Technical University of Mombasa

ACADEMIC STAFF CURRICULUM VITAE

Dr. GACHERU ESTHER Esther NJOKI

Lecturer · Building and Civil Engineering, School of Engineering and Technology

1. PERSONAL AND PROFESSIONAL DETAILS

Full Name	Dr. GACHERU ESTHER Esther NJOKI
Academic Rank	Lecturer
Department / School	Building and Civil Engineering, School of Engineering and Technology
Official Email	gacheruesthernjoki@tum.ac.ke

2. PROFESSIONAL PROFILE

Dr. Esther Njoki Gacheru is a Lecturer and Chairperson of the Department of Building and Civil Engineering at the Technical University of Mombasa. She holds a PhD and MSc in Construction Project Management from Jomo Kenyatta University of Agriculture and Technology and a Bachelor of Education in Technology (Building and Construction) from Moi University.

She is a registered Professional Engineering Technologist with the Kenya Engineering Technology Registration Board (KETRB), with over 15 years of experience in higher education, technical training and construction practice.

Her areas of expertise include construction project management, quality assurance in construction, competency-based education and training (CBET), curriculum development and engineering education. Her research focuses on improving quality assurance practices in the construction industry, particularly among building contractors in Kenya.

Dr. Gacheru has contributed to national curriculum development, authored educational textbooks and published research in construction management and quality assurance. She has also served in academic quality assurance, curriculum development and institutional leadership roles.

As Chairperson, she is committed to strengthening academic excellence, practical engineering education, applied research and industry collaboration to prepare competent and innovative engineering professionals.

3. ACADEMIC QUALIFICATIONS

Year	Qualification	Specialization	Institution
2025	PhD	Construction Project Management	Jomo Kenyatta University of Agriculture and Technology
2015	MSc	Construction Project Management	Jomo Kenyatta University of Agriculture and Technology
2008	B. Ed. Tech.	Building and Construction	Moi University

4. PROFESSIONAL TRAININGS

Year	Training / Certification	Provider	Duration
2025	Senior Management Course	Kenya School of Government	3 months
2024	School of Ministry and Leadership Development	CITAM Mombasa	1 Year

5. CURRENT POSITION AND RESPONSIBILITIES

Current Position: Lecturer

Key Responsibilities:

1. **Teaching and Learning:** Delivering undergraduate and postgraduate courses in construction technology, building technology, construction management and research methodology, including preparation of course materials, assessment and evaluation of student learning.
2. **Research and Supervision:** Supervising undergraduate and postgraduate research projects, conducting scholarly research and contributing to publications in construction project management, quality assurance and engineering education.
3. **Curriculum Development:** Participating in the development, review and improvement of academic programmes, course outlines and instructional materials to ensure relevance to industry needs and academic standards.
4. **Student Mentorship and Academic Advising:** Providing academic guidance, mentoring students and supporting their professional development and research activities.
5. **Practical Training:** Coordinating laboratory activities, field visits and practical learning experiences to strengthen students' technical competencies and application of engineering principles.
6. **Assessment and Quality Assurance:** Preparing and moderating examinations, assessing student performance and ensuring compliance with university academic regulations and quality assurance requirements.

7. **Academic and Industry Engagement:** Participating in academic committees, professional development activities, research collaborations and industry engagements that enhance teaching, learning and knowledge transfer.

6. TEACHING & RESEARCH EXPERTISE

Teaching Areas: Construction Management, Building and Construction Technology, Engineering Materials, Engineering Drawing, Workshop Technology and Practice, and Research Methodology.

Research Interests: Construction Project Management; Quality Assurance and Quality Control in Construction; Sustainable Construction Materials and Technologies; Construction Industry Regulation and Compliance; Infrastructure Performance and Sustainability; Competency-Based Education and Training (CBET); Engineering Education; and Curriculum Development and Implementation.

Research Collaborations:

NextGen Build: Empowering Green Innovation and Carbon Intelligence in African and Danish Cities (2026–2027)

A DANIDA Fellowship Centre SEED-funded initiative under the Knowledge and Innovation Programme, focusing on sustainable built environments, low-carbon construction and climate-responsive urban development. The project explores innovative approaches to reducing carbon emissions in the construction sector, including Building Information Modelling (BIM), Life Cycle Assessment (LCA) and digital technologies for carbon monitoring. The seed phase supports international research partnership development and preparation of a comprehensive collaborative research proposal.

7. PUBLICATIONS AND SCHOLARLY OUTPUTS

Peer-reviewed Journal Articles:

1. Gacheru, E. N., Diangá, S., Masu, S., & Onchiri, R. (2024). A framework for enhancing quality assurance practices of building contractors. *Africa Habitat Review, 19*(1).
2. Gacheru, E. N., Diangá, S., Masu, S., & Onchiri, R. (2023). Evaluating factors influencing quality assurance of building construction projects: A PLS-path modelling approach. *Multidisciplinary Journal of TUM, 2*(2), 2023–2052. https://doi.org/10.48039/mjtum.v2i2.66
3. Gacheru, E. N., & Diang’, S. O. (2015). Regulating building contractors in Kenya and challenges of enforcing the National Construction Authority mandate. *International Journal of Soft Computing and Engineering, 5*(1).
4. Koech, J. K., Onchiri, R. O., & Njoki, E. (2026). Investigation of the performance of subgrade stabilised by sisal fibre for low-volume sealed roads. Multidisciplinary Journal of Technical University of Mombasa, 5(2). [In press].

Books/Book Chapters:

Njoki, E *et al* (2025), Building and Construction, Learner's Book Grade 10, Mentor Publishers.

