



UNIVERSITY
OF
JOHANNESBURG

POSTGRADUATE SCHOOL
OF ENGINEERING
MANAGEMENT

**Faculty of Engineering and
the Built Environment:
University of Johannesburg**
**THE POSTGRADUATE SCHOOL OF
ENGINEERING MANAGEMENT**

**The Future
Reimagined**



ENGINEERING MANAGEMENT PROGRAMMES

Solve Social Problems by
Integrating Your Technical Skill
with Management Know-How

The Postgraduate School of Engineering
Management offers postgraduate programmes
to build future engineering managers.

WHAT IS ENGINEERING MANAGEMENT?

Our degrees in Engineering Management give you the opportunity to enhance both your engineering and business skills. This is the first time that students can participate in a degree that combines engineering, economics, and business courses designed to elevate your overall skill level in an interdisciplinary way. Deepen your technical capabilities and gain the management knowledge necessary for solving urgent social problems.



WHY A DEGREE IN ENGINEERING MANAGEMENT?

The world is rapidly changing which has given rise to complex socio-technical problems such as sustainability, water, and many others. This in turn has created a need for companies and organisations to hire people capable of solving problems from multiple angles.

By developing your professional engineering practice and introducing you to core business and management subjects, you will develop the skills to successfully tackle today's issues. This integration of engineering and business approaches will empower you to come up with innovative solutions to modern-day problems. With a cross-disciplinary degree, you are also more likely to fast-track your professional development as it equips you to manage projects (and people) from start to finish.



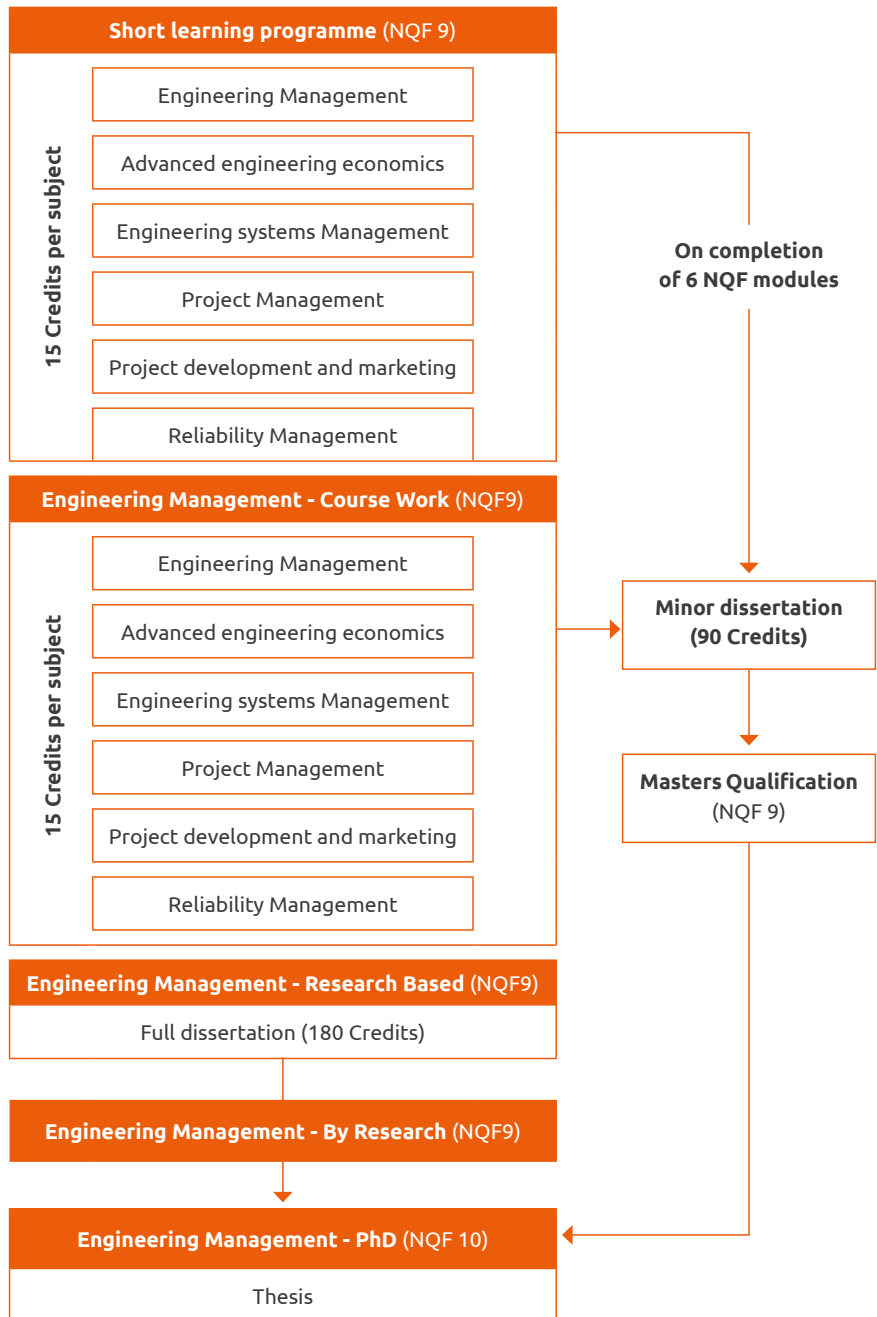
WHAT CAN YOU EXPECT?

