Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
IND 690	Research Topics in IE & OR	2	3	0	0	3	8

Prerequisites	
Admission Requirements	

Language of Instruction	English
Course Type	Compulsory
Course Level	Doctoral Degree
Objective	The objective of the course is to encourage student to explore various research areas of industrial engineering and operations research. Recently published research papers are discussed and contemporary research fields of industrial engineering and operations research are identified.
Content	- Theory building - Quantitative approach - Qualitative approach - Case studies - Data collection methods - Revised simplex method - Dual simplex method - Bounded variables technique - Formulating integer programming problems - Classification of multi-criteria decision making solutions and models - Discussion on the status of multi-criteria decision making theory and practice - Contemporary methods for investment evaluation and justification. Real options. - Discussion on product development and process management
References	

Theory Topics

Week	Weekly Contents
1	Ethics in science and engineering.
2	Theory building. Quantitative approach; Qualitative approach.
3	Case studies.
4	Data collection methods.
5	Revised simplex method.
6	Dual simplex method.
7	Bounded variables technique.
8	Formulating integer programming problems.
9	Classification of multi-criteria decision making solutions and models.
10	Discussion on the status of multi-criteria decision making theory and practice.
11	Contemporary methods for investment evaluation and justification, Real options.
12	Discussion on product development and process management.
13	Presentation of Project 1.
14	Presentation of Project 2.