Njoki, E *et al* (2023), Pre-Technical Studies, Learner's Book Grade 7, Mentor Publishers.

Njoki, E *et al* (2023), Pre-Technical Studies, Learner's Book Grade 8, Mentor Publishers.

Njoki, E *et al* (2024), Pre-Technical Studies, Learner's Book Grade 9, Mentor Publishers.

8. POSTGRADUATE SUPERVISION AND MENTORING

Master's: 4 ongoing.

10. PROFESSIONAL & LEADERSHIP EXPERIENCE

1. Chairperson, Department of Building and Civil Engineering | Technical University of Mombasa | June 2025 – Present

Providing academic and administrative leadership, coordinating departmental programmes, overseeing staff and academic activities, promoting research and industry partnerships, and ensuring compliance with university academic standards.

2. Departmental Examinations Coordinator | Technical University of Mombasa | August 2016 – January 2019; May 2024 – February 2025

Coordinated examination preparation, moderation, administration and processing of examination results while ensuring adherence to university examination regulations.

3. Departmental Timetabler | Technical University of Mombasa | February 2019 – January 2023

Coordinated departmental teaching and examination timetables to support effective academic planning and utilisation of teaching resources.

11. AWARDS, MEMBERSHIPS & PROFESSIONAL CONTRIBUTIONS

Professional Registration and Memberships

1. Registered Professional Engineering Technologist (P. Eng. Tech), Kenya Engineering Technology Registration Board (KETRB), Registration No. P00597/5-19.
2. Member, Institution of Engineering Technologists and Technicians of Kenya (IET-K), Membership No. 257.
3. Licensed Trainer and Assessor in Building and Construction Technology, Technical and Vocational Education and Training Authority (TVETA), Licence No. TVETA/T247523.

Academic and Professional Service

1. Internal and External Examiner for postgraduate research, contributing to academic quality assurance and scholarly assessment.

2. Research Ethics Reviewer, Technical University of Mombasa.

Curriculum Development and Professional Contributions

1. Contributor to national curriculum development through the Kenya Institute of Curriculum Development (KICD) and National Industrial Training Authority (NITA).
2. Author and co-author of educational textbooks in Pre-Technical Studies (Grades 7–9) and Building and Construction (Grade 10 and 11).
3. Trainer of Master Trainers in Competency-Based Education and Training (CBET).
4. Member, Technical University of Mombasa Recognition of Prior Learning Policy Development Committee (2026).

Industry and Community Engagement

1. Patron, Civil Engineering Club, Technical University of Mombasa.
2. Engagement with professional bodies, construction industry practitioners and government agencies to promote practical engineering education, professional development and industry collaboration.

12. KEY ACHIEVEMENTS / IMPACT

1. Research Contribution to Construction Quality Assurance

Developed a research-based framework for strengthening quality assurance practices among building contractors in Kenya through doctoral research, contributing to knowledge on construction quality management, regulatory compliance and improved performance in the construction industry.

2. National Curriculum Development and Educational Publishing

Contributed to national competency-based curriculum development through the Kenya Institute of Curriculum Development (KICD), including the development and review of Building Construction curriculum designs for senior school. Co-authored textbooks in Pre-Technical Studies for Grades 7–9 and Building and Construction for Grades 10 and 11, supporting the implementation of competency-based education in Kenya.

3. Academic Leadership and Institutional Development

Providing academic and administrative leadership as Chairperson of the Department of Building and Civil Engineering at the Technical University of Mombasa, coordinating academic programmes, curriculum development, quality assurance, research activities and institutional partnerships to strengthen teaching, learning and departmental performance.

4. Scholarly Research and Publications

Authored and co-authored peer-reviewed research publications addressing construction quality assurance, construction project management, regulatory compliance and engineering materials, contributing to scholarly knowledge and evidence-based improvements in construction and engineering practice.

5. International Research Collaboration and Sustainable Development

Participating in the DANIDA SEED-funded NextGen Build international research collaboration, involving institutions in Denmark, Kenya and South Africa, to advance green innovation, carbon intelligence, sustainable construction and climate-responsive urban development through interdisciplinary research partnerships.

6. Professional Recognition and CBET Capacity Development

Registered as a Professional Engineering Technologist with the Kenya Engineering Technology Registration Board (KETRB), a Registered TVET Trainer with the Technical and Vocational Education and Training Authority (TVETA), and an Accredited Competency Based Curriculum Developer with TVET CDACC. Completed GIZ-supported international Training of Master Trainers in Competency-Based Education and Training (CBET), contributing to professional capacity building through curriculum development, competency-based assessment and training of trainers.

7. Academic Quality Assurance and Research Supervision

Contributed to academic quality assurance through programme audits, examination coordination, undergraduate and postgraduate research supervision, and postgraduate thesis examination. Supported the maintenance of academic standards, research quality and continuous improvement in engineering education.

8. Student Mentorship and Industry Engagement

Serving as Patron of the Civil Engineering Club at the Technical University of Mombasa, mentoring students and facilitating professional development through industry seminars, technical webinars, educational site visits and engagement with practising engineers, regulatory agencies and professional institutions, strengthening connections between academic learning and engineering practice.

9. Institutional Governance and Leadership in TVET

Served on the Boards of Governors of Mwatate, Godoma and Weru Technical Training Institutions, contributing to institutional governance, strategic planning, policy oversight, quality assurance and the advancement of technical and vocational education.

10. National Occupational Standards and CBET Curriculum Development

Contributed to the development and review of national occupational standards, qualification packs and competency-based training curricula in collaboration with the National Industrial Training Authority (NITA). Selected as a technical expert to support the development of industry-responsive occupational standards and qualifications aligned with labour market demands and national skills development priorities.