

Course unit title:	IET Wiring Regulations II		
Course unit code:	AEEEE451		
Type of course unit:	Technical Elective		
Level of course unit:	Bachelor (1 <sup>st</sup> Cycle)		
Year of study:	4		
Semester when the unit is delivered:	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. Interpret and apply the IET wiring regulations to special locations such as bathrooms, caravans, photovoltaic systems, Agricultural and horticultural installations etc.</li> <li>2. Analyze and design grid-connected and off-grid photovoltaic systems.</li> <li>3. Inspect and test electrical installations.</li> <li>4. Design electrical installations.</li> </ol>		
Mode of delivery:	Face-to-face		
Prerequisites:	AEEEE450	Co-requisites:	None
Recommended optional program components:	None		
Course contents:	<ol style="list-style-type: none"> <li>1. Introduction / AEEEE450 Recap: earthing systems, protective conductors, basic and fault protection, electric shock, overcurrents and protective devices, voltage drop, circuit design.</li> <li>2. Special Locations: risks and dangers associated with special locations, special considerations, differences with conventional installations.</li> <li>3. Grid Connected Photovoltaic Systems: azimuth and inclination, weather characteristics, NOCT, PV efficiency and energy output, characteristics of photovoltaic modules, grid-connected and off-grid system design.</li> <li>4. Socket Outlet Ring Circuits: radial and ring socket outlet circuits, voltage drop in socket outlet ring circuits.</li> <li>5. Inspection and Testing: protection against direct and indirect contact, insulation resistance, ring circuits, earth fault loop impedance, RCD test, external impedance, proving units.</li> <li>6. Electrical Installation Design Preliminaries: analysis and interpretation of architectural drawings, determination of supply/installation characteristics, division of installation into circuits and distribution boards, circuit information (length, ratings, voltage drop)</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, Requirements for Electrical Installations, 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> ed IET Wiring Regulations: Explained and Illustrated, 10<sup>th</sup> ed, 2015, Brian Scaddan</li> <li>3. 17<sup>th</sup> ed IET Wiring Regulations: Inspection, Testing &amp; Certification, 8th ed, 2015, Brian Scaddan</li> <li>4. Electrical Regulations: Electrical Installation Design Guide : Calculations for Electricians and Designers by The Institution of Engineering and Technology, IET Publication, 2016</li> <li>5. Guidance Notes for IET Wiring Regulations to BS 7671:2008+A3:2015</li> </ol>		

	<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. To supplement better the topics on inspection and testing, the students have the opportunity to carry out measurements on earth electrodes and electrical installation trainers using a certified testing instrument. Furthermore, students have the opportunity to examine the properties of electrical installation design software.</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