

# Lectures in *Framework for Sustainability*

Visiting Professor Brian D. Fath  
Fulbright Distinguished Chair in Social Studies, Masaryk University

**Course Description:** This graduate-level course investigates the concept of sustainability from first principles of energetics and ecology applied to socio-economic systems. 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. Explore new paradigms that move away from an objectivist mental model of the world as machine to an organic, life-driven perspective

**Reading:**

Fiscus DA and Fath BD. 2019. *Foundations for Sustainability: Coherent framework for Life-Environment Relations*. Elsevier.

**Grading Policy:** Course grade will be based on the combined total from paper, attendance, exercises, discussion, and exam. The final exam will be comprehensive, covering all class activities, discussions, lectures, and readings.

**Grade evaluation (points available):**

Paper	100
Exercises	50
Discussion	100
<u>Final Exam</u>	<u>150</u>
Total	400

**Format:**

Arranged in 10 90-minute blocks. Each session will begin with a 30 minute overview and summary of the topic/reading, 20 minute exercise, and 40 minute discussion. Students are expected to come to class prepared and ready to discuss with an open and curious mind.

**Outline:**

Thursday 26. 9. 14:00–15:40, room nr. P31

Lecture 1: Introduction to sustainability and the Sustainable Development Goals.

Exercise: students investigate one SDG in pairs, then look for overlaps and synergies

Thursday 10. 10. 14:00–15:40, room nr. P31

Lecture 2: Ways of valuing the environment. Introduction of cultural theory and ecosystem services

Exercise: recognizing diversity of opinions, choose the opposite side in discussion

Thursday 17. 10. 16:00–17:40, room AVC

Lecture 3: Limits to Growth, planetary boundaries, Flourishing overview

Exercise: identify ways we exceed limits, ways we are under limits

Thursday 24. 10. 14:00–15:40, room nr. P21

Lecture 4: Foundations for Sustainability – Chapter 1 systems thinking and win-win

Exercise: systems thinking games, bathtub models

Thursday 31. 10. 14:00–15:40, room nr. P31

Lecture 5: Foundations for Sustainability – Chapter 2 Ecologic metaphysics

Exercise: thinking outside the box: view of life from a bug's perspective

Thursday 7. 11. 14:00–15:40, room nr. P31

Lecture 6: Foundations for Sustainability – Chapter 3 mutualism

Exercise: communicating science to the general public

Thursday 14. 11. 14:00–15:40, room nr. P31

Lecture 7: Foundations for Sustainability – Chapter 4 (origins of life)– 5 reforming reductionism

Exercise: follow the money (or other natural currency) through the system

Thursday 21. 11. 14:00–15:40, room nr. U44

Lecture 8: Foundations for Sustainability – Chapters 6 – networks

Exercise: basic network models reveal synergism and mutualism

Tuesday 26.11., 8.00 - 9.40, room nr. U35

Lecture 9: Foundations for Sustainability – Chapters 7 – Rosen

Exercise: applications in your daily lives and in the Moravian landscapes

Thursday 28. 11. 14:00–15:40, room nr. P31

Lecture 10: Foundations for Sustainability – Chapters 8-9 – applications & Sustainability for all

Exercise: Czech path to SDGs

Thursday 5. 12. 16:00–17:40, room nr. P31

No class

Final Exam: To be scheduled, most likely on December 12 at our normal time.