

DIPLOMA IN MECHANICAL ENGINEERING

Pre-requisite

Trade Certificate or Certificate in Mechanical Engineering/ Fitting /Machining/Welding/Auto Mechanic etc or work experience.

ASSESSMENT (DIPLOMA)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

BACHELOR OF ENGINEERING (MECHANICAL)

Pre-requisite

Diploma in Mechanical Engineering

ASSESSMENT

The learning and assessment system involves two parts

(1) **Part (1)**

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

(2) Completion of the course works- submission of the assignments (Theory/ Practical/ Calculations) for the competency units of the subject
(Grading—Complete or Incomplete)

(3) **Part (2)**

Sitting the final test for the subject by either online or paper based test- -Grading—In accordance with St Clements University Higher Education School-Niue Students Handbook.

Year (1)

Certificate in Mechanical Engineering (Each 1.5 Credits) (15 Pt)

Unit Number	Unit Name	Credit Points
Maths 101	Engineering Mathematics	1.5
ME 101	Applied Mathematics	1.5
ME 102	Engineering Thermodynamics	1.5
ME 103	Engineering Mechanics	1.5
ME 104	Machine Principle	1.5
ME 105	Electrical Principle	1.5
ME 106	Electrical Circuits	1.5
ME 107	Heat Transfer	1.5
ME 108	Principle of Engines	1.5
ME201	Introduction to Fluid Mechanics	1.5
	Total	15

Diploma in Mechanical Engineering (Each 1.5 Credits) (15 Pt)

ME 202 Introduction to Aero Dynamics

ME 203 Control Engineering

ME 204 Engineering Fluid Mechanics

ME 205 Manufacturing Processes-and-Materials

ME 206 Introduction to Turbo Machinery

ME 207 Chemical Thermodynamics

ME 208 Hydrocarbons

ME 209 Introduction-to-polymer-science-and-technology

ME 234 Wind Turbines

Mgt 501 Basic Management

Year (2)

Advanced Diploma in Mechanical Engineering (Each 1.5 Credits) (30 Pt)

Mathematics

Maths 403 Engineering-Mathematics

Maths 301 Introductory Finite Difference Methods-for-pdes

Maths 302 Elementary-Linear-Algebra

Maths 303 Introductory Finite Volume Methods-for-pdes

Maths 501 Linear Algebra-c-1

Mechanical Engineering

ME 301 Fluid Dynamics

ME 302 Automation-and-Robotics

ME 303 Computer Aided Design and Manufacturing

ME 304 Introduction to Nonlinearity-in-control-systems

ME 305 Corrosion Prevention

ME 306 Theory-of-waves-in-materials

ME 334 Airconditioning and Refrigeration

ME 434 Mechtronics-Robotics

ME 534 Numerical Control Part 1

ME 634 Pneumatics

EE 617 Building Electrical and Mechanical System Part 1

EE 624 Process Control

Mgt 503 Production & Operation Management

Mgt 505 Quality Management and Manufacturing Engineering

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	

BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)	
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
BAE511 Air-conditioning & Refrigeration	2 pt	ME511 Air-conditioning & Refrigeration	
BAE613 Mechanical Instrumentation Process	2 pt	ME 613 Mechanical Instrumentation & Process	
BAE614 Machine Design	2 pt	ME 614 Machine Design Part 1 Part 2 Part 3	
BAE512 Building Service Water Supply System	2 pt	ME512 Building Service Water Supply System	
BAE511 Air-conditioning & Refrigeration	2 pt	ME511 Air-conditioning & Refrigeration	
BAE613 Mechanical Instrumentation Process	2 pt	ME 613 Mechanical Instrumentation & Process	
	31 pt		

Year (4) Part 1 BE (Mechanical + General Related Subjects)

BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)	
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)	
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)	
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt)	

		Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)	
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)	
Total Credit points	14 Pt		

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE 608 Engineering Competency Demonstration Report Writing (3 pt)

Elective (2 pt)

Subjects	Points	Units
BAE513 Production Technology	2 pt	ME513 Production Technology
BAE611 Maintenance Engineering	2 pt	ME 611 Maintenance Engineering
BAE612 Engineering Metallurgy	2 pt	ME 612 Metallurgy