



THE TECHNICAL UNIVERSITY OF KENYA

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Faculty:	ENGINEERING AND THE BUILT ENVIRONMENT
School:	MECHANICAL AND AEROSPACE ENGINEERING
Department:	METALLURGY AND MATERIALS ENGINEERING
Current Designation:	Lecturer, DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING (DMAE)
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Consultation Hours:	8AM-5PM MON - FRI



EDUCATION

LEVEL	QUALIFICATION NAME	INSTITUTION	YEAR
Masters of Science (M.Sc.)	METALLURGICAL AND MATERIAL ENGINEERING	OBAFEMI AWOLOWO UNIVERSITY(Nigeria)	1992
Postgraduate Diploma	MECHANICAL ENGINEERING DESIGN	UNIVERSITY OF MANCHESTER(United Kingdom)	2001
Bachelor of Science (BSc)	MATHEMATICS & PHYSICS	UNIVERSITY OF NAIROBI(Kenya)	1980
A Level/Equivalent	EAST AFRICAN ADVANCED CERTIFICATE OF EDUCATION	ST.MARY'S SCHOOL, YALA(Kenya)	1976
O level/Equivalent	EAST AFRICAN SCHOOL CERTIFICATE OF EDUCATION	ST.MARY'S SCHOOL, YALA(Kenya)	1974
KCPE/Equivalent	CERTIFICATE OF PRIMARY EDUCATION (C.P.E)	ST.MARY'S PRIMARY SCHOOL, UKWALA(Kenya)	1970

WORK EXPERIENCE

PERIOD	INSTITUTION	POSITION
01/07/2009 - TO DATE	The Technical University of Kenya	LECTURER; Chairman of Mechanical and Mechatronic Engineering Department(2009-2013 and 2015-2016)
May 1977 - September 1977	East Africa Industries Ltd	LABORATORY ASSISTANT. carried out tests to monitor quality compliance in the factory.
2016 - 2023	Vaal University of Technology	PART-TIME LECTURER
2007 - 2009	Kenya Polytechnic	PRINCIPAL LECTURER; Deputy Head of Mechanical Engineering Department(2006-2009)
2002 - 2007	Kenya Polytechnic	SENIOR LECTURER
1995 - 2007	Jomo Kenyatta University of Agriculture and Technology	PART-TIME LECTURER
1995 - 2002	Kenya Polytechnic	LECTURER
1993 - 1995	Nairobi Technical Training Institute	LECTURER; Head of Science Department(1993-1995)
1985 - 1992	Starehe Boys Centre and School	LECTURER; Head of Physics Department(1982-1989)
1982 - 1985	Starehe Boys Centre and School	GRADUATE TEACHER
1980 - 1982	Homa Bay High School	GRADUATE TEACHER; Head of Mathematics Department(1981-1982)

GENERAL STATEMENT ON RESEARCH AREAS

Machining is a crucial process in industry. It involves severe local plastic deformation of the metal during the cutting process at high strain rates. To optimize the machining protocol that guarantees global integrity optimality with respect to machining residual stresses.

CURRENT RESEARCH PROJECTS

Machining and Climate Change Sustainability Engineering Technology and the Climate

POSTGRADUATE STUDENTS SUPERVISION

NAME	PROJECT TITLE	PERIOD
ORLANDO DAVID OTIENO	DESIGN AND FABRICATION OF AN AUTOMATED PIPE CUTTING MACHINE	2024
MADIRE BG	DESIGN AND STRESS ANALYSIS OF CRANE HOOK SUBJECTED TO VARIOUS LOADS	2024

COURSES TAUGHT

NAME	DESCRIPTION	PERIOD
Solid and Structural Mechanics	Provides students with a foundational understanding of how materials behave under stress and how structures respond to applied loads. This knowledge is crucial for engineers in designing safe, stable, and efficient structures and mechanical systems. The program equips students with the analytical and computational tools to analyze and predict structural behaviour, enabling them to make informed decisions during the design process. Help students acquire analytical and problem-solving skills	September - December
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Strength of Materials	It equips students with the knowledge and skills to analyze, design, and evaluate the strength and stability of structures, components, and mechanical systems. The course teaches students to predict how materials will respond to various stresses, strains, and deformations. It is designed for essential knowledge and skills to analyze, design, and evaluate the strength and stability of structures, enabling them to contribute to the safety and reliability of infrastructure and systems.	April - TO-DATE
Materials Testing Laboratory	Focuses on mechanical testing and computational modelling of structural components and to characterize materials used in the aerospace industry to determine their properties in order to gain practical insight into their capabilities and limitations.	April - TO-DATE
Materials Forming Processes	Discusses how to transform raw materials into semi-finished and finished products by applying mechanical forces, temperature, and material properties. It covers various forming techniques like forging, extrusion, wire-drawing, casting, and powder metallurgy processes, enabling students to understand how these processes impact material properties and final product attributes, helping students select the most suitable process for specific needs.	1995 - 2007
Introduction to Materials Science	Equips students with a comprehensive understanding of the fundamental principles governing material behaviour, design, and processing. This knowledge is crucial for developing innovative materials and technologies that meet the demands of various industries and solve societal problems. Understanding how a material's microstructure, composition, and processing affect its properties is a key focus, and develops students' ability to apply their knowledge to solve real-world engineering problems.	September - December
Materials Science	Discusses how a material's microstructure, composition, and processing affect its properties is a key focus, and develops students' ability to apply their knowledge to solve real-world engineering problems.	1995 - 2007
Engineering Materials and Metallurgy	The primary purpose of Engineering Materials and Metallurgy course programs is to equip students with the knowledge and skills to understand, design, and utilize materials in various engineering applications. This includes understanding different types of engineering materials, their characteristic properties, processing, and performance, particularly metals and alloys.	January - April

PROFESSIONAL AFFILIATIONS AND SOCIETIES

TITLE	INSTITUTION
Engineering Technologist(TET-K)	Institution of Engineering Technologists and Technicians Kenya