



OFFICE FOR ASSESSMENT OF PROFESSIONAL AND  
WORKPLACE LEARNING

ACADEMIC PROGRAM REVIEW

of

**Green Professional (GPRO) Building Skills Training  
Through the  
Urban Green Building Council**

REVIEW DATE:  
JUNE 10, 2013

Effective Date:  
See Individual Courses for specific effective dates

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## URBAN GREEN COUNCIL PROFILE

**Urban Green Council is the New York Chapter of the U.S. Green Building Council (USGBC). Our mission is to lead in advancing the sustainability of urban buildings through education, advocacy and research.**

Recognizing that urban life leaves a smaller footprint than the suburban alternative, we envision cities that coexist in harmony with their natural environment and contribute to the health and well-being of all.

A non-profit organization established in 2001, Urban Green is funded by contributions from foundations, its 900+ members, and over 40 corporate sponsors. Our in-house experts and a dedicated network of volunteers are helping to transform the built environment in New York City with models that can be replicated in urban centers nationwide.

Urban Green provides a wide range of educational and networking events for our members and the green building community at large; conducts research; and advocates for change that will make cities more sustainable. Our website and newsletter (circ. 10,000+) reach an audience comprised mostly of professionals working in architecture, engineering, design, construction, real estate development and management, product development and manufacturing, government, and other related fields.

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**GPRO** is a comprehensive national training and certificate program developed by [Urban Green Council](#), USGBC New York, in partnership with the Building Construction Trades Council (BCTC), the Building Trades Employers' Association (BTEA), and the Consortium for Worker Education (CWE). GPRO is designed for the experienced building professional who seeks to integrate green practices into his/her core knowledge of their trade. GPRO teaches the principles of sustainability combined with trade-specific green construction knowledge. Produced with more than 100 volunteers from local unions, contractors, and design professionals, along with the City University of New York (CUNY) and the USGBC New York Upstate Chapter, this comprehensive training program is designed to respond to the building industry's unique needs. It is a series of courses and coordinated certificate exams that teach the people who build, renovate and maintain buildings the principles of sustainability combined with trade-specific green construction knowledge.

To become a GPRO instructor, applicants must meet requirements as outlined in the [GPRO Instructor Handbook](#), pass the Exam for the course he/she intends to teach and satisfy all other Urban Green Instructor certification requirements before being certified as a GPRO Instructor.

Skilled workers will be poised to work in accordance with new regulations and to meet the expectations of owners and tenants who want healthier, environmentally sustainable, and energy-efficient homes and offices.

Source of Official Student Records: Sarah Palmisano, Administrative Associate, Urban Green Council, U.S. Green Building Council of New York, 20 Broad Street, Suite 709, New York, NY 10005, 212.514.9385, x 126; [sp@urbangreencouncil.org](mailto:sp@urbangreencouncil.org).

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GREEN PROFESSIONAL (GPRO)  
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INDEX OF COURSES/CREDIT AWARDS

Page #	Course Title	Effective Dates	Credit Award	
7.	Fundamentals of Building Green	June 2012–June 2018	N/C	as a stand-alone course
9.	Construction and Management (when combined with Fundamentals of Building Green)	June 2012–June 2018	1 LD	Sustainability and Construction Management
11.	Operations and Maintenance Essentials (when combined with Fundamentals of Building Green)	August 2012–June 2018	2 UD	Sustainable Building Operations and Maintenance
<b>Total Courses Reviewed = 3</b>				
<b>Total Credits Recommended/Awarded = 3</b>				

Key: LD = lower division associate/baccalaureate level UD = upper division baccalaureate level
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## Course Sheet

**Course Title/Number:** Fundamentals of Building Green

**Location:** Courses are taught at partner sites

**Length:** 4 Hours

**Effective Date:** June 2012 – June 2018

**Course Description:** This course teaches the basics of sustainability and provides an overview of the essential strategies and work practices that make buildings more efficient. GPRO covers the “green gap” between standard trade skills and the new awareness required to successfully implement sustainable building practices. Individuals with experience in construction and building operations will have an advantage when taking *Fundamentals of Building Green* and in passing the certificate exam, but anyone with an interest in green building is encouraged to participate. GPRO *Fundamentals of Building Green* is the prerequisite for all GPRO trade-specific courses. This standalone certificate course can be scheduled to meet the needs of your organization. Certificate exam is included.

