

Course Name:

Optimal Design of Structures

Course Number: 20-195	Credit: 3
Program: Graduate	Course Type: Technical Selective
Prerequisite: -	Corequisite: -

Course Description (Objectives):

The main goal of the Structural Analysis course is to optimize the design of structures using mathematical models and computer software. This knowledge helps engineers reduce costs, decrease the weight of structures, and enhance their safety and stability.

Course Content (outline):

- Chapter 1: Basic Definitions of Optimization
- Chapter 2: Linear Programming
- Chapter 3: Unconstrained Optimization
- Chapter 4: Constrained Optimization
- Chapter 5: Optimization Using Sequential Approximations
- Chapter 6: Application of Optimization in Structures

References:

- Krish, Uri.Optimal Structural Design, MacGraw-Hill, 1981.
- Haftka, Raphael T.and Gurdal, Zafer. Elements of Structural Optimization, Kluwer Academic Publishers, 1992.
- Christensen, Peter W. and Klarbring, Anders. An Introduction to Structural Optimization, Springer, 2009.