UNIVERSITY OF SOUTH AFRICA

UNISA is the only publicly funded Institution in South Africa dedicated to distance education. In keeping with its mandate as a comprehensive, open and distance learning tertiary institution offering a variety of academic and career-focused programmes, the University is inviting applications for positions in the **COLLEGE OF SCIENCE ENGINEERING AND TECHNOLOGY.**

To be considered for a position, applicants must meet all the generic requirements <u>plus</u> the specific requirements as stated per position. If found suitable for appointment, Unisa may offer an applicant a position at a level other than the level that was applied for. Furthermore, Unisa reserves the right to offer the applicant a contract appointment.

ACTIVITY:

TEACHING STATEMENT:

All applicants to attach a teaching statement (max 2 000 words) to their application as specified in one of the following options:

Option A: External applicants and internal applicants (from non-academic positions) – Describe how you intend to approach teaching and learning by taking into account the information in the policies listed below:
- Unisa's Tuition Policy
- Unisa's Open Distance Learning Policy
- Unisa's Assessment Policy
- Curriculum Policy
- Open Distance Learning (ODL) Pedagogy

The above mentioned Policies of UNISA can be accessed on the web using a search engine. In the event that you cannot trace the ODL Pedagogy policy finalise your teaching statement without it.

Option B: Internal applicants (from academic positions) –
Explain your:
- Involvement in, or approach to, Open Distance Learning
- Approach to fostering a learner-centered approach
- Involvement in, or approach to, teaching at either undergraduate or postgraduate level
- Involvement in developing study material as an individual or in a team approach
- The extent to which you have, or would, use an electronic learning platform for teaching
- Your pass success rates in the courses you teach/taught and your plan to increase or maintain these rates
- A peer and student evaluation of your teaching
- Your involvement in and provision of learner support to students

ACTIVITY:

The teaching statement must be supported by a portfolio of evidence which may be requested from short listed candidates at the interview.
Candidates are expected to submit a research reflection or portfolio

ACTIVITY:

APPLICATION FORM FOR A PERMANENT ACADEMIC POST

ACTIVITY:

FOR MORE INFORMATION ON ACADEMIC POSITIONS (LEVELS) OPEN THE LINK OF THE POSITION YOU WHISH TO APPLY FOR:

POSITION: PROFESSOR

POSITION: ASSOCIATE PROFESSOR

POSITION: SENIOR LECTURER

POSITION: LECTURER

POSITION: JUNIOR LECTURER

☞   **The following positions exist in the various departments:**

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

SCHOOL OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING

FLORIDA-SCIENCE CAMPUS (FLORIDA)

FULL PROFESSOR (P5) X1: CIVIL ENGINEERING

(ACADEMICS)	**CANDIDATES WITH A RESEARCH OR ACADEMIC BACKGROUND**
(NON-ACADEMICS)	**CANDIDATES FROM INDUSTRY**

Professor (X1): Civil Engineering *(Ref.CSET/Re-Ad/P-CiE/01-2022)*

Post specific requirements Professor
- A Doctoral degree in Civil Engineering or equivalent plus experience/track record as a researcher for a position of Professor
- A BSc or BEng in Civil Engineering, or a BTech in Civil Engineering
- A proven record of supervision of Masters AND Doctoral candidates to completion
- Eligibility to register with the Engineering Council of South Africa as a Professional Engineer or Professional Engineering Technologist within 2 years effective after the appointment date.
- 5 years teaching/work/relevant experience
- Proven research profile and consistent publication record in peer-reviewed conference proceedings, journal articles, or book chapters or books in line with the Unisa Research and Innovation Policy at this level.

