**MAK3071 System Dynamics and Simulation Group (1)**

**SYLLABUS**

**Semester**: Fall (1st) 2020-2021

**Lecture**: Monday, 11.00 – 13:00, A405

**Instructor**: Dr. İlkay KURT

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**Google Classroom Webpage:** h7kzu3j

**Textbook**: System Dynamics, 4th Edition, Katsuhiko Ogata

**Weekly Subjects**

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| **Week** | **Subject** | **Related Preparation** |
| 1 | Introduction to System Dynamics / The Laplace Transform | Chapters 1 and 2 |
| 2 | The Laplace Transform | Chapter 2 |
| 3 | Mechanical Systems | Chapter 3 |
| 4 | Transfer-Function Approach to Modeling Dynamic Systems | Chapter 4 |
| 5 | Transfer-Function Approach to Modeling Dynamic Systems | Chapter 4 |
| 6 | State-Space Approach to Modeling Dynamic Systems | Chapter 5 |
| 7 | State-Space Approach to Modeling Dynamic Systems | Chapter 5 |
| 8 | Midterm Exam |  |
| 9 | State-Space Approach to Modeling Dynamic Systems | Chapter 5 |
| 10 | Time-Domain Analysis of Dynamic Systems | Chapter 8 |
| 11 | Time-Domain Analysis of Dynamic Systems | Chapter 8 |
| 12 | Frequency-Domain Analysis of Dynamic Systems | Chapter 9 |
| 13 | Frequency -Domain Analysis of Dynamic Systems | Chapter 9 |
| 14 | Frequency -Domain Analysis of Dynamic Systems | Chapter 9 |
| 15 | Final Exam |  |

**Evaluation System**

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| **Activities** | **Percentage of Grade** |
| Homework Assignments | 30 |
| Midterm Exams | 30 |
| Final Exam | 40 |
| Total | 100 |

**Additional information**:

* 70 % participation of lectures is mandatory. However, full attendance is expected since all classes are linked to each other.
* Each homework assignments need to be submitted before the next class.
* Taking notes is optional. However, only your handwritten notes are allowed in exams.