THE TECHNICAL UNIVERSITY OF KENYA

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Current Designation:	Technologist, INDUSTRIAL AND PRODUCTION ENGINEERING (DIPE)
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Consultation Hours:	8AM-5PM MON - FRI

EDUCATION

LEVEL	QUALIFICATION NAME	INSTITUTION	YEAR
Masters of Science (M.Sc.)	AEROSPACE ENGINEERING	WIENER NEUSTADT UNIVERSITY OF APPLIED SCIENCES(Austria)	2022
Bachelor of Technology (B.Tech)	INDUSTRIAL TECHNOLOG	EGERTON UNIVERSITY(Kenya)	2010
Diploma	ELECTRICAL ENGINEERING (POWER OPTION)	RAMOGI INSTITUTE OF ADVANCED TECHNOLOTY(Kenya)	2007
Short Course/ Training	COMPUTER APPLICATION	EMMANUEL COMPUTER ACADEMY(Kenya)	2009
O level/Equivalent	KENYA CERTIFICATE OF SECONDARY EDUCAITON (KCSE)	KISUMU DAY SECONDARY SCHOOL(Kenya)	2004
KCPE/Equivalent	KENYA CERTIFICATE OF PRIMARY EDUCATION	KANGA PRIMARY SCHOOL(Kenya)	2000

WORK EXPERIENCE

PERIOD	INSTITUTION	POSITION
MAY 2006 - SEPT 2006	CHEMELIL SUGAR COMPANY	ELECTRICAL INTERN
2013 - 2014	EGERTON UNIVERSITY	TECHNICIAN
2012 - 2012	KK SECURITY GROUP COMPANY	TECHNICIAN(INCHARGE)
2008 - 2010	COMPLY INDUSTRIES LTD	ELECTRICAL ENGINEER

GENERAL STATEMENT ON RESEARCH AREAS

Design of communication systems for a space project Rover using S-band frequency and Simulation using STK software

Wire and Arc Additive Manufacturing (WAAM) called Plasma Metal deposition process (PMD) applied as an alternative to the existing layer manufacturing processes for net-sized geometry deposition. It entailed experiments to identify optimum process parameters to program and automate the system .The optimized process parameters are further applied to the machine control system to automate the geometry deposition process.

Discharging and charging of Lithium ion batteries at interval. Design and Assembly of In build Electronic circuit Capable of Charging and Discharging of battering In Space.

CURRENT RESEARCH PROJECTS

Established a navigation communication system in the lunar orbit.	Space Mission ,Analysis and Design
optimization of the process parameters to automate the plasma-based additive manufacturing of Ti-6Al-4V-components for standardized test vehicles for RHP Technology GmbH.	Material science , automation and additive manufacturing.
Assessment of Thermal behaviour of Lithium ion batteries for cubesat.	Satellite technology, Power supply for electronic PCB.

COURSES TAUGHT

NAME	DESCRIPTION	PERIOD
MECHATRONIC SYSTEMS MAINTENANCE	Assembly and Commissioning: Preparing devices, equipment, components and materials for assembly. Transport means and hoisting gears and assemble aids. Safety measures and checks. Adjusting operations. Tolerances of forward postions. Design, modification or changes of components. Investigation of the operation and performance of mechanical, electrical and software components for commissioning. Waste disposal and recycling during disassembly. Assembly and commissioning of a CNC machine system. Ass	January 2024 - April 2024
Mechatronic Sensor and Actuator Systems	Sensors: Types of sensors; optical, acoustic, tactile, electric, magnetic, thermal, chemical. Technology of sensor systems. Sensing of electrical and mechanical quantities. Measurement of signals, amplification. Measuring techniques. Integrated sensor signals, miniaturization. Networking of sensor systems. Actuators: Pneumatic supply units; compressor, cooler, compressed air container, filters, valves, components of basic circuits of pneumatics. Assembling and connecting pneumatic and hydraulic	January 2024 - April 2024
CONTROL SYSTEMS	Introduction to control system: terminology, Open and closed loop. Block diagrams: Cannical forms, simplification. Signal Flow Graph: Flow diagram, Loop simplification. System Modeling: Transfer function, practical system. System Performance: Dynamic, response, dumping, frequency response Analysis: Frequency response function, Graphical representation of G(jw), Logarithmic representation, contraction of bode diagram. System Stability: Nyquist, Root locus, Routh Hurwitz, Bode plots, Nichols chart	January 2017 - April 2017
ANALOGUE AND DIGITAL ELECTRONICS	Fundamental of analogue and digital electronics. Essential characteristics of such electronic components and devices as PN junction, transistors and operational amplifier. Logic functions and circuits for analysis, design and trouble-shooting Special semiconductor devices: characteristics, applications. Amplifiers: RC coupled, small Signal ac amplifiers, power amplifiers, tuned amplifier, wide band amplifiers. Operational amplifiers: DC amplifiers, differential amplifiers, characteristics, appli	January 2017 - April 2017
ELECTRICAL MACHINES	D. C. Machines: Operation and starting methods. A.C. machines: A.C. Induction and 3 phase commutator motors; types of induction motors, induction motor construction, principles of induction motor operation, description of slip-ring motors, squirrel motors, single phase motors and operation 3-phase A.C. commutator motors Explanation of breaking of induction motors. 3-phase synchronous machines. Electric Drives: Explain methods for load tests on single and 3-phase motors. Describe starting of moto	May 2017 - September 2017
ACTUATOR TECHNOLOGY	Supply units for pneumatics and hydraulics, pneumatic components, basic circuits in pneumatics, servo pneumatics, hydraulic components and pumps, basic circuits in hydraulics, servo hydraulics, dangers in handling pneumatic and hydraulic power modules, economic aspects, industrial safety and protection of environment. Basic circuits and operating principles of electrical drives, installation of electrical drives and putting them into operation, basics of servo drives, D.c drives with line commut	May 2017 - September 2017
SOFTWARE ENGINEERING	Software Engineering: Concepts, principles. Introduction to Programming Languages: Low and High level languages, Merits and Demerits of High level languages, Factors for choice of a High level language. Introduction to Programming: Definition of programming, Program specifications, Program development stages, Program design. Coding in Appropriate Programming Languages for engineering applications.	September 2024 - December 2024
INTELLIGENT SYSTEMS	Essential knowledge of data acquisition, signal processing and intelligent control principles related to the industry to meet the needs in industrial automation. Fundamental principles in data acquisition, signal processing, sensors and actuators and the associated system focusing on PC based control system. Laboratory practical skills A graphical programming language, hardware interfacing, control software development, data acquisition and data communication.	January 2024 - April 2024
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PROFESSIONAL AFFILIATIONS AND SOCIETIES

TITLE	INSTITUTION
Member	IET