

## COURSE OUTLINE FOR NID IN MECHATRONICS AND AUTOMATION TECHNOLOGY

The National Innovative Diploma (NID) programme in Mechatronics and Automation Technology is designed to aid "...the acquisition of appropriate skills, abilities and competence, both mental and physical as equipment for the individual to live in and contribute to the development of his/her society..."

The programme is committed to the training of Technicians who should be capable of carrying out the technical skills involved in the operations, design and construction of facilities in Automation industries.

### Entry Requirements

The NID programme is a two (2) year programme requiring prospective applicants to be admitted through the Unified Tertiary Matriculation Examination (UTME).

The minimum entry requirements for the NID programme in Mechatronics and Automation Technology are specified below:

- a. A minimum of five (5) Credit Passes at WAEC/NECO, GCE and NABTEB or its equivalent in not more than two (2) sittings, which must include **English Language, Mathematics, Physics**, and any two Science subjects.
- b. National Vocational Certificate (NVC) or National Technical Certificate (NTC) in Engineering Programme from any recognized Institution.

### Curriculum

The curriculum of NID in Mechatronics and Automation Technology Programme consists of four (4) main components. These are:-

- 1) General Courses
- 2) Foundation Courses
- 3) Professional/Core Courses
- 4) Supervised Industrial attachment

### Curriculum Structure

The structure of NID programme consists of four (4) semesters of classroom, laboratory and workshop activities in an institution; and a 3 to 4 months of

Students Industrial Work Experience Scheme (SIWES). Each semester shall be of 15 weeks duration made up as follows:-

- 13 contact weeks of teaching, recitation, practical exercise, quiz, test, etc. and
- 2 weeks of examination and registration.
- SIWES shall take place at the end of the second semester of the first year.

### Curriculum Table for NID in Mechatronics and Automation Technology

#### 1<sup>st</sup> Semester

Course Code	Course Title
CSK501	Basis of Communication
GNS 111	Citizenship Education
MTH 101	Algebra & Elementary Trigonometry
MEC 102	Technical Drawing
COM 101	Introduction to ICT
MAT 111	Basic Electricity
MEC 111	Mechanical Engineering Science
EET 112	Electronics I
MAT 112	Safety Measures and Work Ethics

#### 2<sup>nd</sup> Semester

Course Code	Course Title
CSK502	Communication Skills II
MTH 112	Logic and Linear Algebra
COM 201	Computer Aided Design (CAD)
EET 123	Electronics II
MAT 121	Domestic Installation
MAT 122	Hydraulics and Pneumatics Systems
MCE 111	Mechanical Workshop Technology and Practice

#### 3<sup>rd</sup> Semester

Course Code	Course Title
EDP 201	Entrepreneurship I
MAT 211	Industrial Installation
EET 223	Micro Controller Technology
MAT 212	Electrical Machines I
MAT 213	Introduction to Automation
MAT 214	Microcomputer
MAT 215	Fundamentals of Industrial Robotics

#### 4<sup>th</sup> Semester

Course Code	Course Title
EDP 202	Entrepreneurship II
MAT 221	Electrical Machines II
MAT 222	Mechatronics Technology and Practice
MAT 223	Programmable Logic Controller (PLC)
MAT 224	Project