

# Green Building Experiential Learning Collaborative

[sunypoly.edu/gbelc](http://sunypoly.edu/gbelc)



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# U.S. GHG Emissions Flow Chart





### Innovation



Introduction of novel features and procedures

### Indoor Environmental Quality



Use of natural light and efficient air conditioning

### Materials and Resources



Responsible construction waste management and sustainable sourcing of materials

### Location and Transportation



Land protection and access to public transportation and green vehicles

### Sustainable Sites



Sufficient green open space and light pollution reduction

### Energy and Atmosphere



Optimizing sustainable energy production and metering

### Water Efficiency



Indoor and outdoor water reduction

# CE/ME 448

## Green Building Strategies:

### LEED Lab



**LEED v4 for Operations & Maintenance: Existing Buildings**  
Project Checklist

Y	?	N			
0	0	0	<b>Location and Transportation</b>	15	
			Credit	Alternative Transportation	15
0	0	0	<b>Sustainable Sites</b>	10	
Y			Prereq	Site Management Policy	Required
			Credit	Site Development-Protect or Restore Habitat	2
			Credit	Rainwater Management	3
			Credit	Heat Island Reduction	2
			Credit	Light Pollution Reduction	1
			Credit	Site Management	1
			Credit	Site Improvement Plan	1
0	0	0	<b>Water Efficiency</b>	12	
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
			Credit	Outdoor Water Use Reduction	2
			Credit	Indoor Water Use Reduction	5
			Credit	Cooling Tower Water Use	3
			Credit	Water Metering	2
0	0	0	<b>Energy and Atmosphere</b>	38	
Y			Prereq	Energy Efficiency Best Management Practices	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
			Credit	Existing Building Commissioning—Analysis	2
			Credit	Existing Building Commissioning—Implementation	2
			Credit	Ongoing Commissioning	3
			Credit	Optimize Energy Performance	20
			Credit	Advanced Energy Metering	2
			Credit	Demand Response	3
			Credit	Renewable Energy and Carbon Offsets	5
			Credit	Enhanced Refrigerant Management	1
0	0	0	<b>Materials and Resources</b>	8	
Y			Prereq	Ongoing Purchasing and Waste Policy	Required
Y			Prereq	Facility Maintenance and Renovations Policy	Required
			Credit	Purchasing-Ongoing	1
			Credit	Purchasing-Lamps	1
			Credit	Purchasing-Facility Management and Renovation	2
			Credit	Solid Waste Management-Ongoing	2
			Credit	Solid Waste Management-Facility Management and Renovation	2

Project Name:  
Date:

Y	?	N			
0	0	0	<b>Indoor Environmental Quality</b>	17	
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
Y			Prereq	Green Cleaning Policy	Required
			Credit	Indoor Air Quality Management Program	2
			Credit	Enhanced Indoor Air Quality Strategies	2
			Credit	Thermal Comfort	1
			Credit	Interior Lighting	2
			Credit	Daylight and Quality Views	4
			Credit	Green Cleaning-Custodial Effectiveness Assessment	1
			Credit	Green Cleaning-Products and Materials	1
			Credit	Green Cleaning-Equipment	1
			Credit	Integrated Pest Management	2
			Credit	Occupant Comfort Survey	1
0	0	0	<b>Innovation</b>	6	
			Credit	Innovation	5
			Credit	LEED Accredited Professional	1
0	0	0	<b>Leadership in Operations &amp; Maintenance</b>	4	
			Credit	Leadership in Operations & Maintenance	1
			Credit	Leadership in Operations & Maintenance	1
			Credit	Leadership in Operations & Maintenance	1
			Credit	Leadership in Operations & Maintenance	1
0	0	0	<b>Summation</b>	110	
			Certified:	4	



# Project Objectives

## Make campuses into living laboratories

- Teach new applied learning courses in which students certify campus green buildings

## Develop NYS Workforce

- Students earn personal LEED Green Associate credentials
- Develop capacity of faculty & staff LEED Associated Professionals to certify campus green buildings

## Scale knowledge across the SUNY System

- Share expertise and best-practices with other campuses

# IDS 251

## Principles of Green Buildings



LEED  
GREEN  
ASSOCIATE

LEED  
GREEN  
ASSOCIATE

LEED  
GREEN  
ASSOCIATE

**Hilltop Residence Hall  
(under construction)**

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## Early Successes 2019

- SUNY Poly - One new course CE/ME 448 with 17 enrolled Fall 2019. One new course IDS 251 approved for Spring 2020. One existing building (Wildcat Field House) registered for certification. Two summer interns prepared LEED v4.1 O+M certification documents and passed LEED AP exams in August. One other student passed LEED GA exam in July.
- SUNY ESF - One new course CME 496 completed Spring 2019. 23 students passed LEED GA exam and one passed the LEED AP in May. One staff passed LEED AP exam last November. One existing building (Baker Lab) registered under LEED v4 O+M. One summer intern employed to help finish building certification.
- SUNY Oneonta - Four new online courses under development 2019-2020. One faculty hired and training for LEED AP and PHC. One existing building targeted for certification. Five staff & faculty passed LEED GA exam in March. Two staff passed LEED GA in July.

## Project Goals

- Certify 7 campus buildings
- Train 10 faculty & staff in LEED GA or AP
- Credential 100 students in LEED GA or AP
- Conduct workshops with partners to facilitate other SUNYs to start-up similar courses.

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