Sustainability 101
The GEF Institute Sustainability 101 Course and Certification program is designed to equip individuals with a strong foundational knowledge of sustainability including topics such as climate change, global energy and water challenges, biodiversity and ecosystems, pollution, life-cycle analysis and new technologies. At the Institute we understand that empowering students, educators, and professionals with sustainability education is vital to a paradigm shift, to change our collective thinking. Those who adapt to the new, sustainable world will lead us, and those who do not will fall behind.
Written Assessment

This Assessment Blueprint consists of questions that measure an individual’s factual theoretical knowledge.

**Administration Time:** 2 hours
**Number of Questions:** 101
**Number of Sessions:** This assessment may be administered in one session.

### Areas Covered

- Government and Sustainability: 9.9%
- Human's Ecological Footprint: 9.9%
- Introduction to Sustainability: Its Purposes, Challenges and Requirements: 10.9%
- New Technology and Innovative Sustainability Approaches: 9.9%
- Primary Sustainability Issues: Energy, Food, Water, and Pollution: 9.9%
- Sustainable Development: The Social Challenges: 9.9%
- The Economics of Sustainability: 9.9%
- The Global Ecosystem: 9.9%
- The Importance of Biodiversity: 9.9%
- Toward a Sustainable Future: 9.9%
Specific Competencies and Skills Tested in this Assessment

Government and Sustainability
• Recognize success and challenges of regulations
• Recognize policy successes and challenges
• Explain the cap and trade approach with regard to pollution markets
• Describe how political constraints on government action affect climate change
• Identify the problems of enforcement

Human’s Ecological Footprint
• Explain the ecological footprint concept
• Explain climate change and its causes
• Describe how the emergence of modern humans has affected the development of agriculture
• Explain population growth and carrying capacity
• Explain the Industrial Revolution

Introduction to Sustainability: Its Purposes, Challenges and Requirements
• Define sustainability
• Explain the importance of sustainability
• Explain the triple bottom line
• Recognize the myths and misconceptions about sustainability

New Technology and Innovative Sustainability Approaches
• Describe green building
• Define green jobs within the green economy
• Explain biomimicry as nature’s role model
• Describe the future of energy

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Specific Competencies and Skills (continued)

Primary Sustainability Issues: Energy, Food, Water, and Pollution
- Describe the central role of energy
- Identify industrial pollution and toxins
- Define sustainable agriculture
- Define sustainable water systems

Sustainable Development: The Social Challenges
- Describe sustainable development
- Describe global inequalities in all dimensions of sustainability
- Recognize sustainability, society, and social change
- Explain population growth, energy use, and sustainable development
- Maintain health and sustainability

The Economics of Sustainability
- Explain market failures and externalities
- Explain the importance of placing a value on nature
- Describe economic growth as a dominant global economic trend
- Explain how to create a sustainable economic system
- Describe the tragedy of the commons and free rider problem
- Define ecological economics
Specific Competencies and Skills (continued)

The Global Ecosystem
- Describe the importance of ecosystems
- Explain the role of biogeochemical cycles as part of the earth's system
- Describe sustainability as an integrated concept using the STEM application

The Importance of Biodiversity
- Identify the benefits of biodiversity to humans
- Define biodiversity as nature's risk management tool
- Describe the earth's biosphere and identify where life exists
- Identify biodiversity threats and protection strategies
- Explain how the biodiversity crisis is affecting tropical forests and oceans

Toward a Sustainable Future
- Explain sustainable design and cities
- Maintain an emerging sustainability mindset
- Recognize that organizations and new social media are promoting sustainability around the world
- Describe business sustainability initiatives and corporate social responsibility
- Recognize consumer choice and demand for sustainability
Sample Questions

How is energy use related to human population growth?
A. As more people are born, more energy is needed to recycle goods.
B. A greater population living in urban areas uses more energy
C. More people require more energy necessary to obtain and use resources.
D. Growing numbers of people are increasing the need for work.

What is the trend in sustainability for the future?
A. Sustainability is only a fad that is popular for awhile and then decrease when other interests and movements take its place.
B. Sustainability is decreasing in value as war, crime, and poverty increase around the world.
C. Sustainability is growing as a movement, as individuals, government, and businesses understand the need for change.
D. Only individuals are practicing sustainability as a grassroots movement that will have trouble surviving.

Greenhouse gasses are a primary byproduct of which of the following power source?
A. steam engines
B. wind power generation
C. fossil fuel combustion
D. hydroelectric

Where is most of the carbon found stored on our planet?
A. In the atmosphere
B. In the lithosphere
C. In greenhouses
D. In the ocean

Which of the following is a true statement about biodiversity?
A. All the organisms have now been identified and catalogued on the planet.
B. Biodiversity is important for the sustainability of ecosystems and human survival.
C. If cared for, all ecosystems on Earth support biodiversity equally.
D. More diverse ecosystems are under greater threat during a natural disaster.

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Sample Questions (continued)

Which of the following trends raises concerns about sustainable development?
A. The richest 1 percent control more than 40 percent of the global wealth.
B. The world’s population living below the poverty line declined from 52 percent to 26.
C. Overall global poverty is decreasing.
D. An increase in taxation and other economic controls.

Which of the following is a condition considered a market failure?
A. Goods and services are produced in a free competitive system.
B. Goods and services are consumed in a free competitive system.
C. Goods and services are produced with serious health risks and environment damage.
D. Goods and services are produced at a high cost to consumers.

How might government subsidies benefit sustainability?
A. Oil company subsidies encourage ways for people to conserve energy.
B. Renewable energy subsides support alternative energy research, business, and use.
C. Energy company subsidies provide support for finding new technologies to locate for fossil fuel re-serves.
D. Subsidies provide support for new offshore drilling companies.

What is legitimate reason why recycling is limited?
A. Recycled materials are downgraded and cannot replace the product of their origin.
B. Recycling bins are difficult to maintain and move.
C. Only a few items can be recycled that are used on a daily basis.
D. Few people want to spend the time recycling.

What approach can companies take to increase their profits, social responsibility, and environmental stewardship?
A. Increased environment protection compliance
B. Decision making based on the triple bottom line
C. Finding the cheapest resources available to support world economies.
D. Stronger ad campaigns for the green practices of the company.