A matrix linking courses to POs to identify and track the contribution of each course to the POs.

Code	Course	Core/Elective	Programme Outcomes										
			1	2	3	4	5	6	7	8	9	10	11
EMT 1101	ENGINEERING DRAWING I	Discipline Core	/	/									
SMA 1108	ALGEBRA	Common Core	/										
SMA 1109	GEOMETRY AND LINEAR ALGEBRA	Common Core	/										
SMA 1117	CALCULUS I	Common Core	/										
SPH 2174	PHYSICS FOR ENGINEERS	Common Core	/	/									
SCH 2121	CHEMISTRY FOR ENGINEERS	Common Core	/	/									
IGS 1104	INTRODUCTION TO PHILOSOPHY AND CRITICAL THINKING	MOE Compulsory						/		/	/	/	
EMT 1201	WORKSHOP PROCESSES & PRACTICES I	Discipline Core	/	/	/								
EMT 1202	MATERIAL SCIENCE	Discipline Core	/	/	/								
EMT 1203	ENGINEERING DRAWING II	Discipline Core	/	/	/		/	/					
HNS 1100	GENDER, HIV/ AIDS AND SUBSTANCE USE	MOE Compulsory						/		/	/	/	
SMA 1218	CALCULUS II	Common Core	/										
CCS 2101	COMPUTER PROGRAMMING	Discipline Core	/	/			/						
IGS 1201	COMMUNICATION SKILLS: AN INTRODUCTION TO GENERAL STUDIES AND AFRICAN CIVILIZATION	MOE Compulsory						/		/	/	/	
EMT 2101	WORKSHOP PROCESSES AND	Discipline Core	/	/	/								

	PRACTICES II												
EMT 2102	COMPUTER AIDED DESIGN	Discipline Core	/	/	/		/						
EMT 2103	PLANAR MECHANICS	Discipline Core	/	/	/								
EEE 3101	ANALOGUE ELECTRONICS	Discipline Core	/	/	/			/					
SMA 2119	CALCULUS III	Common Core	/										
SMA 2232	ORDINARY DIFFERENTIAL EQUATION (ODE)	Common Core	/										
IGS 2101	COMMUNICATION SKILLS: AFRICA'S CONTRIBUTION TO MATHEMATICS AND FILM	MOE Compulsory						/		/	/	/	
EMT 2201	ENGINEERING MECHANICS	Discipline Core	/	/	/								
EMT 2202	ENGINEERING MATERIALS	Discipline Core	/	/	/				/				
EMT 2203	CIRCUIT AND NETWORK THEORY I	Discipline Core	/	/	/	/	/						
EMT 2204	THERMODYNAMICS	Discipline Core	/	/	/		/		/				
EMT 2205	FLUID MECHANICS	Discipline Core	/	/	/		/		/				
SMA 3244	PARTIAL DIFFERENTIAL EQUATIONS (PDE)	Common Core	/										
IGS 2202	COMMUNICATION SKILLS: AFRICAN TECHNOLOGY AND LITERATURE	MOE Compulsory						/		/	/	/	
EMT 2301	INTERNAL ATTACHMENT	Discipline Core		/	/	/	/	/	/	/	/	/	
EMT 3101	ENGINEERING DESIGN PROCESS	Discipline Core	/	/	/		/		/				
EMT 3102	SOLID AND STRUCTURAL	Discipline Core	/	/	/								

	MECHANICS I													
EMT 3103	ELECTRICAL MACHINE DRIVE I	Discipline Core	/	/	/									
EMT 3104	MECHATRONIC SYSTEM PROGRAMMING I	Discipline Core	/	/	/		/				/			
EMT 3105	CIRCUIT AND NETWORK THEORY II	Discipline Core	/	/	/									
SMA 3121	COMPLEX ANALYSIS	Common Core	/	/										
IGS 3101	COMMUNICATION SKILLS: TRADITIONAL AFRICAN HEALTH AND ENVIRONMENTAL CONCERNS	MOE Compulsory						/		/	/	/		
EMT 3201	PRODUCTION TECHNOLOGY	Discipline Core	/	/	/		/		/					
EMT 3202	MECHATRONIC SYSTEM PROGRAMMING II	Discipline Core	/	/	/		/				/			
EMT 3203	SOLID AND STRUCTURAL MECHANICS II	Discipline Core	/	/	/									
EMT 3204	ELECTRICAL MACHINE DRIVES II	Discipline Core	/	/	/									
EMT 3205	MEASUREMENT AND INSTRUMENTATIO N	Discipline Core	/	/	/									
EMT 3206	DIGITAL ELECTRONICS I	Discipline Core	/	/	/		/				/			
IGS 3202	COMMUNICATION SKILLS: THE ARTS OF AFRICA	MOE Compulsory						/		/	/	/		
EMT 3301	INDUSTRIAL ATTACHMENT I	Industrial training		/	/	/	/	/	/	/	/	/		
EMT 4101	MECHANICAL MACHINE DESIGN	Discipline Core	/	/	/		/				/			

