



University of Tehran
School of Electrical and Computer Engineering

Course:	8101117 – Power System Planning		
Course type:	Elective	EE*	Credit: 3
Level:	Graduate		
Co-requisite(s):			
Prerequisite(s):	Power System Analysis I		
Prerequisite by topic:	Power Flow Studies – Transmission System Modeling		
Textbook(s):	[1] X. Wang and J.R. McDonald, Modern Power System Planning. McGraw-Hill, 1994.		
Coordinator:	Farrokh Aminifar		
Goals:	To be familiar with power generation expansion planning and power transmission expansion planning in both conventional and restructured power systems.		
Outcome:	Be able to 1. Forecast power system future power and energy demand 2. Prepare component models required for planning studies 3. Conduct power generation expansion planning studies 4. Conduct power transmission expansion planning studies		
Topics:	1- Introduction to power system, operation, scheduling, and planning 2- Load forecasting techniques 3- Power system reliability concepts and fundamental techniques 4- Production costing 5- Fundamental economic analysis 6- Generation expansion planning 7- Benders decomposition 8- Generation expansion and retirement planning 9- Transmission expansion planning		
Computer usage:	MATLAB, GAMS, and SPSS		
Assignments:	4 HWs		
Projects:	1 Project		
Grading:	<ul style="list-style-type: none"> • Final exam 60% • Homeworks 20% • Project 20% 		
Further readings:	[1] Harry G. Stoll, Least-Cost Electric Utility Planning. 1989. [2] H. Seifi and M. S. Sepasian, Electric Power System Planning: Issues, Algorithms and Solutions. Springer, 2011.		
Prepared by:	Farrokh Aminifar		
Date:	Sept. 14, 2017		

*EE: Electrical Engineering CE: Computer Engineering IT: Information Technology