

# Masaryk University

## Lectures in *Framework for sustainability*

**Course Description:** This course investigates the concept of sustainability from first principles of energetics and system sciences. It deals with the ecological, physical, economic, social, and moral dimensions of sustainability.

### **Course Goals:**

1. To provide students with a basic understanding of sustainability and the sustainable development goals.
2. To provide pertinent information about ecosystem functioning and services and how they interact with human society.
3. To explore the concept of sustainability and how it relates to the students' everyday life.

**Learning Outcomes:** Students will be able to:

1. Identify and understand the 17 SDGs and tradeoffs among them.
2. Learn a systems approach to interpreting socio-ecological processes and relationships
3. Know the difference between growth and development and the planetary boundary limitations
4. Apply ecological principles to social systems
5. Write a scientific essay on a current issue regarding Sustainability
6. Learn to take an interdisciplinary perspective in problem solving, and
7. Recognize features of sustainable systems in various disciplines

### **Readings:**

Fiscus DA and Fath BD. 2018. *Foundations for Sustainability: Coherent framework for Life-Environment Relations*. Elsevier.

### **Format:**

Arranged in 12 90-minute blocks. Each session will begin with a ~30 minute overview of the topic, followed by 20 minute exercise, and 40 minute discussion. Students are expected to come to class prepared with the reading material and ready to discuss with an open and curious mind.

### **Grading:**

Paper	50
In class exercises	50
Discussion	50
Group discussion lead	50
Final Exam	100
Total	300

**Outline:**

Thursday 22. 9. 14:00-17:40, room M117

- Lecture 1: Introduction to sustainability and the Sustainable Development Goals.
- Lecture 2: Ways of valuing the environment. Introduction of cultural theory and ecosystem services

Thursday 6. 10. 14:00-17:40, room M117

- Lecture 3: Limits to Growth, planetary boundaries, Flourishing overview
- Lecture 4: Foundations for Sustainability (FfS) – Chapter 1 systems thinking and win-win

Thursday 20. 10. 14:00-17:40, room M117

- Lecture 5: FfS – Chapter 2 Ecologic metaphysics
- Lecture 6: FfS – Chapter 3 mutualism

**Paper topic due**

Thursday 3.11. 14:00-17:40, room M117

- Lecture 7: FfS – Chapter 4 – origins of life
- Lecture 8: FfS – Chapter 5 – reforming reductionism

Thursday 24.11. 14:00–17:40, room U32

- Lecture 9: FfS – Chapter 6 – networks.
- Lecture 10: FfS – Chapter 7 – Rosen.

Thursday 1. 12. 14:00-17:40, room M117

- Lecture 11: FfS – Chapter 8 – applications
- Lecture 12: FfS – Chapter 9 – Sustainability for all

**Paper due**