The Postgraduate School of Engineering Management offers a range of postgraduate programmes.

- **Short Learning Programme:** The school offers 6 NFQ 9 Short Learning Programmes covering Engineering Management, Advanced Engineering Economics, Engineering System Management, Project Management, Project Development and Marketing, and Reliability Management. Upon completion of all 6 SLPs, you can enrol to do a minor dissertation to receive a Master's degree.
- **Master's (Coursework):** You can opt for a coursework-based Master's degree which requires the completion of 6 modules and a minor dissertation. The courses cover Engineering Management, Advanced Engineering Economics, Engineering System Management, Project Management, Project Development and Marketing, and Reliability Management.
- **Master's (Research):** You can complete a research-based Master's degree by submitting a full dissertation.
- **PhD:** Once you have completed a relevant Master's degree of your choice, you can earn a PhD in Engineering Management.



THE PROGRAMME STRUCTURE IS ILLUSTRATED BELOW:



WHAT SUPPORT WILL YOU RECEIVE?

Our School of Postgraduate Studies serves the purpose of supporting students in their studies. More specifically, our Research Capacity Development Department provides training and development opportunities for students in need of assistance. Every year they offer a range of workshops, programmes, events, and seminars designed to develop researchers. So, if you choose to complete a research-based Master's, you will have ample support.

Students who select our coursework-based Master's will be supported via online modules and an individual supervisor who is there to help you stay on track and succeed in your studies.



WHO SHOULD APPLY?

MASTER'S PROGRAMMES: MENG OR MPHIL (ENGINEERING MANAGEMENT)

Applicants need a relevant Engineering qualification on NQF level 8, with relevant engineering experience.

HOW TO APPLY

Kindly note that all applications must be submitted online. The link is available from the UJ website (www.uj.ac.za). No applications will be received via email.

To ensure there are no delays in application processing, make sure the correct supporting documentation is submitted with your application.

THE APPLICATION PROCESS

Applications for our research-based Master's and PhD degrees must include a research idea, together with the supporting documents, as detailed in the table below.

The research idea sets out:

- the research problem.
- the significance of the problem.
- the need for the study.

The idea should be no longer than two to three pages and must be relevant to the Engineering Management discipline.

The idea should include:

- An overview of your research problem.
- The main objectives of your research, including details of two to three key aspects.
- The academic and/or practical importance within the Engineering Management discipline.
- Expected research outcomes.
- An outline of expected methods/ approaches to achieve research objectives.

In development of the idea, avoid broad-based research areas and vague descriptions of your research interests, such as energy management or business optimisations.

The research idea is used in directing your application to potential supervisors, so it must be as detailed as possible.

The page limitation of three pages requires you to be concise and clear, with a focus on quality.

Following acceptance of your idea, you will be required to register, and a supervisor will be appointed. An advanced proposal (which is to be defended at the school's panel) must be submitted in six (6) months for a research-based Master's and nine (9) months for a PhD.

