

# CURRICULUM VITAE



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## AREA OF SPECIALIZATION

Dr. Rose Atieno Mutende is a Science Teacher Educator. Her expertise centers on teacher preparation, curriculum design, development and implementation for STEM education. As a teacher educator and curriculum scholar, Dr. Mutende is dedicated to improving STEM teaching and learning, through research, innovation, and policy-informed practice.

## EDUCATIONAL BACKGROUND

Misikhu Girls High School, Kenya advanced Certificate of Education (K.A.C.E).  
Naivasha Girls Secondary School, Kenya Certificate of Education (K.C.E).  
Naivasha DEB Primary School Certificate of Primary Education (CPE).

## **PROFESSIONAL QUALIFICATIONS**

1. Doctor of Education (Curriculum Studies), University of Nairobi
2. Master of Education (Science Teacher Education), Aga Khan University
3. Bachelor of Education (Science), Moi University

## **PROFESSIONAL EXPERIENCE**

1. Senior Lecturer, Department of Curriculum & Pedagogy,
2. Coordinator, Centre of STEM,
3. PhET Fellow, University of Colorado Boulder
3. LabXchange Teacher Ambassador, Harvard University

## **PROFESSIONAL MEMBERSHIPS**

1. Founding Member, Women in STEM Network
2. Forum for African Women Educationalist

## **NOTABLE ACHIEVEMENTS AND RECOGNITION**

1. Coordinated Faculty Capacity Building in the integration of STEM Pedagogy and Simulations in the teaching of STEM related course units.
2. Spearheaded the establishment of the Kibabii University STEM Clubs.
3. Mentored and supported formation of STEM clubs in secondary schools
4. PhET Fellow Award – University of Colorado Boulder (2024)
5. LabXchange Ambassador Recognition – Harvard University/Amgen Foundation (2023)

## **RESEARCH INTERESTS**

1. Teacher preparation and professional development
2. Curriculum design and implementation
3. Integration of STEM Pedagogies and digital resources in teaching
4. Pedagogical innovations in low-resourced educational settings

## **AREAS OF EXPERTISE**

- Development of course learning material and activities for blended delivery on to the Kibabii University Learning Management System.
- Application of STEM Pedagogies and simulations in teaching and learning.
- Pre-service Teacher training and In-service Professional Development.
- Design, implement, evaluate and monitor educational curricular and programs.
- Research grant proposal writing.
- Conducting Research (data collection, analysis and reporting)

## **RESEARCH AND PUBLICATIONS**

Mutende, R. A., and Imonje, R. (2019). **Preservice Teacher Preparation for Application of Discussion Teaching Method in Secondary School Science Lessons.** *International Journal of Scientific Research and Innovative Technology*. Vol. 6(5). Pps 73-89.

Mutende, R. A., Akala, W., & Imonje, R. K. (2019). **Influence of Preservice Teacher Learning on the Application of Laboratory Experiment teaching method.** *Journal of Education and practice*. Vol. 10(18). 107-121. <https://doi.org/10.7176/jep/10-18-15>

Mutende, R. A., Akala, W., & Imonje, R. K. (2021). **Connecting theory and practice: Pre-service science teachers' adoption and implementation of the demonstration method.** *International Journal of Learning, Teaching and Educational Research*, 20(5), 189-210. <https://doi.org/10.26803/ijlter.20.5.11>

Mutende, R., Imonje, R., & Akala, W. (2021). **Pre-service Science Teachers' Integration of Constructivist Ideas in the Lecture Method.** *International Journal of Learning, Teaching And Educational Research*, 20(6), 277-298. <https://doi.org/10.26803/ijlter.20.6.15>

Murambi, A., Simiyu, C. & Mutende, R. (2023). **Implications of Teachers' Capacity on the Implementation of Computer Studies Curriculum in Public Secondary Schools in Bungoma County, Kenya.** *International Journal of Research and Innovation in Social Science (IJRISS)*, 7(7), 2047–2056. <https://doi.org/10.47772/IJRISS>

Okoti, D., Kati, R. O., & Mutende, R. (2022). **Structure and content of sports training curriculum and its association with athletes' achievement in sports academies in Kenya.** *International Journal of Research and Innovation in Social Science*, 6(7), 383–390

Okoti, D., Kati, R. O., & Mutende, R. (2022). **Coaches' qualifications and athletes' achievement in sports academies in Kenya.** *International Journal of Science and Research*, 11(7), 535–541. <https://doi.org/10.21275/SR22705200740>

