COURSE CODING

Each course in the Department is identified by a seven character code of which the first three characters identify the programme e.g. MEC (for Mechanical Engineering), ELE (for Electrical Engineering), or EGR (for Faculty of Engineering). The last four characters in a course code are numeric. The first digit designates the level (e.g. '1' for level 100, e.t.c). The second digit designates the credit hours for the course. The last two digits designate the course number. For example the code MEC 5405 represents an Mechanical engineering course (MEC) for level 500, with 4 credit hours which is serially numbered as No. 5

BACHELOR OF ENGINEERING MECHANICAL COURSES

Level 100

EGR1301	Elementary Algebra & Trigonometry
EGR1303	Single Variable Calculus
EGR1305	Electricity and Magnetism
EGR1307	Inorganic Chemistry
EGR1201	Engineering Drawing I
EGR1302	Vectors, Matrix and Geometry
EGR1304	Mechanic and Behavior of Matter
EGR1306	Organic Chemistry
EGR1202	Physical Chemistry
EGR1204	Engineering Workshop
GSP1201	Use of English
GSP1202	Study Skills and ICT

Level 200

EGR2311	Multivariable Calculus
EGR2313	Computer Programming
EGR2315	Basic Electrical Devices and Circuits
EGR2317	Fundamentals of Materials Science
EGR2211	Statics
EGR2111	Experimental Methods and Analysis

EGR2113	Engineer In Society
GSP2204	*Foundation of Nigerian Culture, Government and Economy*
EGR2312	Algebra and Solid Geometry
EGR2314	Fundamentals of Solid Mechanics
EGR2316	Fundamentals of Fluid Mechanics
EGR2210	Introduction to Electrical Machines
EGR2212	Dynamics
EGR2214	Fundamentals of Thermodynamics
EGR2216	Engineering Drawing II
EGR2100	SWEP

Level 300

EGR3301	Differential Equations
MEC3313	Applied Thermodynamics
MEC3302	Essentials of Metallurgy and Materials Engineering
MEC3203	Engineering Drawing III
MEC3305	Machining and Machine Tools
MEC3303	Mechanics of Materials I
MEC3310	Electrical Instrumentation and Measurement
MEC3211	Product Design
EGR3102	Tech. Writing and Presentation
EGR3102	Tech. Writing and Presentation
EGR3203	SIWES I
EGR3302	Computational Techniques
MEC3218	Engineering Drawing IV
MEC3304	Incompressible Flow
MEC3206	Engineering Metrology
MEC3305	Analysis of Mechanisms and Machines
MEC3209	Heat and Mass transfer

MEC3210   Manufacturing Processes

Level 400 courses

EGR4101   Engineering and Cyber Law

EGR4301   Statistics and Design of Experiments

MEC4204   Principles of Combustion

MEC4305   External and Compressible Flow

MEC4306   Balancing and Vibrations in Machines

MEC4308   Mechanics of Materials II

MEC4301   Design of Machine Elements I

MEC4307   Refrigeration and Airconditioning

EEP4201   Business Creation and Growth

EGR4401   SIWES   II

Level 500 courses

MEC5405   Engineering Management

MEC5313   Rotodynamic Machines

MEC5315   Fluid Machineries

MEC5317   Control Systems Engineering I

MEC5309   Introduction to Automotive Systems

MEC5311   Design of Machine Elements II

MEC5314   Theory of Elasticity

MEC5310   CAD/CAM

MEC5601   Project

MEC5318   Control Systems Engineering II

Optional Course 1

Optional Course 2

Optional Course 3

Optional courses

MEC5303   Renewable Energy Systems

MEC5316   Aerodynamics

MEC5319   Design and Analysis of Thermal Systems

MEC5320   Introduction to CFD

MEC5321   Mechanical Building Services

MEC5322   Nuclear Energy Systems

MEC5323   Ergonomics and Work Design

MEC5324   Surface Treatments and Coatings

MEC5325   Advanced Manufacturing Processes

MEC5326   Additive Manufacturing

MEC5327   Materials Characterization

MEC5308   Mechanics Of Metal Forming

MEC5307   Fracture Mechanics

MEC5308   Mechanics Of Metal Forming:

MEC5328   Tribology

MEC5329   Introduction to FEMs

MEC5330   Vehicle Dynamics:

MEC5331   Introduction to Bio-Mechanics

BACHELOR OF ENGINEERING AUTOMOTIVE ENGINEERING COURSES

LEVEL 100 COURSES

Course Code	Course Title
EGR1307	Inorganic Chemistry
EGR1306	Organic Chemistry
EGR1202	Physical Chemistry
GSP1201	Use of English
EGR1201	Engineering Drawing I
GSP1202	Use of library, study skills & ICT
EGR1301	Engineering Mathematics I (Algebra and Trigonometry)
EGR1303	Engineering Mathematics III (Calculus I)
EGR1302	Engineering Mathematics. II (Vectors, Matrix and Geometry)
EGR1305	Electricity & Magnetism