EMT 4102	CONTROL ENGINEERING I	Discipline Core	/	/	/		/				/			
EMT 4103	SENSORS AND TRANSDUCERS	Discipline Core	/	/	/		/				/			
EMT 4104	DESIGN OF MECHATRONIC SYSTEM	Discipline Core	/	/	/		/				/			
SMA 3272	STATISTICS	Common Core	/	/										
EEE 3209	DIGITAL ELECTRONICS II	Discipline Core	/	/	/		/				/			
IGS 4101	CRITICAL THINKING & COMMUNICATION SKILLS CAPSTONE PROJECT 1	MOE Compulsory						/		/	/	/		
EMT 4201	SPATIAL MECHANICS	Discipline Core	/	/	/		/				/			
EMT 4202	ELECTRONIC PRODUCT DESIGN	Discipline Core	/	/	/		/				/			
EMT 4203	CONTROL ENGINEERING II	Discipline Core	/	/	/		/				/			
EMT 4204	POWER ELECTRONICS	Discipline Core	/	/	/		/				/			
EEE 4208	MICROPROCESSORS	Discipline Core	/	/	/		/				/			
SMA 3621	NUMERICAL METHODS	Common Core	/	/										
IGS 4202	CRITICAL THINKING & COMMUNICATION SKILLS CAPSTONE PROJECT 2	MOE Compulsory						/		/	/	/		
EMT 4301	INDUSTRIAL ATTCHEMENT II	Industrial training		/	/	/	/	/	/	/	/	/		
EMT 5101	PROJECT I	Final project		/	/	/	/	/	/	/	/	/	/	
EMT 5102	VIBRATION	Discipline Core	/	/	/									/
EMT 5103	COMPUTER CONTROLLED MANUFACTURING	Discipline Core	/	/	/		/				/			/

EMT 5104	INDUSTRIAL MANAGEMENT	Common Core			/			/			/	/		
EMT 5201	INTEGRATED DESIGN PROJECT	Final project		/	/	/	/	/	/	/	/	/	/	/
EMT 5202	MANUFACTURING PROCESS PLANNING	Discipline Core	/	/	/									
EMT 5203	EXPERIMENTAL STRESS ANALYSIS	Discipline Core	/	/	/									
EMT 5204	INDUSTRIAL LAW	Common Core			/			/			/	/	/	
EMT 5105	ELECTRO-HYDRAULIC AND PNEUMATIC SYSTEM	Discipline Elective	/	/	/		/				/			
EMT 5106	INDUSTRIAL ROBOTICS	Discipline Elective	/	/	/		/				/			
EMT 5205	MANUFACTURING TECHNOLOGY	Discipline Elective	/	/	/									
EMT 5206	PROGRAMMABLE LOGIC CONTROLLERS AND THEIR APPLICATIONS	Discipline Elective	/	/	/		/				/	/	/	
EMT 5107	TRANSMISSION SYSTEMS	Discipline Elective	/	/	/		/				/	/	/	
EMT 5108	AUTOMOTIVE NETWORKING SYSTEM	Discipline Elective	/	/	/		/				/	/	/	
EMT 5207	AUTOMOTIVE SYSTEM COMPATIBILITY AND FAULT DIAGNOSIS	Discipline Elective	/	/	/		/				/	/	/	
EMT 5208	UTILITY FEATURES AND VEHICLE SECURITY SYSTEMS	Discipline Elective	/	/	/		/				/	/	/	

Table 4.8: CPS and CEA Mapping Matrix

Courses	Complex Problem Solving (CPS)							Complex Engineering Activities (CEA)				
	WP1 Depth of Knowledge Required	WP2 Range of conflicting requirements	WP3 Depth of analysis required	WP4 Familiarity of issues	WP5 Extent of applicable codes	WP6 Extent of stakeholder involvement and level of conflicting requirements	WP7 Interdependence	EA1 Range of resources	EA2 Level ofnteractions	EA3 Innovation	EA4 Consequences to society and the environmen	EA5 Familiarity
ENGINEERING DRAWING I	/	/	/									
ALGEBRA	/		/									
GEOMETRY AND LINEAR ALGEBRA	/		/									
CALCULUS I	/		/									
PHYSICS FOR ENGINEERS	/		/									
CHEMISTRY FOR ENGINEERS	/		/									
INTRODUCTION TO PHILOSOPHY AND CRITICAL THINKING	/	/				/						
WORKSHOP	/	/	/	/								