Field of Expertise:
- The candidate must have expertise in any of the following research areas:
  Transportation Engineering, Water Engineering, Geotechnical engineering, Structural engineering, Environmental engineering

Recommendations:
- Professional Registration with ECSA or registration in process
- Membership of the South African Institute of Civil Engineers
- NRF rating or eligibility to apply for rating
- Evidence of research grants obtained or applied for
- Experience with reflexive/ODL research
- Participation in departmental, school, college and University committees including workplace committees or task teams and voluntary associations.
- Participation in community engagement projects

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

SCHOOL OF ENGINEERING

DEPARTMENT OF ELECTRICAL ENGINEERING

PROFESSOR (P5) X1: ELECTRICAL ENGINEERING

SCIENCE CAMPUS (FLORIDA)

(ACADEMICS)	**CANDIDATES WITH A RESEARCH OR ACADEMIC BACKGROUND**
(NON-ACADEMICS)	**CANDIDATES FROM INDUSTRY**

Professor (X1): Electrical Engineering *(Ref.CSET/Re-Ad/P-EIE/02-2022)*

Post specific requirements Professor
- A Doctoral degree in Electrical Engineering or equivalent plus experience/track record as a researcher for a position of Professor
- A BSc or BEng in Electrical Engineering, or a BTech in Electrical Engineering
- A proven record of supervision of Masters AND Doctoral candidates to completion
- Eligibility to register with the Engineering Council of South Africa as a Professional Engineer or Professional Engineering Technologist within 2 years effective after the appointment date.
- 5 years teaching/work/relevant experience
- Proven research profile and consistent publication record in peer-reviewed conference proceedings, journal articles, or book chapters or books in line with the Unisa Research and Innovation Policy at this level.

Field of Expertise for this position
Interested in applications from all areas of Electrical Engineering but particularly interested in applications from candidates working in Telecommunications, Machine learning, Power Systems or control systems

Experience:
- The candidate must have relevant teaching/work experience in the higher education sector

Recommendations:
- Membership of the South African Institute of Electrical Engineers
- Professional registration with ECSA or registration in process
- Have an NRF rating or eligibility to apply for rating
- Experience with teaching in an Open Distance e-Learning environment
- Participation in departmental, school, college and University committees including workplace committees or task teams and voluntary associations.
- Participation in community engagement projects

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY
SCHOOL OF ENGINEERING
DEPARTMENT OF INDUSTRIAL ENGINEERING
SCIENCE CAMPUS (FLORIDA)
FULL PROFESSOR/ ASSOCIATE PROFESSOR (P5/P6) X1: INDUSTRIAL ENGINEERING

(ACADEMICS)	**CANDIDATES WITH A RESEARCH OR ACADEMIC BACKGROUND**
(NON-ACADEMICS)	**CANDIDATES FROM INDUSTRY**

Professor/ Associate Professor (X1): Industrial Engineering *(Ref.CSET/Re-Ad/P.AP-InE/03-2022)*

Post specific requirements Professor
- A Doctoral degree in Industrial Engineering or equivalent plus experience/track record as a researcher for a position of Professor
- A BSc or BEng in Industrial Engineering, or a BTech in Industrial Engineering
- A proven record of supervision of Masters AND Doctoral candidates to completion
- Eligibility to register with the Engineering Council of South Africa as a Professional Engineer or Professional Engineering Technologist within 2 years effective after the appointment date.
- 5 years teaching/work/relevant experience
- Proven research profile and consistent publication record in peer-reviewed conference proceedings, journal articles, or book chapters or books in line with the Unisa Research and Innovation Policy at this level.

Field of Expertise:
- The candidate must have expertise in at least one of the following research areas:
 Systems Engineering, Enterprise Architecture, Design for Manufacture, Material and Process Selection, Operation Research, Quantitative Techniques, Industrial Engineering Design, Industrial Accounting and Engineering Costing

Recommendations:
- Professional Registration with ECSA
- NRF rating or eligibility to apply for rating
- Evidence of research grants obtained or applied for
- Experience with reflexive/ODL research
- Participation in departmental, school, college and University committees including workplace committees or task teams and voluntary associations.
- Participation in community engagement projects

Post specific requirements for Associate Professor
- A Doctoral degree in Industrial Engineering or equivalent plus experience/track record as a researcher for a position of Associate Professor.
- A BSc or BEng in Industrial Engineering, or a BTech in Industrial Engineering
- A proven record of supervision of Masters OR Doctoral candidates to completion
- Eligibility to register with the Engineering Council of South Africa as a Professional Engineer or Professional Engineering Technologist within 2 years effective after the appointment date.
- 4 years teaching/work/relevant experience
- Proven research profile and consistent publication record in peer-reviewed conference proceedings, journal articles, or book chapters or books in line with the Unisa Research and Innovation Policy at this level.

