Sustainable Food Security: The Value of Systems Thinking

Course Syllabus

https://courses.edx.org/courses/course-v1:WageningenX+FFESx+3T2019/course/

Topic

Your daily food choices do not only affect your health, but also have an impact on our planet. For example, how much land, energy and nutrients are needed to produce various foods? And which pollutants are emitted to the air and water while producing these foods? To address such issues, you need to understand the complexity of food production systems and to be able to critically evaluate their environmental sustainability. In this course you will learn to apply the principles of systems thinking to food production systems, particularly in relation to their environmental impact. This knowledge is essential if you wish to engage yourself in developing environmental friendly food production.

Learning Outcomes

After successful completion of this course a student is expected to be able to:

- Understand the complexity and diversity of food production systems Use a systems approach in the context of food production systems
- Understand the principles of system analysis and how it can be applied in the context of food production systems
- Understand evaluation methods for environmental impact of food production systems in different agro-ecological and socio-economic contexts and at different levels (e.g. farm, regional and global)
- Evaluate strong and weak points of different food production systems in terms of environmental sustainability

Level & Prerequisites

The level of the course is introductory. The prerequisites are secondary school or a first/second year BSc.

Time Commitment

The course consists of 6 weekly modules, with an average effort of 8 to 10 hours studying per week.

Course Structure

Module 1: Complexity of sustainable food production systems
Module 2: Introduction to systems thinking
Module 3: Productivity indicators of food production systems
Module 4: Environmental indicators of food production systems
Module 5: Trade-offs between sustainability indicators Module
Module 6: Integration module with two case studies

Course Calendar

EVENT	DATE	TIME*
Opening course	3 September 2019	0:00 UTC
Submit final exam module 8	12 December 2019	23:00 UTC
Module exams modules 1 - 8	26 December 2019	23:00 UTC
Review peers in final exam module 8		
Closing course		

* Please be aware that these are UTC times; check when this is for your time zone.

Grading Policy

To earn a certificate at the end of this MOOC you need to score a grade of at least 60% on the module exams and final report. Together, the module exams are worth 80% of your final grade, and the final report and peergrading are worth 20%.

Assignment	Weight
Assignments for grading module 1	10%
Assignments for grading module 2	15%
Assignments for grading module 3	15%
Assignments for grading module 4	15%
Assignments for grading module 5	15%
Assignments for grading module 6	10%
Final exam module 6	20%

Differences between Audit and Verified Track

The course offers two possibilities: an audit track and a verified learner track. The audit track comprises most of the course but also lacks important information. In every module there is content that is only available to verified learners. The verified track provides the complete course and the full experience. Below you see the differences, per module for audit and verified learners.

Topic / activity	Module	Available in audit track (free)	Available in verified track (paid)
Introduction to the Course	0	✓	✓
Complexity of Sustainable Food Production Systems	1	✓	✓
Systems Thinking	2	✓	✓
Analysis and Comparison of Productivity of Food Production Systems	3	✓	✓
Identification and Comparison of Environmental Issues of Food Production Systems	4	✓	✓
Assessment of Environmental Sustainability Through Indicators	5	✓	✓
Evaluation of Environmental Performance of Different Food Production Systems	6	✓	✓
Assignment for grading (graded)	1 to 6	✘	✓
Peer Review (graded)	6	✘	✓
Certificate (if you receive a passing grade)	N/A	✘	✓

If you are looking for some basics about sustainable food security, we welcome you in the audit track. However we encourage everyone who want to use this course for a career enhancement and who's looking for more in-depth knowledge about sustainable food security, to upgrade to the verified track to get access to all course materials.

Academic Policy

We expect each student to complete the section exams on their own, not in collaboration with other students. In addition, the submitted report in module 6 should be your own written work, not the result of collaboration with other students or written by someone else.

Discussion Forum Participation

As a student of this course you are part of a diverse learning community that is at the heart of a meaningful learning experience. The discussion forum is an essential part of this online course. In many assignments, you are asked to discuss your findings on the forum with other learners. Moderators are participating in the forum to help in the learning community. Their role is to help facilitate an effective dialogue and support the forum guidelines. You will see comments from them in topic threads, and get messages directly from them if they have moved your post to a more appropriate thread. There are a few things to consider when posting on the discussion forum:

- *Read before posting.* If you have a question, scan through to see if it's already been addressed and use the search function to avoid creating duplicate threads and find the most appropriate topic thread to post in.

- *Use informative titles.* Keep your post titles short and on-topic so the forums are easier to navigate. If you're asking a question, it should go in the title.

- *Make it easy to read.* Present facts and background in your post. Don't capitalize or bold entire sentences since this makes the forums harder to read. Check your posts for spelling or grammatical errors.

- *Stay on topic.* Don't change the topic of a thread or split a thread into multiple discussions. And please, don't post the same post/question in more than one forum.

- *Help keep the site friendly.* If you think a post or comment is mean, insulting, too violent, or otherwise inappropriate, click "Report" to let us know about it.