LEED Introduction Video

https://www.youtube.com/watch?v=MyI0tsx3wDs
LEED Building

What is it and why should I care?
What is the built environment effect?

40% Global energy related emission from buildings

40% of your landfill is building materials

60% of our waste is generated by building activities
LEED = Leadership in Energy and Environmental Design

LEED certification provides independent verification of a building or neighborhood’s green features.

Involves the design, construction, operations and maintenance of resource-efficient, high-performing, healthy, cost-effective buildings.

LEED is the triple bottom line:

People
Planet
Profit
LEED is an integrated process that focuses on the relationship between the built environment and the natural environment.

Buildings that harness Nature

Buildings that need less Energy

Buildings that Breathe
How to build Green Buildings

Smart site selection, what is already there that can be used
Smart material selection use green/environmentally friendly materials
Use recyclable materials
Reuse materials
Design sustainable energy system, to reduce energy usage
Harvesting rainwater to save ground water and reduced water use
Transportation and services already available to the site
Healthy indoor environmental quality
What is considered during the LEED process?

Life Cycle of the building:

Planning & Design
Construction
Operations
Deconstruction
LEED Certification refers to buildings that have been designed, built, and maintained using best practice strategies for green building and energy efficiency.

LEED Accreditation refers to people who have demonstrated their understanding of green building principles by way of passing a professional credentialing exam.
How to Earn LEED Certification

In order for a building project to earn LEED Certification, it must meet certain criteria and goals within assigned categories:

**Location and Transportation** - how close the project is to mass transit

**Materials and Resources** - use locally sourced, sustainable products

**Water Efficiency** - reduce potable water usage

**Energy and Atmosphere** - improve energy performance and indoor air quality

**Sustainable Sites** - utilize nearby natural resources and ecosystems that can naturally take part of the design, minimizing environmental pollution

**Innovation** - any idea not covered under the main LEED areas

**Regional Priority Credits** - addressing a particular concern based on location
Benefits of LEED Certification

The benefits of LEED Certification include:

- Reduced energy and water usage
- Reduced maintenance and operation costs
- Reduced construction waste during the building process
- Increased indoor air quality
- Increased employee performance, satisfaction, and retention
- Promotes usage of recycled material
- Attracts companies, employees, and tenants who value sustainability
- Better Health for residents.
LEED Certification Levels:

Certified (40-49 points)
Silver (50-59 points)
Gold (60-79 points)
Platinum (80+ points)
LEED Categories

Each category contains a series of suggested opportunities/features to earn the credit.

The building project earns points when it properly uses and integrates these opportunities/features.

The more points earned, the more sustainable the build is.

Depending on the number of points received, the project can then earn certification one of the previous levels.
LEED Credit Categories:
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1. Sustainable Site

Locate where there is infrastructure water, electricity, phone, cable, sewage, drainage.

Pedestrian connectivity either rail, bus stops, mass transit, walk able

Close proximity to necessary resources (parks, schools, stores, churches, jobs)
LEED Credit Categories:

2. Water Efficiency

Water reduction - Low flow showers and sinks, timed sprinklers

Water catchment - Rain barrels under downspouts

Water storage - Pond or Cistern

Gray water - Shower & sinks (can be filtered and re-used for toilets

Black water - Toilets (still good for watering fruit trees, just not veggies)
LEED Credit Categories:

3. Energy & Atmosphere

A/C and Heating – High SEER and AFUE rating, multi-zone system

Lighting – LEDs, timers, occupancy sensors

Maximize efficiency - HE washers, dryers & appliances

Thermal comfort controlling your own light fixtures  Natural day lighting

(Seasonal Energy Efficiency Ratio. Higher the SEER ratings mean greater efficiency.)

(Annual Fuel Utilization Efficiency (AFUE) is the most widely used measure of a furnace’s efficiency. This is the measurement of the percentage of heat delivered to your house from each unit of fuel.)
LEED Credit Categories:

4. Materials & Resources

Proper material selection, sustainable wood, low VOC material, etc

Sort building material on site for recycling into separate bins for each type of waste
Used by all sub-contractors as a requirement

They pay to have trash removed to the landfill. So storage bins for paper, plastic
& metal are sent to recycling facility (issue here in Alabama)

In a retro-fit, if you can save your walls or your roof you get points for reusing material
LEED Credit Categories:

5. Indoor air quality

Points for installing healthy materials like low VOC paint
Flooring, wood & sealants that do not cause off-gassing

During construction phase they filter the air inside to collect off-gassing of the building materials. This is especially needed with multi story building that will take time to assemble

New high efficiency air filter is installed after construction.

Two weeks later they replace with fresh high efficiency filter
LEED Credit Categories:

6. Innovation & design

One point for having a LEED accredited Professional on your team

Anything innovative to save air quality or materials.

7. Regional Priority

Certain areas of the country have special challenges; so you can get points for special local consideration projects.

Super dry areas, super cold areas, topography restrictions

Materials purchased within a 500 mile radius
The LEED accreditation process has three tiers for individual accreditation.

The first tier is the **LEED Green Associate**. The Green Associate Exam is a required and covers the basics of the LEED Green Building Rating Systems.

The second tier is the **LEED AP with Specialty**. LEED AP with Specialty can be achieved through successful completion of a LEED specialty exam. There are five LEED AP specialties.

The third tier is **LEED Fellow**. LEED APs who have demonstrated exceptional achievement in key mastery elements related to technical knowledge and skill are eligible for this honor. They have made significant contributions in teaching, mentoring, or research with proven outcomes.
Accreditation Levels
Accreditation Types
Applies to buildings that are being newly constructed or going through a major renovation

Includes: New Construction, Core & Shell updates, Schools, Retail, Hospitality, Data Centers, Warehouses & Distribution Centers, and Healthcare.
ID+C
Interior Design and Construction

Applies to projects that are a complete interior fit-out
Includes: Commercial Interiors, Retail and Hospitality.
Building Operations and Maintenance

Applies to existing buildings that are undergoing improvement work or little to no construction

Includes: Existing Buildings, Schools, Retail, Hospitality, Data Centers, and Warehouses & Distribution Centers
Neighborhood Development

Applies to new land development projects or redevelopment projects containing residential uses, nonresidential uses, or a mix.

Projects can be at any stage of the development process, from conceptual planning to construction; includes Plan and Built Project.
Homes

Applies to single family homes, low-rise multi-family (one to three stories), or mid-rise multi-family (four to six stories)

Includes: Homes and Multifamily Low-rise and Multifamily Midrise
Passive House

https://www.youtube.com/watch?v=_vQrtmq87Cc