Field of Expertise:
- The candidate must have expertise in at least one of the following research areas:
  Systems Engineering, Enterprise Architecture, Design for Manufacture, Material and Process Selection, Operation Research, Quantitative Techniques, Industrial Engineering Design, Industrial Accounting and Engineering Costing

Recommendations:
- Professional Registration with ECSA or registration in process
- NRF rating or eligibility to apply for rating
- Evidence of research grants obtained or applied for
- Experience with reflexive/ODL research
- Participation in departmental, school, college and University committees including workplace committees or task teams and voluntary associations.
- Participation in community engagement projects

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

SCHOOL OF ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

SCIENCE CAMPUS (FLORIDA)

FULL PROFESSIOR/ ASSOCIATE PROFESSOR (P5/P6) X1: MECHANICAL ENGINEERING

(ACADEMICS)	CANDIDATES WITH A RESEARCH OR ACADEMIC BACKGROUND
(NON-ACADEMICS)	CANDIDATES FROM INDUSTRY

Professor/ Associate Professor (X1): Mechanical Engineering *(Ref.CSET/Re-Ad/P.AP-MeE/04-2022)*

Post specific requirements Professor
- A Doctoral degree in Mechanical Engineering or equivalent plus experience/track record as a researcher for a position of Professor
- A BSc or BEng in Mechanical Engineering, or a BTech in Mechanical Engineering
- A proven record of supervision of Masters AND Doctoral candidates to completion
- Eligibility to register with the Engineering Council of South Africa as a Professional Engineer or Professional Engineering Technologist within 2 years effective after the appointment date.
- 5 years teaching/work/relevant experience
- Proven research profile and consistent publication record in peer-reviewed conference proceedings, journal articles, or book chapters or books in line with the Unisa Research and Innovation Policy at this level.

Field of Expertise:
- The candidate must have expertise in at least one of the following research areas:
  Solid Mechanics, Mechanical Engineering Design, Finite Element Analysis, Computational Modelling, Fluids Mechanics, Mechanics of Machines and Automatic Control

Recommendations:
- Professional Registration with ECSA or registration in process
- NRF rating or eligibility to apply for rating
- Evidence of research grants obtained or applied for

- Experience with reflexive/ODL research
- Participation in departmental, school, college and University committees including workplace committees or task teams and voluntary associations.
- Participation in community engagement projects

Post specific requirements for Associate Professor
- A Doctoral degree in Mechanical Engineering or equivalent plus experience/track record as a researcher for a position of Associate Professor.
- A BSc or BEng in Mechanical Engineering, or a BTech in Mechanical Engineering
- A proven record of supervision of Masters OR Doctoral candidates to completion
- Eligibility to register with the Engineering Council of South Africa as a Professional Engineer or Professional Engineering Technologist within 2 years effective after the appointment date.
- 4 years teaching/work/relevant experience
- Proven research profile and consistent publication record in peer-reviewed conference proceedings, journal articles, or book chapters or books in line with the Unisa Research and Innovation Policy at this level.

Field of Expertise:
- The candidate must have expertise in at least one of the following research areas:
  Solid Mechanics, Mechanical Engineering Design, Finite Element Analysis, Computational Modelling, Fluid Mechanics, Mechanics of Machines and Automatic Control

Recommendations:
- Professional Registration with ECSA or registration in process
- NRF rating or eligibility to apply for rating
- Evidence of research grants obtained or applied for
- Experience with reflexive/ODL research
- Participation in departmental, school, college and University committees including workplace committees or task teams and voluntary associations.
- Participation in community engagement projects

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

SCHOOL OF SCIENCE

DEPARTMENT OF CHEMISTRY

FLORIDA-SCIENCE CAMPUS (FLORIDA)