Barasa, R. J., Mutende, R., & Nyongesa, B. (2024). **Perception of teachers of English towards use of role play teaching technique on students' performance in communicative skills among secondary school students in Bungoma North Sub-County, Kenya.** *International Journal of Research and Innovation in Social Science*, 8(8), 4000–4010. <https://dx.doi.org/10.47772/IJRISS.2024.8080300>

Mutende, R. A. (2025). **Bridging Theory and Practice in STEM Teacher Education: Examining the Impact of STEM Teaching Competency Development and Micro-teaching on Pre-Service Science Teachers' Classroom Readiness in Kenya.** *International Journal of research and innovation in Social science*, 9(6), 1396-1411  
<https://dx.doi.org/10.47772/IJRISS.2025.906000111>

Mutende, R. A. (2025). **Enhancing STEM Competency and Educational Equity in Rural Schools Through PhET Simulations and Teacher Development.** *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 15(3) Ser. 5, 32–39. <https://doi.org/10.9790/7388-1503053239>

Mutende, R. A. (2025). **Influence of Teacher Engagement with PhET Simulations on Learner Engagement and Conceptual Understanding in Science.** *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 15(3) Ser. 6, 18-26. <https://doi.org/10.9790/7388-1503061826>

### POSTGRADUATE STUDENT SUPERVISION

S/ N	Name	Level	Year Of Grad	Graduation & Booklet page
1.	Barasa R. Juma	MEd (Curriculum & Instruction)	November 2024	9 <sup>th</sup> Graduation pg 9
2.	Wandili Austin Murambi	MEd (Curriculum & Instruction)	December 2023	8 <sup>th</sup> Graduation pg 22
3,	Okoti David	PhD (Curriculum & Instruction)	March 2023	7 <sup>th</sup> pg 27

### ONGOING RESEARCH PROJECTS

1. Strengthening Mental Health Awareness among Secondary School Students
2. Analysis of the effect of energy sources on the health and education of school age in the Lake Region Economic Block slum areas of Kenya.

### CAREER SUMMARY

**Current Employer:** Kibabii University

**Position:** Senior Lecturer, Department of Curriculum and Pedagogy

**Duties:** Teaching and Examining courses offered in the Department, Research & Extension Services

### TEACHING EXPERIENCE AT KIBABII UNIVERSITY

#### 1. Responsibilities

- Promoting and implementing quality teaching, learning and research activities in the department.
- Ensuring that course assignments are done (supervision of undergraduate).
- Participation in conferences, workshops, seminars, symposia, internally and externally.
- Holding consultation with students on academic affairs.
- Participating in the development of new programs and revision of existing ones. (proof-reading)
- Facilitating allocated courses
- Administering and supervising examinations.
- Preparing, Summarizing and presenting examination results for students to the chair of department and onward for approval by the Faculty Board of Examiners
- Participating in faculty or departmental meetings / writing minutes.

- Liaising with chair of department in all matters delegated to me.
- Advising students on academic matters and listening to their problems and requests.
- Setting and moderating examinations
- Marking and moderating examination results
- Organizing course examination records of students.

## **2. Skills**

My experience initially as a trained secondary school teacher and now as a practicing teacher educator at university have helped me develop the skills required to;

- Analyze, develop and enrich education curricula.
- Design, and apply technology-enriched learning resources and activities that can enhance and enrich the pedagogical knowledge and skills in STEM concepts with a focus on quality teaching and learning.
- Identify and analyze emerging and contextually relevant issues, and articulate their implications for the teaching, learning, assessment in STEM subjects and courses.
- Explore the contemporary teaching approaches such as blended learning and the alternative methods and assessment practices, and demonstrate their implications for students learning and teachers' delivery at secondary school and post secondary levels.
- Conduct research to address identified educational issues, or concepts in the teaching and learning of STEM curricula, and which impact on student learning as well as teacher delivery.
- Conduct research to generate new knowledge that promote educational reforms as well as report and disseminate findings locally and globally.

