



University of Tehran
School of Electrical and Computer Engineering

Course:	Power Quality		
Course type:		EE*	Credit: 3
Level:	Graduate		
Co-requisite(s):			
Prerequisite(s):	Industrial Electronics		
Prerequisite by topic:			
Textbook(s):	<ul style="list-style-type: none"> • G. T. Heydt, Electric Power Quality, 1991. • R.C. Dugan, Electric Power System Quality, 2000. • E. Acha, Power System Harmonics, 2002. • M.H. Bollen, Understanding Power Quality Problems, 2000. • M.H. Bollen, Signal Processing of Power Quality Disturbances, IEEE Press, 2007. 		
Coordinator:	Mohsen Hamzeh		
Goals:	<ol style="list-style-type: none"> 1. Introducing the basic definitions of power quality 2. Introducing the power concepts in polluted systems 3. Introducing the power quality disturbance origins 4. Introducing the harmonic modeling of power system components 5. Introducing the concept of passive and active filters 6. Processing of PQ Signals 		
Outcome:	<ol style="list-style-type: none"> 1. Power concepts in polluted systems 2. Design of passive and active filters 3. Harmonic modeling of power system components 4. Processing of PQ Signals 		
Topics:	<ol style="list-style-type: none"> 1- Power Quality (PQ) Basic Definitions 2- Power Quality standards 3- Power Concepts in Polluted Systems 4- Power Quality Disturbance Origins 5- Voltage Sags/Swells 6- Harmonics 7- Passive and active Filter 8- Processing of Stationary PQ Signals 9- Processing of Non-Stationary PQ Signals 		
Computer usage:	Matlab-Simulink, Pscad		

Assignments:	Four assignments
Projects:	One Final project
Grading:	Exercises and final project: 30% Midterm and Final exam: 70%
Further readings:	
Prepared by:	Mohsen Hamzeh
Date:	Nov 4, 2017

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