FULL PROFESSIOR (P5) X1: CHEMISTRY

(ACADEMICS)   **CANDIDATES WITH A RESEARCH OR ACADEMIC BACKGROUND**
(NON-ACADEMICS)   **CANDIDATES FROM INDUSTRY**

Professor (X1): Chemistry *(Ref.CSET/Re-Ad/P-Chem/05-2022)*

Post specific requirements Professor:
- A Doctoral degree in Chemistry with specialization in Analytical Chemistry.
- Minimum of 5 years relevant experience in the teaching and curriculum development of Analytical

Chemistry at undergraduate and postgraduate levels at a tertiary institution.
- A proven research profile and consistent publication record in peer-reviewed conference proceedings, journals, book chapters or books in line with the Unisa Research and Innovation Policy at this level.
- Record of successful supervision of postgraduate dissertations and thesis of MSc and PhD students to completion.
- Evidence of mentoring junior staff members, leadership in community engagement projects and success in securing external research funding.

Field of Expertise:

- A proven track record in the field of Analytical chemistry in the following areas: sample preparation, chromatography and mass spectrometry.

Recommendations:
- Experience with teaching and learning in an ODeL environment.
- Active academic citizenship roles.
- Proven record of international collaborations.
- Experience in multidisciplinary research activities.
- Industrial or government collaborations.
- NRF rated scientist.
- Registration with a professional body such as SACNASP.

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

SCHOOL OF ENGINEERING

DEPARTMENT OF STATISTICS

SCIENCE CAMPUS (FLORIDA)

FULL PROFESSIOR/ ASSOCIATE PROFESSOR (P5/P6) X1: STATISTICS

| (ACADEMICS) CANDIDATES WITH A RESEARCH OR ACADEMIC BACKGROUND |
| (NON-ACADEMICS) CANDIDATES FROM INDUSTRY |

Professor/ Associate Professor (X1): Statistics *(Ref.CSET/Re-Ad/P.AP-Stats/06-2022)*

Post specific requirements for Professor:
- A Doctoral degree in Statistics.
- Candidates should have a strong background in Mathematical Statistics (or Mathematics and Statistics) from their undergraduate and Honours or equivalent degrees.
- Proven research profile and consistent publication record in accredited journals, peer-reviewed conference proceedings, books or book chapters in line with the Unisa Research and Innovation Policy at this level.
- A proven record of supervision of postgraduate Masters and Doctoral students to completion.
- Experience of using statistical and mathematical software packages (e.g. SAS, R, SPSS, STATA, Mathematica and Matlab).

Field of Expertise for this position
- We are looking for candidates with expertise to teach Mathematical Statistics modules at all levels.

Recommendations

- Specialization in at least one of the following fields will be an advantage: Bayesian Statistics, Spatial Statistics, Data Science.

- Experience to teach in an online environment.
- NRF rating or proof of application for NRF rating.

Post specific requirements for Associate Professor:
- A Doctoral degree in Statistics.
- Candidates should have a strong background in Mathematical Statistics (or Mathematics and Statistics) from their undergraduate and Honours or equivalent degrees.
- Proven research profile and consistent publication record in accredited journals, peer-reviewed conference proceedings, books or book chapters in line with the Unisa Research and Innovation Policy at this level.
- A proven record of supervision of postgraduate Masters students to completion.
- Experience of using statistical and mathematical software packages (e.g. SAS, R, SPSS, STATA, Mathematica and Matlab).

Field of Expertise for this position
- We are looking for candidates with expertise to teach Mathematical Statistics modules at all levels.

Recommendations

- Specialization in at least one of the following fields will be an advantage: Bayesian Statistics, Spatial Statistics, Data Science.
- Experience to teach in an online environment.
- NRF rating or proof of application for NRF rating.