Acceptance of the advanced proposal is final confirmation of your registration in the respective Master's or PhD programme.

| Program | Online application | Academic records | Degree Certificate | Curriculum vitae (CV) | Research proposal | International Applicants |
|------------------------|--------------------|------------------|--------------------|-----------------------|-------------------|--------------------------|
| PhD | Required | Required | Required | Required | Required | SAQA evaluation |
| Research based Masters | Required | Required | Required | Required | Required | SAQA evaluation |
| Coursework Masters | Required | Required | Required | Required | N/A | SAQA evaluation |

SCHOOL STAFF

MEET THE PEOPLE WHO WILL EDUCATE AND GUIDE YOU THROUGH YOUR STUDIES.

| | |
|--|--|
| Prof Annlize Marnewick amarnewick@uj.ac.za | HOS and Professor of Engineering Management RESEARCH AREAS: Systems engineering, requirements engineering, and solving cross-discipline industry problems through the application of engineering management principles |
| Ms Gina Kuo ginar@uj.ac.za 011 559 1732 | School Administrator |
| Ms Deligent Nkosi deligentm@uj.ac.za 011 559 1739 | Short Learning Programme Administrator |
| Prof Jan-Harm Pretorius jhcpretorius@uj.ac.za | Professor of Engineering Management RESEARCH AREAS: Energy efficiency, reliability and diverse study fields within engineering management. |
| Dr Tebello Mathaba tmathaba@uj.ac.za | Senior Lecturer in Engineering Management RESEARCH AREAS: Energy management, Internet-of-Things technology applications, electrical engineering, mathematical modelling, and resource optimization. |
| Prof Paul Mativenga | Distinguished Visiting Professor RESEARCH AREAS: Micro milling, micro drilling and high-speed machining, contact phenomenon in high-speed machining, heat generation and partition in machining, modelling of dynamic cutting forces in high-speed machining, and sustainable manufacturing |
| Prof Johan Enslin | Distinguished Visiting Professor RESEARCH AREAS: Smarter power grids, modern power grid, energy storage technologies in grid modernisation, large-scale renewable energy integration, and improved energy efficiency |
| Dr Rendani Mamphiswa rmamphiswa@uj.ac.za | Industry Lecturer: Engineering Management RESEARCH AREAS: Technology development, innovation management, and innovation and industrial policy |
| Prof Charis Harley charley@uj.ac.za | Industry Lecturer: Advanced Engineering Economics RESEARCH AREAS: Data science, machine learning, and computational methods |
| Dr Bultie Nel jbnel@uj.ac.za | Industry Lecturer: Engineering Systems and Project Management RESEARCH AREAS: Water management, practical application of engineering economics, and systems engineering |
| Dr Ricky Swanepoel | Industry Lecturer: Reliability Engineering RESEARCH AREAS: Integrated information management systems, data analytics, reliability engineering, condition monitoring, and business improvement frameworks |
| Prof Theo Swart tgswart@uj.ac.za | Industry Lecturer: Product Development and Marketing RESEARCH AREAS: Information theory, error correction coding, line coding, digital communications, and power-line communications |

MORE INFORMATION

If you need any further information about our degrees in Engineering Management, please go to the UJ website (www.uj.ac.za), Faculty of Engineering and Built Environment, or Postgraduate School of Engineering Management.

HERE IS A SAMPLE TIMETABLE TO GIVE YOU AN IDEA OF HOW THE PROGRAMMES ARE STRUCTURED.

Semester 1

Contact sessions during the academic calendar follow a blended approach that consistent of a combination of online individual as well as group contact sessions.

| | | |
|--------------------------------|--------------------------------|-------------------|
| Advanced Engineering Economics | Mondays 18:00 – 21:00 | 7 contact session |
| Engineering Systems Management | Thursdays 18:00 – 21:00 | 7 contact session |
| Engineering Management | Two days 18:00 –21:00 | 4 contact session |

Semester 2

| | | |
|-----------------------------------|--------------------------------|-------------------|
| Reliability Management | Mondays 18:00 – 21:00 | 7 contact session |
| Project Management | Thursdays 18:00 – 21:00 | 7 contact session |
| Product Development and Marketing | Four days 18:00 – 21:00 | 4 contact session |

We look forward to welcoming you!