## **3. Abilities**

My academic and professional qualifications as well as experience as secondary school teacher and teacher educator have helped me develop the ability to competently;

- Design and develop blended learning courses in the Moodle Learning Management System
- Teach various postgraduate and undergraduate courses as assigned in the department
- Supervise and support postgraduate students to undertake research and write theses and dissertations.
- Supervise and support students on teaching practice to develop pedagogical knowledge and skills for effective implementation of curricula.
- Develop and apply appropriate instructional materials and learning aids including multimedia, for use in teaching, and which can create interest, foster critical thinking, and enhance learners understanding of concepts.
- Engage learners of all levels in interactive and reflective experiences to facilitate them to build understandings and competencies in major concepts, methods and language required in contemporary STEMteaching and learning.
- Draw up and implement educational and other work plans.

- Plan for and successfully run effective educational workshops.
- Conduct research, publish and participate in seminars and conferences locally and internationally.
- Use the computer and its technologies to source for learning materials and relevant knowledge to enrich my own knowledge on educational issues.

## COMMUNITY SERVICE

### 1. Kibabii University Community

- Member of the Kibabii University Senate
- Member, Board of Quality Assurance and Performance Contracting (QA & PC) Directorate
- Auditor, Internal Quality Audits
- Science Student Teacher advisor, Department of Curriculum and Pedagogy

### 2. Extension Services

- Member, Board of Governors, Wanga Technical & Vocational College
- Vice Chair, Board of Management, Booker Academy
- Vice Chair, Board of Management, Musanda Secondary School

## PARTICIPATION PROFESSIONAL DEVELOPMENT

- **July to November 2021:** I participated in the planning of the virtual STEM Education International Conference 2021 (STEMEIC2021), themed “**STEM Education and Innovation in Africa and beyond during and post COVID-19: Ensuring Quality, Equity and Inclusivity**” held on 17th – 19th Nov 2021.
- **11<sup>th</sup> February, 2021 and 12<sup>th</sup> February, 2021:** Attended a workshop on Designing Blended Courses in Moodle.
- **16<sup>th</sup> November 2020– 4<sup>th</sup> December 2020: Moodle Training** (Collaboration of Kibabii University and Commonwealth of Learning).
- **31<sup>st</sup> August 2020 to 4<sup>th</sup> September 2020: Digital Content Training** to enable lecturers to interact with students online.
- **22<sup>nd</sup> April 2020:** Training on basic skills of managing online teaching and learning specifically Designing Self-Directed Online Courses and Assessments on the Kibabii University E-Learning Platform and Using Video-Conferencing facilities in Open and Distance learning.
- **September 11<sup>th</sup> – 17<sup>th</sup> 2015:** Attended and successfully completed training in **Quality Management Systems based on ISO 9001: 2008** at Kibabii University College
- **July 27<sup>th</sup>-28<sup>th</sup> 2015:** Successfully attended and participated in **Pedagogical Skill Training Workshop** at Kibabii University

- **March 16<sup>th</sup> -18<sup>th</sup> 2015:** Successfully completed a course in **Assessment and Examination for ISO 9001: 2008 Internal Quality Auditor Course**
- **October 2014 – Feb.2015** – Attended participated in the preparation of **ISO Quality Management System Procedures**
- **May 15<sup>th</sup> – 16<sup>th</sup> 2014** – Attended and successfully completed **Corporate Governance Training Course**
- **March 21<sup>st</sup> 2014:** Attended Kibabii University Staff Induction Workshop on **Enhancing Management Culture, Integration and Internalization**
- **2002 – 2008:** Attended and completed the on-going INSET for secondary school teachers in the **Strengthening of Mathematics and Science in Education (SMASE)** - a project of the Kenya Government (Ministry of Education) and JICA, whose focus is to improve on the teaching of science and mathematics subjects in schools.
- **1996:** Trained as an examiner for the Kenya National Examination Council (KNEC) to mark the Kenya Certificate of Secondary Examination (KCSE).

#### **SCHOLARLY PRESENTATIONS AT INTERNATIONAL EDUCATIONAL CONFERENCES**

- **February 20<sup>th</sup> – 21<sup>st</sup> 2012:** Presented an educational research paper at an International Conference on: **Education Reform and Innovation in Enhancing Quality and Equity** held at Kenyatta University.
- **June 9<sup>th</sup> – 12<sup>th</sup> 2015:** Presented an educational research paper at an International Conference on **New Paradigms in National and International Security** hosted by MMUST in collaboration with Educational Management Society of Kenya.
- **June 14<sup>th</sup>- 15<sup>th</sup> 2017:** Presented an educational research paper during the 2<sup>nd</sup> Interdisciplinary, International Scientific Conference on: **Innovative Research and Knowledge for Global Competitiveness and Sustainable Development** held at Kibabii University

## REFEREES

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