

Francesco Muzi

Programme of “Distribuzione ed utilizzazione dell’energia elettrica” “Distribution and utilization of electrical energy”		
Number of ECTS credits: 9 (workload is 90 hours of teaching+work at home; 1 credit = 25 hours)		
Code I0281 1st Cycle in ELECTRICAL ENGINEERING, 3 rd year , 2 nd 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 the electrical installations and the lighting systems. Particular attention is paid to issues involving electrical safety with frequent references to national and international legislation.</p> <p>On successful completion of this module, the student is able to size, design, and manage MV and LV electrical installations and lighting plants.</p>
2	Course content and Learning outcomes (Dublin descriptors)	<p>Topics of the module include:</p> <p>Electrical Safety: electrical shock, direct and indirect contacts, grounding systems; earth faults in TT, TN, IT systems.</p> <p>Distribution systems: power protection systems, verification of the thermal behavior of cables; voltage drops, design of utilization electrical systems.</p> <p>Lighting systems: illumination fundamentals; artificial light sources; indoor and outdoor lighting design.</p> <p>At the end of the course, the student will reach:</p> <ul style="list-style-type: none"> - profound knowledge of electrical safety, issues of MV and LV systems, protection systems, lighting design. - knowledge and understanding procedures to design electrical and lighting installations also using software codes. - 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) V. Carrescia, Fondamenti di sicurezza elettrica, Ed. TNE; 2) V. Cataliotti, Impianti Elettrici - Analisi dei sistemi di distribuzione a media e bassa tensione, Ed. Flaccovio, Palermo; 3) IEEE recommended practice for Industrial and commercial power systems analysis, Ed. IEEE. 4) V. Cataliotti, G. Morana, Impianti elettrici di illuminazione, Ed. Promotec.
5	Assessment methods	<p>Written and oral examination.</p>