won numerous awards

Promoting alternative transportation:

Alternative Transportation is the major mode of transportation to campus:

- Georgia Tech has the largest percentage of student housing on campus of any university of our type, 53%.
- With over 9700 people living on campus, and many more living within a few miles, and Tech's strong sense of place and amenities; walking, biking, carpooling, vanpooling, and taking the bus are the major modes of transportation to and from campus.
- Our campus is bike and pedestrian friendly. We have continued to implement a vehicular traffic reduction program on campus.
- The first flex cars in Georgia were on Tech's campus.
- In 1991, Georgia Tech hired its first alternative transportation manager to build vanpool, carpooling, and alternate commuting programs at Tech.

- All Trolley buses use natural gas. Tech's campus transportation system connects with MARTA (Atlanta's Rapid Transit System) and is free for students, faculty, staff, and visitors. In 2007, 2.4 million rides were provided on campus.
- MARTA (Atlanta mass transit system) passes are available at reduced rates.
- Special parking rates and programs are available for those who do not purchase annual parking permits, because they do not routinely commute to campus in their own, single occupant vehicle.
- Tech's campus fleet is 27% alternative fuel vehicles.
- The US Environmental Protection Agency selected Georgia Tech as one of the "Best Places for Commuters" indicating we exceed the minimum required 14% of our commuters using alternative transportation to commute to campus.

Protecting green space:

Leading by example, Georgia Tech's commitment to sustainability is "a major component of the Georgia Tech Campus Master Plan and Landscape Master plan.

- While most universities have a Campus Master Plan, very few have a Landscape Master Plan.
- Tech's calls for achievement of 22% woodlands coverage and 55% tree canopy on campus. Tech's lush green inner city campus' tree inventory includes many 100+ year old trees and well over 5000 trees.
- Land use has long been part of our campus master plan. The 2004 Campus Master Plan update increased the campus green space to 52%.
- Georgia Tech's Landscape Master Plan won an Honor Award from the Georgia Chapter of the American Society of Landscape Architects (ASHEA).
- Georgia Tech was one of the first 10 US campuses to be recognized by Tree Campus USA.

Conserving water:

Tech's comprehensive water management plan

- Incorporates water saving technology into our green buildings, including low flow fixtures, and underground rainwater cisterns to collect rainwater and condensate for use in irrigation. For example, 3 research buildings collect 4 million of gallons of condensate water a year that help cool the buildings and provide no potable water for irrigation, etc...
- Xeriscaping, performance landscaping, and using native vegetations further sustain our campus.
- An Irrigation Master Plan ties cisterns to the smart, drip irrigation systems on campus so nonpotable water is used for irrigation.
- Newly planted trees have watering bladders attached for the first year, and then trees no longer require watering.
- Georgia Tech has committed to reducing its stormwater runoff by 50%, back to the 1950's level, to relieve the city's aging water and sewer systems.
 - Reforestation projects, reducing impervious surfaces, and adding pervious surfaces aid the environment while reducing stormwater runoff.
 - A stream will be recovered and brought back to surface level
 - Increasing pervious surfaces, and decreasing impervious surfaces on campus also facilitate return to natural water conservation
- Georgia's Governor chose to announce his mandate to reduce water consumption in all State facilities by 10-15% in November 2007 because of the ongoing drought in GA
- Georgia Tech's water conservation efforts were recognized by our local country with the Fulton County Citizens' Committee on the Environment's Water Conservation Award.

Waste Neutral, Recycling, Composting, Green Cleaning, And Green Purchasing:

Long an award winning leader in recycling, with a goal to become waste neutral.

- Georgia Tech recycles 30-35% of its waste stream
- Paper recycling is available beside the 5000 desks on campus.
- A dozen materials are routinely recycled on campus.
- Recycling representatives are in every building.
- Student Move In – Move out collection and reuse recycling is on campus.
- Tech's recycling programs are campus wide.
- Tech hired its first Recycling Manager in 1996.
- Demolition and Construction recycling came to campus with the LEED program.
- Game Day Recycling began in 2007.
- Tech's award winning EarthDay celebration is the largest in the Southeast.
- Atlanta's first e-waste program began at Tech's EarthDay 2003.
- Composting food is expanding from voluntary programs in administration buildings to including food composting in the dining halls in Fall 2009.

- Yard waste is composted in place or shredded and used for mulch.
- Tech's Green Cleaning Program is also nationally recognized.
- Georgia Tech has had a sustainable purchasing policy since 2003. Office products, use of EnergyStar, use of Recycling, use of Life Cycle Assessment, and consideration of air quality, etc are factored into our green purchasing policy.
- Georgia Tech received the American Forrester and Paper Association's 2008 Paper Recycling on a college campus award
- Georgia Tech received the National Recycling Coalitions' 2008 National Recycling Award for a College or University

Supporting local and sustainably grown food:

Georgia Tech encourages local and sustainable food initiatives in Atlanta.

- Local food comprises 41% of food served on campus.
- Organic has been added to the campus offerings, in every venue.
- Fair Trade coffee is available campus wide.
- Vegetarian meal options are available at all meals.
- Local food reduces the fuel use associated with transportation and strengthens the local economy.
- Georgia Tech has signed its support of the Atlanta Local Food Initiative (ALFI)

Economic Development, Tech Transfer, Clean Tech, Co-op, International Study, Community Outreach, and Student Involvement:

Our goals include stimulating economic development and working on policy issues in a global context. We offer a multitude of leadership learning experience in and out of the classroom.

- Tech operates the nation's oldest university-based high-technology business incubator, the Advanced Technology Development Center, which had more than forty-three companies in incubation in 2007.
 - ATDC companies have attracted more than \$1 billion in venture capital since 1999 and accounted for ten of the state's top twenty-five venture capital investments in 2006, including the two largest.
 - VentureLab is currently advising a number of "clean-tech" startup companies.
- The number of students studying abroad increased 101 percent; today, one of every three undergraduates studies abroad.
- Georgia Tech has 4 campuses on 3 continents and hosts international leaders at each of them.
- The Georgia Tech Center for International Business Education and Research has 26 international partner universities.
- More than 40 percent of undergraduates participate in structured research for academic credit.
- Tech has the fourth oldest cooperative education program in the United States.
- In 2006-07, more than 200 Tech students actively volunteered in the local community.
- There are 20+ student organizations at Georgia Tech that are focusing on sustainability.
- There are numerous student versions of professional organizations related to sustainability on campus, too.
- Our alumni influence their communities and corporations (approximately 5,000 alumni currently hold prominent business roles as CEOs, Executive VPs, CIOs, CTOs, Presidents, or Board Chairs) and often return for networking and professional continuing education. Our alumni carry their sustainability training, life styles, and professional experience with them into the community, corporate world, and the global economy.

This is a summary; much more detail is available upon request.

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