Full Syllabus

Course Title

Design of Experiments (DOE)

Lecturer

Dr. Pavel Grabov

Semester

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Course requirements

Final grade components

Course schedule

Class no. / Date	Subject and Requirements (assignments, reading materials, tasks, etc.)
1	Introduction to Design of Experiments: objectives, principles, strategy
2	Introduction to Design of Experiments (cont'd): stages, procedures and tools
3	Basics of ANOVA (Analysis of Variances): assumptions, equations, ANOVA table
4	Full Factorial Design: principles, Orthogonal Tables for experiments planning
5	Full Factorial Design (cont'd): ANOVA, Model Setting, Sensitivity Analysis
6	Full Factorial Design (cont'd): Center Points, ANOM (Analysis of Means)
7	Fractional Factorial Design: principles, Yates procedure for experiments planning
8	Fractional Factorial Design (cont'd): ANOVA, design resolution, saturated design
9	Multitasking (Several Response Variables), Desirability Functions
10	Robust Design: objectives, principles, strategy
11	Robust Design (cont'd): procedures, Signal-to-Noise calculations, case studies
12	Nested Design: objectives, principles, ANOVA
13	Optimization Experiments: objectives, principles, strategy, procedure.

Required course reading

Douglas Montgomery, Design and Analysis of Experiments, 8th Edition

Optional course reading

Comments