

**B.Sc.Engineering (Honours) Degree in Electrical and Electronic Engineering Curriculum - October 2016**  
**Sri Lanka Institute of Information Technology**

Notes:

1. This version of the curriculum supersedes all previous versions.
2. The module codes consist of two character area identifiers (such as EC, CE, ME etc.) followed by a FOUR digit numeric component. The last digit of this numeric component indicates the version of the module currently being used. With periodic revisions and updates this fourth digit would change. Even the module titles might change in some cases. However, different versions of the same module will still have the same area identifier and the first THREE digits of the numeric component of the module code. Such modules, which share the same area identifier and the first THREE digits of the numeric component, are considered equivalent to each other for the purposes of satisfying curriculum requirements and/or pre/co-requisite requirements.
3. Previous versions of some modules had module codes consisting of area identifier followed by a THREE digit numeric component. The FOUR-digit equivalent of such modules are obtained by adding the digit 0 (zero) as the fourth digit to their numeric components. The three digit version is deemed to be identical to the four digit version with zero as the fourth digit. (For example EC1021 is deemed to be identical to EC1020).

**Abbreviations**

**GPA - Grade Point Average , NGPA - Non Grade Point Average, CA - Continuous Assessment, FE - Final Examination, C - Compulsory, E - Elective**

**B.Sc.Engineering (Honours) Degree in Electrical and Electronic Engineering - Curriculum with effect from 2015 Intake (3rd Batch)**