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

SCHOOL OF SCIENCE

DEPARTMENT OF MATHEMATICAL SCIENCES

FLORIDA-SCIENCE CAMPUS (FLORIDA)

FULL PROFESSOR/ ASSOCIATE PROFESSOR (P5/P6) X1: FINANCIAL MATHEMATICS

FULL PROFESSOR/ ASSOCIATE PROFESSOR (P5/P6) X1: ASTRONOMY

(ACADEMICS)	CANDIDATES WITH A RESEARCH OR ACADEMIC BACKGROUND
(NON-ACADEMICS)	CANDIDATES FROM INDUSTRY

Professor/ Associate Professor (X1): Financial Mathematics *(Ref.CSET/Re-Ad/P.AP-MathsFM/07-2022)*

Post specific requirements for <u>Professor</u>:
- A Doctorate degree or equivalent in Financial Mathematics or related field
- Proven research profile and consistent publication record in accredited journals, peer-reviewed conference proceedings, books or book chapters in line with the Unisa Research and Innovation Policy at this level.
- A proven record of supervision of research Masters and Doctoral students to completion.

Field of Expertise for this position
A PhD in Financial Mathematics or closely related fields (such as Stochastic calculus, Stochastic partial differential equations Financial Engineering, Actuarial Science, or Quantitative Risk Management).

The applicant will be expected to teach modules and supervise postgraduate students (MSc and PhD) in Financial Mathematics, in support of the Department's portfolio of transformation and postgraduate programmes in Financial Mathematics. Software Development Skills, i.e. Mathematical Programming in Python, Sage, Matlab, or C++ will be an added advantage.

Recommendations:
- Ability to lecture in an online environment
- An NRF rating or proof of application thereof would be an advantage

Post specific requirements for <u>Associate Professor:</u>
- A Doctorate degree or equivalent in Financial Mathematics or related field
- Proven research profile and consistent publication record in accredited journals, peer-reviewed conference proceedings, books or book chapters in line with the Unisa Research and Innovation Policy at this level.
- A proven record of supervision of research Masters students to completion.

Field of Expertise for this position
A PhD in Financial Mathematics or closely related fields (such as Stochastic calculus, Stochastic partial differential equations Financial Engineering, Actuarial Science, or Quantitative Risk Management).

The applicant will be expected to teach modules and supervise postgraduate students (MSc and PhD) in Financial Mathematics, in support of the Department's portfolio of transformation and postgraduate programmes in Financial Mathematics. Software Development Skills, i.e. Mathematical Programming in Python, Sage, Matlab, or C++ will be an added advantage.

Recommendations:
- Ability to lecture in an online environment
- An NRF rating or proof of application thereof would be an advantage

Professor/ Associate Professor (X1): Astronomy *(Ref.CSET/Re-Ad/P.AP-MathsAs/08-2022)*

Post specific requirements for <u>Professor:</u>
- A Doctorate degree or equivalent in Astronomy/Astrophysics
- Proven research profile and consistent publication record in accredited journals, peer-reviewed conference proceedings, books or book chapters in line with the Unisa Research and Innovation Policy at this level.
- A proven record of supervision of research Masters and Doctoral students to completion.

Post specific requirements for <u>Associate Professor:</u>
- A Doctorate degree or equivalent in Astronomy/Astrophysics
- Proven research profile and consistent publication record in accredited journals, peer-reviewed conference proceedings, books or book chapters in line with the Unisa Research and Innovation Policy at this level.
- A proven record of supervision of research Masters students to completion.

Field of Expertise for this position

The candidate will need to be able to lead curriculum development of both new and existing modules. A passion for teaching and research in Astronomy is highly sought after.

Experience in using optical telescopes will be a useful skill that will be utilised in the Unisa Observatory and in spearheading astronomy outreach events using our portable GOTO telescopes. The candidate should have an interest, and preferably experience, in using South African astronomical research facilities such as SALT, other optical/IR telescopes in Sutherland, MeerKAT, HESS, HERA or HIRAX.

The candidate should have a track record of high-quality publications in Astronomy. Preference will be given to a radio astronomer and a candidate with research interests that align with the current research direction at Unisa.