**Learning Outcomes:** Upon successful completion of this course, the student will be able to:

- State the economic and health benefits of green building.
- State the causes and impacts of a changing climate.
- Outline a transition process to sustainable construction practices.
- Demonstrate knowledge required to attain compliance with green codes and standards.
- Demonstrate an understanding of the basics of LEED.
- Articulate an overview of green building strategies.
- Articulate The importance of building commissioning (systems quality assurance)

**Major topics covered in the course are:**

Part A: SUSTAINABILITY

- Why Green Building?
- Climate Change: Causes & Impacts
- Our Natural Resources: Sustainability Challenges
- The History of Environmental Protection
- Continuing the Road to Sustainability

PART B: GREEN BUILDING

- How Do We Know It's Green?
- Codes and Standards: Ensuring Performance
- Applying Sustainability: Using LEED Credits

**PART C: YOUR ROLE IN BUILDING GREEN**

- Construction Activity Pollution Prevention
- Construction Waste Management
- Construction Indoor Air Quality
- Commissioning

**Methods of instruction include:**

1. Lecture
2. Presentations

**Assessment criteria:** Passing score on the GRPO-Fundamentals examination.

**Credit Recommendation:** No Credit. As a stand-alone course, Fundamentals of Building Green received a recommendation of no credit because of its lack of depth and breadth and insufficient clock hours to be considered for credit. However this course is included as part of the Construction Management and Operations and Maintenance courses.

**Credit Rationale:** The depth and breadth of this course is not comparable with college-level courses in the field.



## Course Sheet

**Course Title/Number:** Construction Management

**Location:** Courses are taught at partner sites.

**Length:** 10 Hours

**Effective Date:** June 2012 – June 2018

**Course Description:** The construction industry is moving quickly towards greener, high-performing buildings, creating increased demand across the country for sustainable building skills. GPRO *Construction Management (CM)* explains the essential role CMs play on a sustainable construction project. Taught by industry experts using real-life classroom exercises, GPRO CM gives experienced building professionals the critical tools to transition from conventional to sustainable construction practices.

GPRO CM is ideal for a range of construction and real estate professionals including:

- Contractors and subcontractors
- Project managers and site superintendents
- Foremen
- Estimators
- Project architects and engineers
- Building owners and facilities managers

**Learning Outcomes:** Upon successful completion of this course, the student will be able to:

- State the economic and health benefits of green building
- State the causes and impacts of a changing climate
- Outline a Transition process to sustainable construction practices
- Demonstrate knowledge required to attain compliance with green codes and standards
- Demonstrate an understanding of LEED
- Articulate an overview of green building strategies
- Articulate The importance of building commissioning (systems quality assurance)
- Demonstrate knowledge required to manage the implementation sustainable practices in new construction
- Demonstrate knowledge required to maximize efficiency and minimize environmental impact of new buildings.
- Demonstrate an ability to manage the implementation of green building strategies on projects within major environmental categories (site-water, energy, materials, and indoor air quality)

**Major topics covered in the course are:**

- Construction Management and Green Building
- Pre-Con Services: Sustainability Planning in the Design Phase
- Proposal for Construction Services: Addressing Sustainability
- Trade Bid & Award: Incorporating Sustainability Strategies
- Mobilization
- Training Your Trades on Project Goals and Requirements
- Shop Drawings and Submittals
- Rough In, Finishes and Fit-out
- Commissioning and Close-Out
- Measurement & Verification

**Methods of instruction include:**

1. Lecture,
2. Presentations,
3. Case Studies

**Assessment criteria:** Passing score on the GPRO-CM 50-question examination.

**Credit Recommendation:** In the lower division baccalaureate/associate degree category, 1 credit hour in ***Sustainable Building Construction Management*** when combined with the successful completion of the Fundamentals of Green Building course.

