

## 8. Course Outline

### Year 1 Semester I

| Unit<br>Hours                        | Code | Unit Title                        | No. of Lecture |
|--------------------------------------|------|-----------------------------------|----------------|
| HRD                                  | 2101 | Communication skills              | 45             |
| SMA                                  | 2170 | Algebra                           | 45             |
| SPH                                  | 2170 | Physics I                         | 45             |
| SCH                                  | 2102 | Chemistry I                       | 45             |
| EMG                                  | 2102 | Engineering Drawing I             | 45             |
| HRD                                  | 2106 | General Economics                 | 45             |
| SMA                                  | 2177 | Applied Geometry                  | 45             |
| SMA                                  | 2172 | Calculus I                        | 45             |
| SZL                                  | 2111 | HIV/AIDS                          | 45             |
| <b>Year 1 Semester II</b>            |      |                                   |                |
| SMA                                  | 2173 | Calculus II                       | 45             |
| ICS                                  | 2174 | Introduction to Computer Science  | 45             |
| ETI                                  | 2101 | Digital Electronics I             | 45             |
| ETI                                  | 2102 | Physical Electronics I            | 45             |
| EMG                                  | 2103 | Workshop Processes and Practice I | 45             |
| ETI                                  | 2103 | Electrical Workshop Practice      | 45             |
| ETI                                  | 2104 | Material Science                  | 45             |
| HRD                                  | 2102 | Development studies               | 45             |
| <b>Total number of lecture hours</b> |      |                                   | <b>765</b>     |

### Year 2 Semester I

| Unit<br>Hours             | Code | Unit Title                      | No. of Lecture |
|---------------------------|------|---------------------------------|----------------|
| SMA                       | 2273 | Applied Mathematics 1           | 45             |
| ETI                       | 2201 | Analogue Electronics I          | 45             |
| ETI                       | 2202 | Electrical Machines I           | 45             |
| ETI                       | 2203 | Physical Electronics II         | 45             |
| SMA                       | 2272 | Statistics                      | 45             |
| SMA                       | 2270 | Calculus III                    | 45             |
| ETI                       | 2204 | Circuit and Network theory I    | 45             |
| BCT                       | 2106 | Operating Systems I             | 45             |
| <b>Year 2 Semester II</b> |      |                                 |                |
| SMA                       | 2271 | Ordinary Differential Equations | 45             |
| ETI                       | 2205 | Analogue Electronics II         | 45             |
| ETI                       | 2206 | Computer Networks               | 45             |
| ICS                       | 2175 | Computer Programming I          | 45             |
| ETI                       | 2207 | Circuit and Network theory II   | 45             |
| ETI                       | 2208 | Electrical Machines II          | 45             |
| SMA                       | 2370 | Calculus IV                     | 45             |

|     |      |                        |    |
|-----|------|------------------------|----|
| ETI | 2209 | Digital Electronics II | 45 |
|-----|------|------------------------|----|

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|                                      |  |  |            |
|--------------------------------------|--|--|------------|
| <b>Total number of lecture hours</b> |  |  | <b>720</b> |
|--------------------------------------|--|--|------------|

|     |      |                        |         |
|-----|------|------------------------|---------|
| ETI | 2210 | Practical Attachment I | 8 Weeks |
|-----|------|------------------------|---------|

### Year 3 Semester I

| Unit | Code | Unit Title | No. of Lecture Hours |
|------|------|------------|----------------------|
|------|------|------------|----------------------|

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|     |      |                                  |    |
|-----|------|----------------------------------|----|
| SMA | 2371 | Partial Differential Equations   | 45 |
| ETI | 2301 | Integrated Circuits              | 45 |
| ETI | 2302 | Analogue Electronics III         | 45 |
| ICS | 2276 | Computer Programming II          | 45 |
| ETI | 2303 | Instrumentation and Measurements | 45 |
| ETI | 2304 | Electroacoustics                 | 45 |
| ETI | 2305 | Power Electronics I              | 45 |
| ETI | 2306 | Electromagnetics I               | 45 |

### Year 3 Semester II

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|     |      |                         |    |
|-----|------|-------------------------|----|
| ETI | 2307 | Digital System Design   | 45 |
| ICS | 2302 | Software Engineering    | 45 |
| ETI | 2308 | Analogue Electronics IV | 45 |
| SMA | 2480 | Complex Analysis        | 45 |
| SMA | 2471 | Numerical Analysis      | 45 |
| ETI | 2309 | Power Electronics II    | 45 |
| ETI | 2310 | Control Engineering     | 45 |
| ETI | 2311 | Electromagnetics II     | 45 |

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|                                      |  |  |            |
|--------------------------------------|--|--|------------|
| <b>Total number of lecture hours</b> |  |  | <b>720</b> |
|--------------------------------------|--|--|------------|