| Module Code                        | Module Name   | Category | Hours/Week  |           |      | Credits |      | Norm |      | Weighting of |    |
|------------------------------------|---|----------|---|-----------|------|---------|------|------|------|--------------|----|
|                                    |   |          | Lectures  | Tutorials | Labs | GPA     | NGPA | GPA  | NGPA | CA           | FE |
| <b>Year 1 Semester 1</b>           |   |          |   |           |      |         |      |      |      |              |    |
| CE1011                             | Engineering Mechanics                                   | C        | 3/1   | 1/1       | 2/2  | 4.0     |      | 17.0 |      | 40           | 60 |
| EC1021                             | Electrical Systems                                      | C        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |
| MA1302                             | Engineering Mathematics I                               | C        | 3/1   | 1/1       |      | 3.0     |      |      | 30   | 70           |    |
| ME1010                             | Engineering Design and Processes                        | C        | 2/1   | -         | 4/1  | 4.0     |      |      | 100  | 0            |    |
| EL1201                             | English Language Skills I                               | C        | 3/1   |           |      | 3.0     |      |      |      |              |    |
| CE1911                             | Introduction to Sustainable Engineering                 | E        | 1/1   | 2/1       |      | 2.0     |      |      | 100  | 0            |    |
| ME1020                             | Introduction to Renewable Energy                        | E        | 2/1   | 1/1       | 2/1  | 2.0     |      |      | 2.0  | 50           | 50 |
| <i>Total for Year 1 Semester 1</i> |   |          |   |           |      |         |      | 19.0 |      |              |    |
| <b>Year 1 Semester 2</b>           |   |          |   |           |      |         |      |      |      |              |    |
| EC1441                             | Engineering Programming                                 | C        | 1/1   | -         | 4/1  | 3.0     |      | 19.0 |      | 60           | 40 |
| MA1312                             | Engineering Mathematics II                              | C        | 3/1   | 1/1       |      | 3.0     |      |      | 40   | 60           |    |
| MT1010                             | Engineering Materials                                   | C        | 3/1   | 1/1       | 2/2  | 4.0     |      |      | 40   | 60           |    |
| ME1030                             | Engineering Skills Development                          | C        | 2/1   | -         | 2/1  | 3.0     |      |      | 60   | 40           |    |
| ME1040                             | Engineering Principles and Communication                | C        | 2/1   | -         | 4/1  | 4.0     |      |      | 100  | 0            |    |
| EL1211                             | English Language Skills II                              | C        | 3/1   | 1-Jan     |      | 2.0     |      |      |      |              |    |
| <i>Total for Year 1 Semester 2</i> |   |          |   |           |      |         |      | 19.0 |      |              |    |
| <b>Year 2 Semester 1</b>           |   |          |   |           |      |         |      |      |      |              |    |
| CE2721                             | Fluid Mechanics and Thermodynamics                      | C        | 3/1   | 1/1       | 2/2  | 4.0     |      | 19.0 |      | 40           | 60 |
| EC2092                             | Foundations of Digital Design                           | C        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |
| EC2202                             | Electrical Circuits                                     | C        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |
| EC2492                             | Object Oriented Programming                             | C        | 2/1   | 1/1       | 2/1  | 3.0     |      |      | 50   | 50           |    |
| EC2131                             | Microcomputers  | C        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |
| MA2302                             | Engineering Mathematics III                             | C        | 3/1   | 1/1       |      | 3.0     |      |      | 40   | 60           |    |
| <i>Total for Year 2 Semester 1</i> |   |          |   |           |      |         |      | 19.0 |      |              |    |
| <b>Year 2 Semester 2</b>           |   |          |   |           |      |         |      |      |      |              |    |
| EC2122                             | Electronic Fundamentals                                 | C        | 2/1   | 1/1       | 2/2  | 3.0     |      | 18.0 | 2.0  | 40           | 60 |
| EC2112                             | Signals and Systems                                     | C        | 2/1   | 1/1       | 2/2  | 3.0     |      |      |      | 40           | 60 |
| EC2212                             | Electromagnetic and Electromechanical Energy Conversion | C        | 2/1   | 1/1       | 2/1  | 3.0     |      |      |      | 40           | 60 |
| EC2730                             | Data Structures and Algorithms                          | C        | 2/1   |           | 2/1  | 3.0     |      |      |      | 100          | 0  |
| EC2482                             | Introduction to Controls and Robotics                   | C        | 2/1   | 1/1       | 2/2  | 3.0     |      |      |      | 40           | 60 |
| EC2402                             | Computer Networks                                       | C        | 2/1   | 1/1       | 2/2  | 3.0     |      |      |      | 40           | 60 |
| XX XXXX                            | Humanities I  | C        | 2/1   |           |      |         | 2.0  |      |      |              |    |
| <i>Total for Year 2 Semester 2</i> |   |          |   |           |      |         |      | 18.0 | 2.0  |              |    |
| <b>Industrial Training Part 1</b>  |   |          |   |           |      |         |      |      |      |              |    |
| EC2921                             | Industrial Training I                                   | C        | Minimum 40Hours/week for 12 weeks of full time employment |           |      |         | 3.0  |      | 3.0  | 100          | 0  |
| <b>Year 3 Semester 1</b>           |   |          |   |           |      |         |      |      |      |              |    |
| EC3061                             | Design Project I  | C        | 1/1   | 4/1       |      | 3.0     |      | 3.0  |      | 100          | 0  |
| EC3612                             | Communication Engineering I                             | C        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 3.0  | 40           | 60 |
| EC3502                             | Control Systems   | C        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 3.0  | 40           | 60 |
| EC3012                             | Electronic Design                                       | E        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |
| EC3042                             | Physical and Optoelectronics                            | E        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |
| EC3212                             | Power Systems Analysis                                  | E        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |
| EC3202                             | Engineering Electromagnetics                            | E        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |
| EC3462                             | Embedded Systems Engineering I                          | E        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |
| EC3472                             | Digital Multimedia Content                              | E        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |
| EC3482                             | Foundations in Computer Engineering                     | E        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |
| EC3232                             | Electrical Installations                                | E        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |
| EC3702                             | Real Time Operating Systems                             | E        | 2/1   | 1/1       | 2/2  | 3.0     |      |      | 40   | 60           |    |