**Credit Rationale:** The exam elements reflect concepts taught in a typical 200 level course with project covering sustainable building construction management. After a thorough review of the supporting material available for the certification, the credit recommendation is made based on coverage of project management issues, building design considerations and implementation of green building strategies.

## Course Sheet

**Course Title/Number:** Operations & Maintenance Essentials

**Location:** Courses are taught at partner sites.

**Length:** 12 Hours

**Effective Date:** August 2012 – June 2018

**Course Description:** Efficiently operated and well-maintained buildings can reduce operating costs by 20-50% while improving occupancy rates and tenant satisfaction? This is just one of the many reasons why green operations and maintenance (O&M) practices are in high demand across the country. Led by industry experts, GPRO *Operations & Maintenance Essentials* provides building professionals with the critical tools to transition from conventional to sustainable operations.

GPRO O&M is ideal for property managers and building staff in multi-family residential & high-rise commercial buildings including:

- Building superintendents
- Operators
- Facility and property managers
- Operating engineers
- Stationary engineers

This certificate course can be scheduled to meet the needs of your organization.

**Learning Outcomes:** Upon successful completion of this course, the student will be able to:

- Demonstrate knowledge of methods to improve building performance using metrics.
- Demonstrate knowledge of strategies used to improve the building envelope for a healthier building.
- Demonstrate knowledge of strategies employed to reduce water use.
- Demonstrate knowledge of strategies used to maintain more efficient and cost-effective heating and cooling systems.
- Demonstrate knowledge required to manage lighting to minimize energy use while maintaining lighting quality.
- Demonstrate knowledge required to maintain indoor air quality for tenant comfort.
- Demonstrate knowledge of strategies to reduce waste.
- Demonstrate knowledge of recent NYC energy auditing and retro-commissioning requirements.

**Major topics covered in the course are:**

- Water management, including storm water management
- Building Systems and energy Impacts
- Energy Performance Measurement
- Building Systems and Energy Impacts including building components, energy performance measurement, energy usage and tradeoffs
- Improvements to the Indoor Environment including ventilation, air quality, lighting, and thermal controls

**Methods of instruction include:**

1. Lecture,
2. Presentations,
3. Case Studies

**Assessment criteria:** Passing Score on the GPRO-OM Proctored Exam of 50 multiple choice questions.

**Credit Recommendation:** In the upper division baccalaureate degree category, 2 credit hours in *Sustainable Building Operations and Maintenance*.

**Credit Rationale:** The exam elements reflect concepts taught in a typical 300 level course with project covering sustainable building technologies from an operations and maintenance point of view. After a thorough review of the supporting material available for the certification, the credit recommendation is made based on coverage of physical plant operations, green building maintenance, energy efficiency measurement and applicable local NYC building codes and requirements.

**Academic Recommendation:** Please consider performing reliability measures on all GPRO-examinations in addition to the exam item analyses that are routinely performed. In this way, the GPRO exams will be established as statistically valid instruments that accurately measure student skills.

## REVIEW SUMMARY

### Team Comments/Academic Recommendations:

Overall the team was impressed with the quality of content of the courses. The team also noted that for the review to be most valuable, the full complement of courses should have been reviewed to maximize the credit potential. Additional comments/suggestions are noted below:

- Exams are developed and updated by GPRO in the following way:
  - When a module nears completion, they identify all the relevant information students need as the take-away from the course
  - Develop a matrix that includes all the media such as manual, presentation, instructor notes, case studies, classroom exercise and “test yourself questions”
  - A first exam draft is created to use in pilot courses; feedback solicited from students
- While there is not item analysis or statistical analysis of the exams, GPRO monitors exam questions by obtaining feedback from exam takers.
- Pass rates for the exams are:
  - Operations & Maintenance = 68%; 70% for the exam by itself (Trades)
  - Construction Management = 94% (Trades)
  - Fundamentals of Building Green = 65% (WFD group)
- The team is concerned that there may be too much material covered into the 8 hour Operations & Maintenance course – consider increasing course time or narrowing breadth of course.
- The team acknowledges that GPRO has its own screening for instructors and the training process based on the appropriate credentials in the industry.
- GPRO training qualifies someone to start work with a construction company.