

Syllabus for SMGT 220 Systems Thinking

Course Description

This course introduces students to systems thinking, systems modeling techniques, and how these are used in addressing sustainability. Systems thinking aids in understanding the complexity and interconnectedness that makes many real-life situations difficult to manage. It is about understanding an issue by analyzing the whole, rather than the parts. It acknowledges that, as parts interact, their combined output can be both synergistic and emergent, making analysis of the parts independently insufficient for addressing sustainability.

Course Learning Objectives

- Understand the philosophical weaknesses of linear, reductionist, cause-and-effect thinking and the shortcomings of using one, or more, of these approaches for problem solving in a complex society.
- Identify systems within the issues addressed in work and life situations.
- Ascertain when and why systems thinking should be applied in certain settings.
- Understand causal loop diagrams, behavior over time graphs, and stock and flow diagrams and use these models to understand system dynamics.
- Demonstrate, through modeling, the impacts of feedback, time delays, and stocks and flows in systems.
- Identify recurring archetypes that occur in systems.
- Determine leverage points for intervening in systems.
- Understand and identify systems traps.
- Understand and apply systems thinking to address sustainability issues.

Course Materials

Information on course materials can be found in the [textbook section](#) of the SMGT website.

Course Requirements

Each week students will read assigned literature and will then watch an introductory video and one or more lecture videos. Learning exercises will require students to apply the concepts, taught in the readings and lectures, to real world situations, usually ones chosen from the students' actual life experiences. Students will be engaged in an asynchronous, online discussion of course content throughout the semester.

This is a course that builds consecutively on ideas and concepts over the course of the semester, thus there is a requirement that all assignments and discussions are submitted in order to understand the units that follow and gain a thorough understanding of systems thinking. Work must be submitted by the due date in order to receive full credit for the assignments. Late assignments will be accepted without penalty if a legitimate excuse is provided in a timely fashion (preferably submitted in advance) to the instructor. Hardships such as family emergencies, hospitalization/medical treatment, or other extreme circumstances will be considered as a legitimate excuse for late work submittal. The final decision regarding the acceptance of late work will be up to the discretion of the instructor. Assignments that are submitted late that do not meet these criteria will be penalized 10% per day late.

Grading Policy

Assignments	290
Discussions	110
Final exam	100
Total Points Possible	500

A	94 - 100%
A-	89 - 93%
B+	84 - 88%
B	79 - 83%
B-	74 - 78%
C+	69 - 73%
C	64 - 68%
C-	59 - 63%
D+	54 - 58%
D	49 - 53%
D-	44 - 48%
F	< 43 %