

Schedule

Week	Computer program Online	Theory In class	
1	Basic concepts (session not in lab)	Solving a line	Overhead lines
2	Voltages in a line (Matlab)	Admittance matrix	Conductors
3	Admittance matrix (Matlab)	The load flow problem	Corona effect
4	The load flow problem (Matlab)	Newton-Raphson method	Overvoltages
5	Newton-Raphson method (Matlab)	Modified Newton-Raphson methods	Insulators
6	Modified Newton-Raphson methods (Matlab)	Power dispatch	Substations
7	Power dispatch (PSS/E)	Non-synchronous generation	Switching devices
8	Non-synchronous generation (PSS/E)	Voltage control in a transmission system	Protections
9	Voltage control in a transmission system (PSS/E)	Voltage control in a distribution system	Frequency control I
10	Voltage control in a distribution system (PSS/E)	Voltage stability	Frequency control II
11	Voltage stability (PSS/E)	Contingency analysis	Demand management
12	Contingency analysis (PSS/E)	Short-circuits	Power quality
13	Short-circuits (PSS/E)	Transient stability	Electric vehicle
14	Transient stability (PSS/E)		Smart grid