

Term of reference

The Centre of Materials Engineering (CME) at the University of Cape Town (UCT) is committed to advancing research, education, and innovation in materials science and engineering. This document outlines CME's mandate, strategic objectives, and governance to ensure effective collaboration and impactful research.

CME aims to:

- *Advance Materials Science and Engineering:* Conduct cutting-edge research to understand and innovate within the materials engineering tetrahedron, linking process, structure, property, and performance.
- *Support Industry:* Develop and apply materials solutions that enhance the competitiveness and sustainability of the South African materials science and manufacturing industry.
- *Foster Collaboration:* Promote interdisciplinary research and partnerships with academia, industry, and government to address complex materials-related challenges.
- *Enhance Education:* Provide high-quality education and training to develop the next generation of materials engineers and scientists in South Africa and abroad.
- *Drive Innovation:* Translate research findings into practical applications and technological advancements that benefit society and the environment.
- *Promote Inclusivity:* Attract and nurture diverse talent, ensuring equitable opportunities and representation within the field of materials engineering.

CME's Strategic Objectives are:

- *Advance Collaborative Research:* Foster interdisciplinary research within UCT and with external partners to drive innovation in materials science and engineering.
- *Support National Priorities:* Align research with strategic national and industry needs to enhance South Africa's manufacturing competitiveness and materials performance.
- *Publish High-Impact Research:* Translate research outputs into high-quality publications in top-tier journals and conferences, disseminating findings to the broader scientific community and industry stakeholders.
- *Attract and Develop Talent:* Draw high-quality postgraduate students and postdoctoral fellows from diverse backgrounds, promoting inclusivity and representation of South African and African society.
- *Enhance Infrastructure:* Provide state-of-the-art workspaces and research facilities to support cutting-edge research and collaboration.
- *Secure Funding:* Obtain financial support from government, industry, international, and university sources to sustain and expand CME's research activities.
- *Contribute to Education:* Support undergraduate and postgraduate teaching, promoting awareness and interest in materials science and engineering.
- *Conduct Ethical Research:* Uphold high standards of ethics in research, ensuring that all activities contribute to positive societal and environmental advancements.
- *Align with EBE and UCT Vision 2030:* Work towards the Engineering & the Built Environment (EBE) Faculty's vision and UCT Vision 2030, contributing to the university's strategic goals of excellence, transformation, and sustainability.

CME's governance structure includes:**Management Committee, comprised of the following:**

- Director (Chair)

- Deputy Director(s)
- Honours Programme Convenor
- Principal Investigators of research groupings
- Senior Technical Officer/Administrative Manager

The responsibilities of the Management Committee include:

- Develop and implement CME's strategic plan.
- Oversee day-to-day operations and administration.
- Ensure compliance with UCT policies and procedures.
- Manage financial resources and budgeting.
- Monitor and evaluate CME's performance.

Honours Programme Committee, comprised of the following:

- Honours Programme Convenor (Chair)
- Course convenors of the Honours programme
- Student representatives from the Honours cohort

The responsibilities of the Honours Programme Committee

- Develop and review the curriculum for the Honours programme.
- Maintain high academic standards and foster innovation in the curriculum.
- Ensure alignment of the Honours programme with CME's research focus and strategic goals.
- Monitor the academic progress and welfare of Honours students.
- Facilitate student involvement in research projects and industry partnerships.
- Organise seminars, workshops, and other academic events for Honours students.

- Associate Academics (invited by the Management Committee) comprised of the following:
- Associate Academics from relevant disciplines
- Industry experts

The responsibilities of the Associate Academics include:

- Provide strategic guidance and advice.
- Facilitate external collaborations and partnerships.
- Facilitate financial support for CME and its research activities.
- Contribute to teaching at undergraduate and postgraduate levels.
- Support the pipeline for graduates to pursue higher degrees in materials engineering.

CME aims to review and evaluate its performance:

- Regularly review CME's activities and performance against its Aims and Strategic Objectives.
- Undergo external peer reviews as per UCT guidelines.
- Implement recommendations from reviews to ensure continuous improvement.

Amendments

- The Management Committee will review these Terms of Reference and amend them to reflect CME's Strategic Objectives and Governance changes.