PROCESSES & PRACTICES I												
MATERIAL SCIENCE	/	/	/	/								
ENGINEERING DRAWING II	/	/	/	/								
GENDER, HIV/ AIDS AND SUBSTANCE USE	/		/									
CALCULUS II	/		/									
COMPUTER PROGRAMMING	/	/	/	/								
COMMUNICATION SKILLS: AN INTRODUCTION TO GENERAL STUDIES AND AFRICAN CIVILIZATION	/	/				/						
WORKSHOP PROCESSES AND PRACTICES II	/	/	/	/								
COMPUTER AIDED DESIGN	/	/	/	/								
PLANAR MECHANICS	/	/	/	/								
ANALOGUE ELECTRONICS	/	/	/	/								
CALCULUS III	/		/									
ORDINARY DIFFERENTIAL	/		/									

EQUATION (ODE)												
COMMUNICATION SKILLS: AFRICA'S CONTRIBUTION TO MATHEMATICS AND FILM	/	/				/						
ENGINEERING MECHANICS	/	/	/	/								
ENGINEERING MATERIALS	/	/	/	/								
CIRCUIT AND NETWORK THEORY I	/	/	/	/								
THERMODYNAMICS	/	/	/	/								
FLUID MECHANICS	/	/	/	/								
PARTIAL DIFFERENTIAL EQUATIONS (PDE)	/		/									
COMMUNICATION SKILLS: AFRICAN TECHNOLOGY AND LITERATURE	/	/				/						
INTERNAL ATTACHMENT	/	/	/	/	/	/	/	/	/	/	/	/
ENGINEERING DESIGN PROCESS	/	/	/	/				/	/	/	/	
SOLID AND STRUCTURAL MECHANICS I	/	/	/	/								

ELECTRICAL MACHINE DRIVES I	/	/	/	/								
MECHATRONIC SYSTEM PROGRAMMING I	/	/	/	/								
CIRCUIT AND NETWORK THEORY II	/	/	/	/								
COMPLEX ANALYSIS	/		/									
COMMUNICATION SKILLS: TRADITIONAL AFRICAN HEALTH AND ENVIRONMENTAL CONCERNS	/	/				/						
PRODUCTION TECHNOLOGY	/	/	/	/				/	/	/	/	
MECHATRONIC SYSTEM PROGRAMMING II	/	/	/	/								
SOLID AND STRUCTURAL MECHANICS II	/	/	/	/								
ELECTRICAL MACHINE DRIVES II	/	/	/	/								
MEASUREMENT AND INSTRUMENTATION	/	/	/	/								
DIGITAL	/	/	/	/								

ELECTRONICS I												
COMMUNICATION SKILLS: THE ARTS OF AFRICA	/	/				/						
INDUSTRIAL ATTACHMENT I	/	/	/	/	/	/	/	/	/	/	/	/
MECHANICAL MACHINE DESIGN	/	/	/	/				/	/	/	/	
CONTROL ENGINEERING I	/	/	/	/								
SENSORS AND TRANSDUCERS	/	/	/	/								
DESIGN OF MECHATRONIC SYSTEM	/	/	/	/				/	/	/	/	
STATISTICS	/		/									
DIGITAL ELECTRONICS II	/	/	/	/								
CRITICAL THINKING & COMMUNICATION SKILLS CAPSTONE PROJECT 1	/	/				/	/					
SPATIAL MECHANICS	/	/	/	/								
ELECTRONIC PRODUCT DESIGN	/	/	/	/				/	/	/	/	
CONTROL ENGINEERING II	/	/	/	/								

POWER ELECTRONICS	/	/	/	/								
MICROPROCESSORS	/	/	/	/								
NUMERICAL METHODS	/	/	/	/								
CRITICAL THINKING & COMMUNICATION SKILLS CAPSTONE PROJECT 2	/	/				/	/					
INDUSTRIAL ATTACHMENT II	/	/	/	/	/	/	/	/	/	/	/	/
PROJECT I	/	/	/	/	/	/	/	/	/	/	/	/
VIBRATION	/	/	/	/								
COMPUTER CONTROLLED MANUFACTURING	/	/	/	/								
INDUSTRIAL MANAGEMENT	/	/	/	/	/	/	/	/	/	/	/	/
PROJECT II	/	/	/	/	/	/	/	/	/	/	/	/
MANUFACTURING PROCESS PLANNING	/	/	/	/								
EXPERIMENTAL STRESS ANALYSIS	/	/	/	/								
INDUSTRIAL LAW	/	/	/	/								
ELECTRO-HYDRAULIC AND	/	/	/	/			/					

PNEUMATIC SYSTEM												
INDUSTRIAL ROBOTICS	/	/	/	/			/					
MANUFACTURING TECHNOLOGY	/	/	/	/			/					
PROGRAMMABLE LOGIC CONTROLLERS AND THEIR APPLICATIONS	/	/	/	/			/					
TRANSMISSION SYSTEMS	/	/	/	/			/					
AUTOMOTIVE NETWORKING SYSTEM	/	/	/	/			/					
AUTOMOTIVE SYSTEM COMPATIBILITY AND FAULT DIAGNOSIS	/	/	/	/			/					
UTILITY FEATURES AND VEHICLE SECURITY SYSTEMS	/	/	/	/			/					