# Moocs on Sustainability



## Introduction to Sustainable Development (Coursera)

The course gives students an understanding of the key challenges and pathways to sustainable development - that is, economic development that is also socially inclusive and environmentally sustainable.

Sustainable development is a central concept for our age. It is both a way of understanding the world and a method for solving global problems.

The world we've seen is divided – startlingly so – with 55 high-income economies (1.3 billion people), 103 middle-income countries (4.9 billion people), and 36 low-income countries (0.8 billion people). How did these vast differences across the world come about? How is it that there are countries like the United States at more than $50,000 dollars per person per year of income, and countries like Niger at under $500 dollars per person per year, less than 100th the income levels of the high-income countries when measured at market exchange rates? This huge gap certainly did not exist two centuries ago.

To achieve sustainable development, countries need to achieve three goals simultaneously: economic growth, broad-based social inclusion, and environmental sustainability. While many countries have "solved" the growth puzzles, few have succeeded in achieving all three aspects of sustainable development.

https://www.coursera.org/learn/sustainabledevelopment1/outline

## Understanding Soil (Allversity)

Soil is the skin of the earth. It begins as rock that is broken down by plants, animals, and the elements; it blends with other materials, and becomes the foundation of our the forests, grasslands and fields. In this course we will explore how soil works and what makes it possible for plants to grow in soil at all.

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The course is structurred to educate about different aspects of soil management. It starts with how the soil is formed, what is it composed of as well as about different types of soil. After that learners will get information about connections between society and soil, about the history and present state of agriculture and about the global threats to soil. The last part of the course teaches how to take care of and protect soil for a more sustainable future.

http://www.allversity.org/courses/understanding-soil

## Introduction to Sustainability (Coursera) (19.1.2015)

This course introduces the academic discipline of sustainability and explores how today's human societies can endure in the face of global change, ecosystem degradation and resource limitations.

This course introduces the academic approach of Sustainability and explores how today's human societies can endure in the face of global change, ecosystem degradation and resource limitations. The course focuses on key knowledge areas of sustainability theory and practice, including population, ecosystems, global change, energy, agriculture, water, environmental economics and policy, ethics, and cultural history.

This subject is of vital importance, seeking as it does to uncover the principles of the long-term welfare of all the peoples of the planet. As sustainability is a cross-disciplinary field of study, this foundation requires intellectual breadth: as I describe it in the class text, understanding our motivations requires the humanities, measuring the challenges of sustainability requires knowledge of the sciences (both natural and social), and building

solutions requires technical insight into systems (such as provided by engineering, planning, and management).

https://www.coursera.org/course/sustain

## Tackling the Global Food Crisis: Sustainable Agri-food Systems (FutureLearn) (5.1.2015)

This course looks at food insecurity and the challenges to be overcome in order to maintain healthy and sustainable food supplies.

This is the second course in a two part series by Queen's University Belfast looking at issues concerning the maintenance and enhancement of global food supplies whilst improving human wellbeing in the developed and developing world. This course will focus on threats to global food security and challenges which need to be overcome in order to maintain healthy and sustainable food supplies.

The course will begin by looking at global food insecurity and the potential consequences for human health. Examining links between food insecurity and the rising tide of metabolic and neurodegenerative diseases around the globe, it will demonstrate how the issue is particularly relevant in the developed world. It will continue on to examine threats to global food security posed by parasites which undermine the health of animals and plants, damaging food production systems globally. Having considered threats to global food security the course will look at approaches to sustaining healthy agri-food systems such as the benefits of applied genetics for fisheries management and aquaculture. The course will conclude by considering societal concerns around animal welfare as pressure builds to increase production intensity whilst reducing greenhouse gas emissions.

Using cutting edge research undertaken by the Institute of Global Food Security (IGFS) the course will illustrate how aspects of the global food crisis might be addressed in order to sustain and manage healthy food systems into the future.

https://www.futurelearn.com/courses/agrifood

## Water in a Thirsty World (Open2Study)(5.1.2015)

This subject explores the world of water management on a drying planet.

In this subject you will take the journey of water - how it began, and its availability today in light of global warming and urbanization.

You will see that the natural environment is reaching a threshold, and the impact that has for us and the water supplies that we rely on. We will answer the questions -what are organisations and policy makers doing to secure our water future? How is society working together towards climate resilience?

We'll look at examples from around the world, learn about a vast range of technologies like desalination, and you'll understand what's involved in sustainable thinking and decision making. We'll also explore the world of wastewater, and how its treatment is vital to the protection of health and the environment; and how wastewater can be recycled into pure drinking water.

What will you learn?

- The water cycle and the impact that climate change is having on our water sources

- The natural processes that cleanse wastewater

- The water sources and infrastructure a society needs to grow

- The wastewater treatment process, and how treated wastewater is managed

- How sustainability and community engagement is incorporated into water planning

- What desalination is and how it works

- What is involve in the processes of Ground Water Replenishment and Managed Aquifer Recharge

- How wastewater is recycled and reused

- The issues presented by ongoing reliance on dams as a water supply, and some creative solutions to them

- Water issues around the world through examples from Israel and Palestine, China, Vietnam, Thailand, India and sub-Saharan Africa

https://www.open2study.com/courses/water-in-a-thirsty-world

## Growing our Future Food: Crops (edX) (14.1.2015)

How to feed the world without exhausting planetary reserves? – understand the basics of crop production and explore the opportunities.

Feeding nine billion in 2050 without exhausting the planetary reserves is perhaps the greatest challenge mankind has ever faced. The principles of production ecology form the fundament to the 'availability pillar' of Global Food Security and with that lie at the heart of food production. They can be applied to both crops and animal production. This course on the basics of crop production will discuss why yields in some parts of the world are lagging behind and identify the agro-ecological drivers that shape the wide diversity of production systems. Furthermore, key issues relating to bridging of yield gaps and how these link to different visions of sustainability will be explored

This online course will be of great interest to international students and educated public from different backgrounds, both professionally and culturally, to enrich their views and action perspectives related to global food security and food systems. Prof. Ken E. Giller will introduce you to crop production and underlying bio-physical principles in order to identify constraining factors in yield formation. He will explain how to assess yield gaps at the level of fields and production systems around the world, contributing to efficient resource management. Wageningen University and Research, through its unique systems-based approach to food systems, adds the phase of primary production to the broad context of global food security.

https://www.edx.org/course/growing-future-food-crops-wageningenx-gffcx#.VMY4Vi6G_mO

## Greening the Economy: Lessons from Scandinavia (Coursera) (19.1.2015)

How can we live a good life on one planet with over seven billion people? This course addresses sustainability, climate change and how to combine economic development with a healthy environment. We will explore how individual choices, business strategies, sustainable cities and national policies can promote a greener economy.

This course will explore greening the economy on four levels – individual, business, city, and nation. We will look at the relationships between these levels and give many practical examples of the complexities and solutions across the levels. Scandinavia, a pioneering place

advancing sustainability and combating climate change, is a unique starting point for learning about greening the economy. We will learn from many initiatives attempted in Scandinavia since the 1970s, which are all potentially helpful and useful for other countries and contexts

The International Institute for Industrial Environmental Economics (IIIEE) at Lund University is an international centre of excellence on strategies for sustainable solutions. The IIIEE is ideally suited to understand and explain the interdisciplinary issues in green economies utilising the diverse disciplinary backgrounds of its international staff. The IIIEE has been researching and teaching on sustainability and greener economies since the 1990s and it has extensive international networks connecting with a variety of organizations.

https://www.coursera.org/course/greeningtheeconomy