

END4400 System Dynamics

2020/2021 – Spring Semester

Instructor: Assist. Prof. Mert Edalı

Office: V205

Email: medali@yildiz.edu.tr

Web: avesis.yildiz.edu.tr/medali (Check regularly for updates and announcements!)

Office Hours: TBA

Course Assistant: N/A

Textbook: No textbook for now.

References:

1. Barlas, Y. “System Dynamics: Systemic Feedback Modeling for Policy Analysis” in Knowledge for Sustainable Development - An Insight into the Encyclopedia of Life Support Systems, UNESCO-EOLSS Publishers, Paris, Oxford, UK. 2002, pp.1131-1175. [Link](#)
2. Sterman, J. Business Dynamics. Systems Thinking and Modeling for a Complex World. McGraw-Hill, U.S.A., 2000.
3. Vensim User’s Guide. [Link](#)

Course Objectives:

- To teach basics of system dynamics
- To teach the existing system dynamics models and their behaviors
- To teach the use of a system dynamics simulation software

Tentative Course Schedule¹:

Week	Date	Topics
1	9.03	Introduction and Basic Concepts
2	16.03	The Modeling Process
3	23.03	Structure and Behavior of Dynamic Systems
4	30.03	Structure and Behavior of Dynamic Systems
5	6.04	System Dynamics Software (Vensim)
6	13.04	Tools for Systems Thinking
7	20.04	Structure and Behavior of Dynamic Systems
8	27.04	Midterm
9	4.05	Structure and Behavior of Dynamic Systems
10	11.05	Modeling S-Shaped Growth
11	18.05	Modeling S-Shaped Growth
12	25.05	Instability and Oscillations
13	1.06	Model Testing
14	8.06	Wrap Up

¹ Course schedule is subject to change. Check the Avesis webpage regularly!

Course Evaluation:

- Midterm: 60%
- Homeworks: 0%
- Final: 40%

Policies/Rules:

- All exams will be closed-book and closed-notes.
- [Students only with accepted excuses will be eligible for a makeup exam either for the midterm exam.](#)
- No makeup for the final exam!
- I will not revise your scores to make you eligible for the resit exam!
- Any academic dishonesty will be handled according to the university rules. [Please check the exam policy of the university.](#)