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|-----|------|-------------------------|---------|
| ETI | 2312 | Practical Attachment II | 8 Weeks |
|-----|------|-------------------------|---------|

### Year 4 Semester I

| Unit | Code | Unit Title | No. of Lecture Hours |
|------|------|------------|----------------------|
|------|------|------------|----------------------|

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|     |      |                             |    |
|-----|------|-----------------------------|----|
| HRD | 2114 | Research Methodology        | 45 |
| HRD | 2115 | Accounting and Finance      | 45 |
| HBC | 2108 | Principles of Management    | 45 |
| ETI | 2401 | Transmission Lines          | 45 |
| ETI | 2402 | Signals and Communication I | 45 |
| ETI | 2403 | Analogue filters            | 45 |
| ETI | 2404 | Optical Communications      | 45 |
| BCT | 2304 | Database Management Systems | 45 |

### Year 4 Semester II

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|     |      |                                             |    |
|-----|------|---------------------------------------------|----|
| EGE | 2421 | Geospatial Information Systems Applications | 45 |
| ETI | 2405 | Antenna Theory and Design                   | 45 |

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|-----|------|------------------------------------|----|
| ETI | 2406 | Radio Wave Propagation             | 45 |
| ETI | 2407 | Microprocessors                    | 45 |
| ETI | 2408 | Microwave devices and applications | 45 |
| ETI | 2409 | Signal and Communications II       | 45 |
| HCB | 2301 | Project Management                 | 45 |
| ETI | 2410 | Digital Communications Principles  | 45 |

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|                                      |            |
|--------------------------------------|------------|
| <b>Total number of lecture hours</b> | <b>720</b> |
|--------------------------------------|------------|

|     |      |                          |         |
|-----|------|--------------------------|---------|
| ETI | 2411 | Practical Attachment III | 8 Weeks |
|-----|------|--------------------------|---------|

#### **Year 5 Semester I**

| <b>Unit</b> | <b>Code</b> | <b>Unit Title</b> | <b>No. of Lecture Hours</b> |
|-------------|-------------|-------------------|-----------------------------|
|-------------|-------------|-------------------|-----------------------------|

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#### **Core Units**

|     |      |                                        |    |
|-----|------|----------------------------------------|----|
| ETI | 2501 | Project                                | 45 |
| ETI | 2502 | Data Communications                    | 45 |
| ETI | 2503 | Reliability Engineering                | 45 |
| HBC | 2112 | Business Law I                         | 45 |
| ETI | 2504 | Wireless Communication I               | 45 |
| ETI | 2505 | Digital Signal Processing              | 45 |
| ICS | 2403 | Distributed Computing and Applications | 45 |

#### **Electives**

##### **Telecommunication Engineering**

|     |      |                           |    |
|-----|------|---------------------------|----|
| ETI | 2506 | Telecommunication Systems | 45 |
|-----|------|---------------------------|----|

##### **Information Engineering**

|     |      |                                    |    |
|-----|------|------------------------------------|----|
| BIT | 2117 | Internet Application Programming I | 45 |
|-----|------|------------------------------------|----|

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#### **Year 5 Semester II**

#### **Core Units**

|     |      |                                          |    |
|-----|------|------------------------------------------|----|
| ETI | 2501 | Project                                  | 45 |
| ETI | 2507 | Digital Image Processing                 | 45 |
| HRD | 2401 | Entrepreneurship skills                  | 45 |
| ETI | 2508 | Network Design and Management            | 45 |
| ETI | 2509 | Telecommunication Policy and Regulations | 45 |
| ETI | 2510 | Network Security and Cryptography        | 45 |

#### **Electives**

##### **Telecommunication Engineering**

|     |      |                           |    |
|-----|------|---------------------------|----|
| ETI | 2511 | Wireless Communication II | 45 |
| ETI | 2512 | Television Systems        | 45 |

##### **Information Engineering (Department to choose any two)**

|     |      |                          |    |
|-----|------|--------------------------|----|
| ICS | 2308 | Artificial Intelligence  | 45 |
| BIT | 2305 | Human Computer Interface | 45 |
| BIT | 2315 | E-Commerce               | 45 |
| ETI | 2513 | Embedded Systems         | 45 |

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|                                      |            |
|--------------------------------------|------------|
| <b>Total number of lecture hours</b> | <b>720</b> |
|--------------------------------------|------------|

Total number of lecture hours required for graduation: **3645 hours.**

**Notes**

Assessment of practical attachment ETI 2210, ETI 2312 and ETI2411 is 100% based on student's logbook and summary reports, and supervisor evaluation report.

The elective courses will be available depending on the human resource capacity of the department at the time.