Recommendations:
- Ability to lecture in an online environment
- An NRF rating or proof of application thereof would be an advantage

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COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

SCHOOL OF COMPUTING

SCIENCE CAMPUS (FLORIDA)

ASSOCIATE PROFESSOR/ PROFESSOR (P5/P6) X2: COMPUTER SCIENCE

(ACADEMICS)　　　**CANDIDATES WITH A RESEARCH OR ACADEMIC BACKGROUND**
(NON-ACADEMICS)　**CANDIDATES FROM INDUSTRY**

Professor/ Associate Professor (X1): Computer Science *(Ref.CSET/Re-Ad/P.AP-CS/9-2022)*

Post specific requirements for <u>Professor</u>:
- A Doctorate degree in Computer Science or equivalent field
- Candidates should hold both an undergraduate degree and higher qualifications in Computer Science
- Proven research profile and consistent publication record in accredited journals, peer-reviewed conference proceedings, books or book chapters in line with the Unisa Research and Innovation Policy.
- A proven record of supervision of postgraduate Masters and Doctoral students to completion
- Evidence of satisfactory student pass rates (where possible) in the past two years of employment at their institution

Field of Expertise for this position
- We are looking for candidates with expertise in at least two of the following fields: OO Programming; Parallel Programming; Networks; Theoretical Computer Science; Compiler Construction; Scientific Computing/Big Data Science; Logic-Based Reasoning/Hardware Programming; Artificial Intelligence; Natural Language Processing; Formal Program Verification; Graphical User Interface Programming; Advanced Internet Programming; Mobile Development; Computer Security.

Recommendations:
- Experience to lecture in an online environment
- NRF rating or proof of application for NRF rating will be an advantage

Post specific requirements for <u>Associate Professor</u>:
- A Doctorate degree in Computer Science or equivalent field
- Candidates should hold both an undergraduate degree and higher qualifications in Computer Science
- Proven research profile and consistent publication record in accredited journals, peer-reviewed conference proceedings, books or book chapters in line with the Unisa Research and Innovation Policy.

- A proven record of supervision of postgraduate Masters students to completion
- Evidence of satisfactory student pass rates (where possible) in the past two years of employment at their institution

Field of Expertise for this position
- We are looking for candidates with expertise in at least two of the following fields: OO Programming; Parallel Programming; Networks; Theoretical Computer Science; Compiler Construction; Scientific Computing/Big Data Science; Logic-Based Reasoning/Hardware Programming; Artificial Intelligence; Natural Language Processing; Formal Program Verification; Graphical User Interface Programming; Advanced Internet Programming; Mobile Development; Computer Security.

Recommendations:
- Experience to lecture in an online environment
- NRF rating or proof of application for NRF rating will be an advantage

Salary	:	Remuneration is commensurate with the seniority of the position
Assumption of duty	:	As soon as possible
Enquiries	:	Mr TA Masego – 011 670 9237 Mr J Maano – 011 670 9081
Closing Date	:	02 September 2022

Your **APPLICATION FORM FOR A PERMANENT ACADEMIC POST** must be accompanied by a COMPREHENSIVE CURRICULUM VITAE and;

- identity document (*including passport, work permit, permanent residence permit or proof of nationalisation if applicable*) (certified copies within the previous six months);
- all educational qualifications (certified copies within the previous six months);
- academic transcripts/records (certified copies within the previous six months);
- proof of SAQA verification for foreign qualifications (*if applicable)* (certified copies within the previous six months)
- **for ACADEMIC POSITIONS** a teaching statement (refer to page 1 of advertisement).
- UNISA reserves the right to authenticate all qualifications without any further consent from the applicant.
- The contact details of three contactable references must be provided, one of which must be from your present employer excluding your current line manager if you are an internal Unisa applicant
- **Late, incomplete and incorrect applications will not be considered**.
- Unisa is not obliged to fill an advertised position
- *Appointments will be made in accordance with Unisa's Employment Equity Plan and other applicable legislation.*

- **We welcome applications from Persons with Disabilities**

ACTIVITY:

- **Applications must be emailed to** CSET2PA@unisa.ac.za
- **If you apply for more than one position, each application must be on a separate email.**

   Applications emailed to the wrong email address will not be considered.

   Late, incomplete and incorrect applications will not be considered.

All applications should reach UNISA before 16h00 on the closing date.

Correspondence will be limited to short-listed candidates only. If you have not been contacted within two months after closing date of this advertisement, please accept that your application was not successful.