

Course unit title:	IET Wiring Regulations I		
Course unit code:	AEEE450		
Type of course unit:	Technical Elective		
Level of course unit:	Bachelor (1 <sup>st</sup> Cycle)		
Year of study:	3 or 4		
Semester when the unit is delivered:	7 (Fall) or 8 (Spring)		
Number of ECTS credits allocated:	6		
Name of lecturer(s):	Dr Nicholas Christofides		
Learning outcomes of the course unit:	<ol style="list-style-type: none"> <li>1. Evaluate the theory and application of the current Wiring Regulations</li> <li>2. Appraise the importance of safety in electrical installations</li> <li>3. Identify Earthing requirements in electrical installations</li> <li>4. Compare and contrast the various types of protection associated with electrical installations</li> <li>5. Analyze the selection and erection requirements of equipment associated with electrical installations</li> </ol>		
Mode of delivery:	Face-to-face		
Prerequisites:	AEEE223	Co-requisites:	None
Recommended optional program components:	None		
Course contents:	<ol style="list-style-type: none"> <li>1. Introduction to IEE Wiring regulations: Background Theory: circuit analysis fundamentals, Ohm's Law, Kirchhoff's laws, Complex Impedance, Three phase power, Electric Shock, Electrical Installation Earthing, Introduction to types of earthing systems, definition of terms and concepts used in BS 7671</li> <li>2. Fundamental requirements for Safety: Realization of dangers associated with low voltage electrical installations, use of approved and suitable materials and equipment, provision for protection, fundamental requirements for safety, basic and fault protection.</li> <li>3. Earthing: Protective Earthing, the means of earthing, The earthing conductor, System types and earthing arrangements, protective conductors, presence of metallic and conductive parts in electrical installations, equipment classes and IP protection codes</li> <li>4. Protection: What is Protection, Protection against electric Shock, Protection against direct contact, protection against indirect contact, Protection against over loads / over voltage / under voltage / short circuit currents / earth fault currents, position of protection devices</li> <li>5. Selection and Erection of Equipment: General, selection and erection of equipment, operational conditions and external influences, cable installation methods, sizing of cables, consideration of external influences, categories installation of equipment</li> </ol>		
Recommended and/or required reading:	IET & BSI, BS 7671:2008+A3:2015, Requirements for Electrical Installations, IET Wiring Regulations 17 <sup>th</sup> Edition: London, IET.		
Textbooks:	IET & BSI, BS 7671:2008+A3:2015, IET Wiring Regulations 17 <sup>th</sup> Edition: London, IET.		
References:	<ol style="list-style-type: none"> <li>1. IET On-Site Guide to BS 7671:2008+A3:2015: IET Wiring Regulations 17<sup>th</sup> Edition, London, IET.</li> <li>2. 17<sup>th</sup> Edition IET Wiring Regulations: Explained and Illustrated, 10<sup>th</sup> ed, 2015, Brian Scaddan</li> <li>3. Electrical Regulations: Electrical Installation Design Guide : Calculations for Electricians and Designers by The Institution of Engineering and Technology,</li> </ol>		

	<p>IET Publication, 2016</p> <p>4. Guidance Notes for IET Wiring Regulations to BS 7671:2008+A3:2015</p> <ol style="list-style-type: none"> <li>1. Selection and Erection</li> <li>2. Isolation and Switching</li> <li>3. Inspection and Testing</li> <li>4. Protection against Fire</li> <li>5. Protection against Electric Shock</li> <li>6. Protection against Overcurrent</li> <li>7. Special Locations</li> <li>8. Earthing and Bonding</li> </ol>
Planned learning activities and teaching methods:	<p>Students are taught the course through lectures (3 hours per week) in classrooms via projector presentations and by the use of the whiteboard. Following major lecture topics and chapters, mathematical problems and examples are solved during class. Exercises for assessed homework are also a standard practice for this course as well as at least one assignment.</p> <p>Lecture presentations are available for students to download via the university e-learning platform. Students are also advised to use the recommended course textbook or reference books for further reading and practice in solving related exercises. Further literature search is encouraged by assigning students to identify a specific problem related to some issue, gather relevant scientific information about how others have addressed the problem and report this information in written or orally.</p> <p>Students are assessed continuously and their knowledge is evaluated through tests with their assessment weight, date and time being set at the beginning of the semester via the course outline.</p> <p>Students are prepared for the final exam, by revision on the matter taught, problem solving and concept testing.</p> <p>Overall, the course assessment is both formative and summative and aims to comply with the subject's expected learning outcomes and the quality of the course.</p>
Assessment methods and criteria:	<ul style="list-style-type: none"> <li>• Assignments/Homework      10%</li> <li>• Tests                                30%</li> <li>• Final Exam                        60%</li> </ul>
Language of instruction:	English
Work placement(s):	No