### 100 Level – Mechatronics Engineering

#### First Semester

* GST 111: Communication in English (2, C)
* MTH 101: Elementary Mathematics I: Algebra and Trigonometry (2, C)
* PHY 101: General Physics I: Mechanics (2, C)
* PHY 107: General Practical Physics I (1, C)
* CHM 107: General Practical Chemistry I (1, C)
* CHM 101: General Chemistry I (2, C)
* BUT-CPE 103: Introduction to Computer Programming (2, C)
* BUT-MTH 103: General Mathematics III (2, C)
* BUT-STA 112: Probability I (2, C)
* BUT-GST 107: Use of Library (1, C)
* BUT-ICT 115: AutoCAD 2D (1, C)
* **Total Units**: 18

#### Second Semester

* GST 113: Nigerian Peoples and Culture (2, C)
* MTH 102: Elementary Mathematics II: Calculus (2, C)
* PHY 102: General Physics II: Behaviour of Matter (2, C)
* PHY 108: General Practical Physics II (1, C)
* GET 102: Engineering Graphics and Solid Modelling I (2, C)
* MCE 101: Introduction to Mechatronics Engineering (1, C)
* GET 101: Engineer in Society (1, C)
* CHM 102: General Chemistry II (2, C)
* CHM 108: General Practical Chemistry II (1, C)
* BUT-PHY 104: General Physics IV (2, C)
* BUT-ICT 116: AutoCAD 3D (1, C)
* **Total Units**: 18

### 200 Level – Mechatronics Engineering

#### First Semester

* ENT 211: Entrepreneurship and Innovation (2, C)
* GET 201: Applied Electricity I (3, C)
* GET 203: Engineering Graphics & Solid Modelling II (2, C)
* GET 205: Fundamentals of Fluid Mechanics (3, C)
* GET 209: Engineering Mathematics I (3, C)
* GET 211: Computing and Software Engineering (2, C)
* GET 207: Applied Mechanics (2, C)
* BUT-ICT 215: Robotics I (0, C)
* BUT-GST 207: Life and Works of Olusegun Obasanjo I (0, C) **Total Units**: 18

#### Second Semester

* GST 212: Philosophy, Logic and Human Existence (2, C)
* GET 202: Engineering Materials (3, C)
* GET 204: Students Workshop Practice (2, C)
* GET 206: Fundamentals of Thermodynamics (3, C)
* GET 210: Engineering Mathematics II (3, C)
* BUT-MCT 204: Industrial Health & Safety (1, R)
* BUT-GET 208: Strength of Materials (2, C)
* BUT-ICT 216: Robotics 2 (0, C)
* BUT-GST 208: Life and Works of Olusegun Obasanjo II (0, C) **Total Units**: 17

### 300 Level – Mechatronics Engineering

#### First Semester

* MCT 301: Introduction to Mechatronics Engineering (1, C)
* MCT 303: Mechatronics Engineering Virtual Laboratory (2, C)
* MCT 305: Elect. Circuit Theory (2, C)
* MEE 303: Mechanics of Machines (2, R)
* MEE 307: Machine Drawing (2, C)
* ENG 301: Engineering Mathematics III (3, C)
* EEE 305: Electronic Engineering I (2, C)
* EEE 313: Basic Electrical Machines I (2, R)
* CEN 301: Applied Computer Programming (2, R)
* TCE 301: Signals & Systems (2, R)
* BUS 311: Analysis Introduction to Entrepreneurial Studies (2, R)
* ICT 323: Python Programming (1, C)
* **Total Units**: 24

#### Second Semester

* MCT 302: Fluidics Laboratory (2, C)
* MCT 304: Fluid Mechanics II (2, C)
* MCT 308: Mechatronics Engineering Design (2, C)
* PHY 312: Electromagnetic Theory (3, C)
* ENG 302: Engineering Mathematics IV (3, C)
* EEE 304: Basic Electrical Machines II (2, R)
* EEE 306: Electronic Engineering II (3, C)
* CEN 304: Software Packages in Engineering (2, R)
* GES 302: Introduction to Philosophy (2, R)
* ENG 320: Students Industrial Work Experience Scheme I (SIWES I) (2, C)
* ICT 324: Python Programming for Machine Learning I (1, C) **Total Units**: 24

### 400 Level – Mechatronics Engineering

#### First Semester

* MCT 401: Control Systems (3, C)
* MCT 405: Computer Aided Design and Manufacturing (2, C)
* MCT 407: Computer Hardware Engineering (2, C)
* MCT 411: CAD/CAM/CNC Laboratory (2, C)
* MEE 407: Heat and Mass Transfer (3, C)
* ENG 401: Research Methods in Engineering (2, C)
* MCT 403: Digital Systems and PLCs (2, C)
* MCT 409: Microcomputers and Microprocessor Systems (2, R)
* BUS 411: Entrepreneurial Skills Development Studies (2, R)
* ICT 423: Python Programming for Machine Learning 2 (Deep Learning) (1, C)
* **Total Units**: 21

#### Second Semester

* ENG 402: Students Industrial Work Experience (SIWES II) (6, C) **Total Units**: 6

### 500 Level – Mechatronics Engineering

#### First Semester

* MCT 501: Hydraulic and Pneumatic Systems (3, C)
* MCT 507: Sensors and Actuators (3, C)
* MCT 503/EEE 503: Advanced Control Engineering (2, C)
* MEE 505: Valuation of Engineering Systems (2, R)
* MEE 527: Engineering Management (2, R)
* MEE 523: Operations Research (2, R)
* ISO 45001: Foundation and Lead Implementer (Occupational Health and Safety Management System) (1, C)
* ICT 515: ICT 515 Foundation and Lead Implementer (Occupational Health and Safety Management System) (1, C)
* Electives: 4 units (see below)
* **Total Units**: 19

**Electives (Choose a minimum of 4 units):**

* MEE 515/PMT 401: Operations Management (2, E)
* EEE 511: Communication Systems (2, E)
* EEE 509: Digital Signal Processing (2, E)
* MEE 513/PMT 305: Industrial Engineering I (2, E)
* MCT 511: Artificial Neural Network (2, E)

#### Second Semester

* MCT 502: Neuro-Fuzzy Logic Controllers (2, C)
* MCT 504/EEE 504: Control Systems III (2, C)
* MCT 506: Robotics & Automation (3, C)
* MCT 508: Students’ Research Project (6, C)
* EEE 512: Engineering Law (2, R)
* ICT 516: Design Thinking (1, C)
* Electives: 4 units (see below)
* **Total Units**: 20

**Electives (Choose a minimum of 4 units):**

* MEE 514: Industrial Engineering II (2, E)
* MEE 516: Advanced Mechanical Design (2, E)
* MEE 518: Auto-Mechanical Systems Engineering (2, E)
* MEE 526: Subsea Control Systems (2, E)
* BUS 518: Human Resources Management (2, E)
* BUS 520/MKT 202: Elements of Marketing (2, E)

### Notes:

* **Status Definitions**:
  + **C**: Compulsory (must register and pass).
  + **R**: Required (must take, pass with at least 30% as per departmental rules).
  + **E**: Elective (optional, choose a minimum of 4 units where specified).