

Francesco Muzi

Programme of “Impianti elettrici” “Electrical Power Systems”		
Number of ECTS credits: 9 (workload is 90 hours of teaching + work at home; 1 credit = 25 hours)		
Code I0636 2st Cycle in ELECTRICAL ENGINEERING, 1rd year, 1rd semester Teacher: prof. Francesco Muzi		
1	Course objectives and Learning outcomes	<p>The course is of applicative character and it primarily aims to provide the motivations, definitions and techniques for an effective approach on the study of power systems. Particular attention is paid to issues involving HV transmission systems both in steady state and in transients conditions.</p> <p>At the end of the course, the student will have sufficient knowledge in order to size, design and manage HV transmission, interconnected systems.</p>
2	Course content and Learning outcomes (Dublin descriptors)	<p>Topics of the module include: Primary line constants definition and calculation, Power flows formulation and calculation, Voltage control, Neutral grounding connection of three-phase systems, Short circuit current calculations, Power system stability, Overvoltages in power systems.</p> <p>On successful completion of this module, the student should reach:</p> <ul style="list-style-type: none"> - profound knowledge of transmission systems; - knowledge and understanding procedures to design and manage electrical power systems; - capacity for reading and understand other texts on related topics.
3	Prerequisites and learning activities	<p>The student must know the basic notions of electrical engineering, electrical machines and converters.</p>
4	Teaching methods and language	<p>Lectures and exercises. Language: Italian / English</p> <p>Ref. Text books</p> <ol style="list-style-type: none"> 1) Francesco Iliceto, Impianti elettrici Vol. I, ed. Patron, Bologna. 2) Appunti di Sistemi Elettrici per l’Energia – prof. C. Mazzetti di Pietralata (disponibile su internet); 3) W. Diesendorf, Insulation co-ordination in high voltage electric power systems. 4) C. L. Wadhwa, Electrical power systems, Google books. 5) F. M. Gatta, Complementi ed applicazioni di impianti elettrici, Esagrafica Editrice.
5	Assessment methods	<p>Written and oral examination.</p>