|                                    |  |   |                             |     |     |     |     |       |      |     |     |   |
|------------------------------------|--|---|-----------------------------|-----|-----|-----|-----|-------|------|-----|-----|---|
| <i>Total for Year 3 Semester 1</i> |  |   |                             |     |     |     |     | 9.0   |      |     |     |   |
|                                    |  |   |                             |     |     |     |     | 18.0  |      |     |     |   |
| <b>Year 3 Semester 2</b>           |  |   |                             |     |     |     |     |       |      |     |     |   |
| EC3071                             | Design Project II  | C | 1/1                         | 4/1 |     | 3.0 |     | 3.0   |      | 100 | 0   |   |
| ME3081                             | Engineering Management                                       | C | 2/1                         | 1/1 | 2/2 | 3.0 |     | 3.0   |      | 40  | 60  |   |
| EC3522                             | Data Communication and Networking                            | C | 2/1                         | 1/1 | 2/2 | 3.0 |     | 3.0   |      | 40  | 60  |   |
| EC3102                             | Advanced Digital Design                                      | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC3022                             | Radio Frequency and Microwave Electronics                    | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC3032                             | Power Electronics  | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC3242                             | Power Systems Protection                                     | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC3192                             | Electrical Machines and Stability                            | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC3532                             | Advanced Control Systems                                     | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC3622                             | Communication Engineering II                                 | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC3641                             | Digital Access Systems                                       | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC3712                             | Embedded Software Engineering                                | E | 2/1                         | 1/1 | 1/1 | 3.0 |     |       |      | 40  | 60  |   |
| EC3722                             | Information Security   | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC3540                             | Computing for Engineers                                      | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| XX XXXX                            | Humanities II  | C | 2/1                         |     |     |     |     | 2.0   |      |     |     |   |
| <i>Total for Year 3 Semester 2</i> |  |   |                             |     |     |     |     | 9.0   | 2.0  |     |     |   |
| <b>Industrial Training Part 2</b>  |  |   |                             |     |     |     |     |       |      |     |     |   |
| EC3901                             | Industrial Training II                                       | C | Minimum 40Hours/week for 12 |     |     |     | 3.0 |       | 18.0 | 2.0 | 100 | 0 |
| <b>Year 4 Semester 1</b>           |  |   |                             |     |     |     |     |       |      |     |     |   |
| EC4040                             | Electronic Engineering Project                               | C | 2/1                         |     |     | 4.0 |     | 4.0   |      | 100 | 0   |   |
| EC4901                             | Legal Framework and Sustainability in Electrical Engineering | C | 1/1                         | 2/1 |     | 2.0 |     | 2.0   |      | 40  | 60  |   |
| EC4012                             | Power Electronics & Drives                                   | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4202                             | Electrical Utility Engineering                               | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4421                             | Network Design and Performance Evaluation                    | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4432                             | Embedded Systems Engineering II                              | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4441                             | Advanced Computer Architecture                               | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4632                             | Communication Signal Processing                              | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4642                             | Optical Communications                                       | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4651                             | Next Generation Networks                                     | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4661                             | Radio Frequency and Microwave Systems                        | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4702                             | Models of Computations                                       | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| ME4111                             | Industrial Management and Marketing                          | E | 3/1                         | -   | -   | 3.0 |     |       |      | 40  | 60  |   |
| <i>Total for Year 4 Semester 1</i> |  |   |                             |     |     |     |     | 9.0   |      |     |     |   |
|                                    |  |   |                             |     |     |     |     | 15.0  |      |     |     |   |
| <b>Year 4 Semester 2</b>           |  |   |                             |     |     |     |     |       |      |     |     |   |
| EC4040                             | Electronic Engineering Project                               | C |                             |     |     | 4.0 |     | 4.0   |      | 100 | 0   |   |
| EC4462                             | Computer Structures  | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4031                             | Medical Electronics  | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4212                             | Electrical Power Transmission and Distribution               | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4231                             | Electromagnetic Propagation                                  | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4552                             | Digital Signal Processing                                    | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      |     |     |   |
| EC4241                             | Introduction to Smart Grid Control                           | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4471                             | Information Theory and Error Control Coding                  | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4482                             | Computer Vision and Image Processing                         | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4492                             | Neural and Fuzzy Systems                                     | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4502                             | Instrumentation and Control                                  | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4511                             | Industrial Automation and Process Control                    | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4522                             | Network Management and Security                              | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4531                             | Internet Technologies  | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4541                             | Distributed Computing  | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4672                             | Wireless Communications                                      | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| EC4252                             | Renewable Energy Systems                                     | E | 2/1                         | 1/1 | 2/2 | 3.0 |     |       |      | 40  | 60  |   |
| <i>Total for Year 4 Semester 2</i> |  |   |                             |     |     |     |     | 12.0  |      |     |     |   |
| <i>Total For Graduation</i>        |  |   |                             |     |     |     |     | 142.0 | 10.0 |     |     |   |