



University of Tehran
School of Electrical and Computer Engineering

Course:	8101? – Electrical Power Distribution Systems		
Course type:	Elective	EE*	Credit: 3
Level:	Graduate		
Co-requisite(s):	-		
Prerequisite(s):	Power System Analysis		
Prerequisite by topic:	Knowledge of fundamentals of Power Systems		
Textbook(s):	[1] Electric Power Distribution System Engineering, 2nd Edition by Turan Gonen; CRC Press, 2007;		
Coordinator:	Afsharnia, Saeed		
Goals:	Students will learn the planning, design, analysis and operational concepts of the distribution system, including considerations of voltage regulation and application of distributed generation and smart grid technology.		
Outcome:	Students will be able to plan, model, study, and design distribution systems and associated equipment and devices.		
Topics:	<ol style="list-style-type: none"> 1- Distribution System Planning and Automation 2- Load Characteristics 3- Application of Distribution Transformers 4- Design of Subtransmission Lines and Distribution Substations 5- Design Considerations of Primary Systems 6- Design Considerations of Secondary Systems 7- Voltage Drop and Power Loss Calculations 8- Application of Capacitors to Distribution Systems 9- Distribution System Voltage Regulation 10- Distribution power flow analysis 11- Distributed Generation 12- Introduction to Distribution Automation 		
Computer usage:	Matlab Simulink, Digsilent		
Assignments:	-		

Projects:	One research project
Grading:	final examination 60% research project 40%
Further readings:	[1] W. Kersting, "Distribution System Modeling and Analysis", CRC Press, 2nd Ed.. [2] J. Grainger and W. Stevenson, "Power System Analysis", McGraw Hill, New York NY, 1994.
Prepared by:	Afsharnia, Saeed
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*EE: Electrical Engineering CE: Computer Engineering IT: Information Technology