Course description: The course is on the study of modern electrical energy networks with the thesis that they are becoming an increasingly integral and critical component of the changing energy landscape. It initially provides traditional basics on power systems and networks. It then moves on to recently developed abstractions and methods that account for the relatively newer issues including the integration of renewable sources and distributed generation, active customer participation, and role of information systems. A particular emphasis will be on the tight integration between the electrical energy infrastructure and other infrastructure systems.

Course style: Project oriented. The students are expected and will be guided to deeply explore a research direction related to the topics covered in the course. Grading is based on students’ performance in periodic project updates and final project report.

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