

Course PM FMF3035 – System thinking and modelling of complex dynamic systems

In the course, we will use a flipped classroom approach where there is literature to read and assignments to fulfill before the sessions. The course meetings will primarily be used to discuss the literature and the assignments.

The course consists of four modules and a project.

Each module consist of four parts:

1. One **introduction** to the material during a class meeting,
2. One **home assignment**, including both readings and exercises to be done
3. One **workshop session** on the assignment, with the opportunity to discuss the assignment or additional theory with teacher and peers.
4. One **feedback session**, where the course participants review each other's work, and provide written feedback to each other.

In the project, the student defines a problem (preferably related to his/her research), and applies the skills learnt during the course to build a system dynamics model to explore the problem and communicate the results to a (hypothetical) problem owner.

The requirements to pass the course are:

- The student should pass all four assignments
- The student should have provided feedback to a peer on each of the four assignments.
- The project needs to be passed.
- The student should have provided peer-feedback one project assignment
- The student should attend at least 80% of the seminars. The project presentation seminar is mandatory.

In the course we will use the software Vensim to build system dynamics models.
All assignments should be uploaded in the course folder at OneDrive.

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Schedule for FMF3035 – spring 2023

Date	Content	Type
17/3 13-15	Introduction to the course Introduction Module 1: Fundamental concepts & System Dynamics Modelling	Seminar @ITRL
24/3 13-15	Workshop session on Module 1	workshop
31/4 13-15	Feedback session on Module 1 Introduction to Module 2: Exponential Growth , Path dependency	Seminar @ITRL
5/4 (Onsdag)	Workshop session on Module 2	workshop
14/4 13-15	Feedback session on Module 2 Introduction to Module 3: Equations, states, and stability	Seminar @ITRL (Jonas M)
21/4 13-15	Workshop session on Module 3	Workshop
28/4 13-15	Feedback Session on Module 3 Introduction to Module 4: Mental models, Using the model, Validation and Communication	Seminar @ITRL
5/5 13-15	Workshop session Module 4	Workshop
12/5 13-15	Feedback Session on Module 4 Seminar: Using SD in research	Seminar @ITRL
19/5	Kristi himmelfärd	
26/5 13-15	Workshop session on project assignment	Workshop
2/6	Project hand-in	Deadline
9/6 13-15	Project presentations + reviewer questions	Mandatory seminar @ITRL
16/6	Hand-in project peer-reviews	Deadline