EGR1304	Mechanic and Behavior of Matter
EGR1204	Engineering Workshop

LEVEL 200 COURSES

EGR2210	Introduction to Electrical Machines
GSP2204	Foundation of Nigerian Culture, Government and Economy
EGR2212	Engineering Dynamics
*GSP2201	Use of English
*GSP2202	Use of library, study skills and ICT
EGR2111	Experimental Methods & Analysis
EGR2315	Basic Electrical Devices & Circuits
EGR2214	Thermodynamics I
EGR2317	Material Science I
EGR2113	Engineer in Society
EGR2100	SWEP
EGR2316	Fluid Mechanics I
EGR2314	Solid Mechanics I
EGR2216	Engineering Drawing II
EGR2204	Workshop Practice
EGR2311	Engineering Mathematics IV (CALCULUS II)
EGR2211	Statics
EGR2312	Engineering Mathematics V (Algebra and Solid Geometry)
EGR2313	Computer Programming

LEVEL 300 First Semester

EEP3201	Entrepreneurship

EGR3301	Engineering Mathematics VI (Differential Equations)
ATE 3201	Engineering Thermodynamics II
ATE 3202	Engineering Materials
ATE 3203	Engineering Drawing II
ATE3209	Manufacturing Processes
ATE 3204	Fluid Mechanics and Machinery
ATE 3301	Automotive Electricals and Electronics
ATE 3211	Theory of Machines I
ATE3207	Mechanics of Materials
ATE3208	Automotive Spark Ignition Engines
ATE 3304	Automotive Engineering Lab I

LEVEL 300 COURSES

Course Code	Course Title
EGR3102	Technical Writing & Presentation
EGR3203	S I W E S I
EGR3302	Engineering Mathematics VII (Calculus IV)
ATE 3205	Automotive Mechatronics
ATE 3206	Automotive Compression Ignition Engines
ATE 3303	Theory of Machines II
ATE 3302	Heat and Mass Transfer
ATE3210	Automotive Fuels and Lubricants
ATE 3305	Automotive Engineering Lab II

LEVEL 400 COURSES

EGR4301	Engineering Statistics and Design of Experiments
EGR4101	Engineering and Cyber Law
EEP4201	Venture Creation and Growth

ATE 4301	Design of Automotive Engines
ATE 4204	Design of Automotive Components
ATE 4203	Automobile Service and Maintenance
ATE4201	Automotive Materials
ATE 4202	Power Trains and Transmission
ATE 4302	Automotive Systems Design
ATE4303	Control Engineering
ATE 4304	Automotive Engineering Lab III
ATE4101	Automobile Driving
EGR4401	SIWES II

LEVEL 500 COURSES

ATE 5301	Vehicle Aerodynamics
ATE 5201	Combustion, Pollution and Control
ATE 5306	Computer Aided Design/Computer Aided Manufacture (CAD/CAM)
ATE 5203	Facilities Design & Ergonomics
ATE 5302	Automotive Product Design and Testing
ATE5205	Automobile Transport & Fleet Management
ATE5207	Vehicle Air Conditioning
ATE5208	Engineering Economics and Financial Management
ATE5210	Automotive Engineering Lab IV
ATE526x	Elective I
ATE 5202	Lean and Supply Chain Management
ATE5209	Advanced Manufacturing Technology
ATE5304	Alternative Vehicle Propulsion Systems
ATE 5305	Vehicle Body and Chassis Engineering
ATE 5206	Vehicle Dynamics
ATE5204	Finite Elements Methods

ATE5303	Noise, Vibration and Harshness
ATE 526x	Elective II
ATE5601	Final Year Project

OPTIONAL COURSES: Choose any two of the following courses

ATE 5261	Computer Integrated Manufacturing
ATE 5262	Tribology and Terotechnology
ATE 5263	Robotics and Robot Applications
ATE 5264	Special Purpose Vehicles
ATE 5265	Advances in Automotive Technology
ATE5266	Computational Fluid Dynamics
ATE5267	Energy Engineering
ATE5268	Automotive Onboard Diagnostics
ATE5269	Reliability and Quality Assurance

M.ENG. COURSES IN MECHANICAL ENGINEERING DEPARTMENT:-

MASTER IN MECHANICAL ENGINEERING

CORE COURSES

MEC   8301   Computer and Numerical Methods

MEC   8302   Advanced Dynamics

MEC   8303   Computers, Optimization and design

MEC   8304   Advanced Thermo-hydraulics

MEC   8305   Advanced Fluid Dynamics

MEC   8206   Theory of Elasticity

MEC   8207   Mechanical Engineering Laboratory

MEC   8208   Management

MEC   8209   Seminar

MEC   8601   Project and Thesis

ELECTIVE COURSES:

MEC   8211   Experimental Stress Analysis

MEC   8212   Advanced Theory of Vibrations

MEC   8213   Introduction to Finite Element Analysis

MEC   8214   Advanced Engineering Mathematics

MEC   8315   Nonlinear Mechanics

MEC   8216   Theory of Plasticity

MEC   8317   Mechanics of Composite Materials

MEC   8218   Advanced Tribology

MASTER IN PRODUCTION ENGINEERING

CORE COURSES

MEC   8221   Joining Technology

MEC   8322   Metal Forming and Industrial Finishing

MEC   8223   Metal Cutting and Machine Tool Construction

MEC   8324   Design for Production

MEC   8325   Numerical Engineering

MEC   8301   Computers & Numerical Methods

MEC   8207   Mechanical Engineering Laboratory

MEC   8208   Management

MEC   8209   Seminar

MEC   8601   Project and Thesis

ELECTIVE COURSES:

MEC   8331   Automation and Control

MEC   8332   Measurement and Control in Industry

MEC   8211   Experimental Stress Analysis

MEC   8212   Advanced Theory of Vibrations

MEC   8213   Introduction to Finite Element Analysis

MEC   8214   Advanced Engineering Mathematics

MEC   8315   Nonlinear Mechanics

MEC   8216   Theory of Plasticity

MEC   8317   Mechanics of Composite Materials

MEC   8218   Advanced Tribology

MASTER OF ENGINEERING MATERIAL AND METALLURGICAL ENGINEERING

CORE COURSES   Units

MEC   8341   Chemical Processing

MEC   8342   Physical Processing

MEC   8243   Structures and properties of metals and alloys

MEC   8244   Economic Analysis, Costing and Material Selection

MEC   8245   Extractive Metallurgy

MEC   8301   Computers & Numerical Methods

MEC   8207   Mechanical Engineering Laboratory

MEC   8208   Management

MEC   8209   Seminar

MEC   8601   Project and Thesis

ELECTIVE COURSES:

MEC   8251   Foundry, Casting, and welding

MEC   8252   Mechanical working and powder metallurgy

MEC   8253   Process and furnace design

MEC   8254   Mechanical properties of material

MEC   8255   Corrosion

MEC   8256   Ceramics, Glasses and Polymer materials

MASTER OF ENGINEERING IN ENERGY ENGINEERING

   CORE COURSES

MEC   8361   Energy conversion with combustion

MEC   8362   Introduction to energy studies

MEC   8363   Principles of Engineering Design

MEC   8301   Computer and Numerical Methods

MEC   8304   Advanced Thermo-hydraulics

MEC   8207   Mechanical Engineering Laboratory

MEC   8208   Management

MEC   8209   Seminar

MEC   8601   Project and Thesis

ELECTIVE COURSES

MEC   8371   Other sources of energy

MEC   8372   Special turbo-machinery

MEC   8373   Direct energy conversion

MEC   8374   Fossil fuel technology and nuclear technology

MEC   8375   Solar energy technology

MEC   8376   Wind energy technology

PGDME I COURSES

MEC7202   Engineer in Society

MEC7301   Engineering Mathematics I

MEC7302   Engineering Materials & Applications-

MEC7303   Engineering Thermodynamics

MEC7304   Engineering Graphics

MEC7201   Engineering Mathematics II

MEC7305   Computer Programming & Numerical Methods-

MEC7203   Technical Report Writing

MEC7204   Statistical Methods

MEC7306   Strength of Materials

MEC7307   Fluid Mechanics

PGDME II COURSES

MEC7308   Engineering Law, Management & Entrepreneurship

MEC7309   Mechanics of Machines

MEC7310   Engineering Design I

MEC7311   Vibrations Vibration

MEC7312   Heat and Mass Transfer

MEC7313   Engineering Design II

MEC7314   Automatic Control System

MEC7315   Mechanical Engineering Maintenance-

MEC7601   Project

ELECTIVE COURSES

MEC7316   Manufacturing Processes, Intro to CAM and Tools and Jigs Design

MEC7317   Internal Combustion Engines

MEC7318   Measurement and Instrumentation

MEC7319   Energy Studies

MEC7320   Air Conditioning and Refrigeration, and other Building Services

MEC7321   Foundry Technology

MEC7322   Engineering Metallurgy

DEGREE OF DOCTOR OF PHILOSOPHY

Mechanical Engineering Department offers:

Ph.D. in Applied Machanics

Ph.D. in Design

Ph.D. in Production Engineering

Ph.D. in Materials and Metallurgical Engineering

Ph.D. in Thermo-Fluids

COURSES

MEC 9301   Research Methods in Engineering

MEC 9302   Sustainability, Policy and Environmental Management

MEC 9303   Project Management

MEC 9601   Thesis