



# Professional Certificates in Chief Information Officer Practice: CIO Africa Programmes 2017

## University of the Witwatersrand, Johannesburg

Wits University has offered the CIO Programme since 2005, running for more than ten years, with over 150 participants and 138 graduates up to the 2016 academic year. From 2017, we will offer three streams of CIO team development, as follows:

### CIO Practice Learning Streams

#### Level 1: IT Management for CIO Teams

(8-module online programme) for businesses in South Africa and across the continent (introductory level) includes: 21st Century the digital age; the role of IT in organisations; organising and leading the IT function; IT as a business technology (BT); IT operations and project management; realizing the benefits of digital innovation; setting up an IT business partner function; basics of strategy and leadership in the digital organization.

*Participants would be new members of IT and CIO teams with 1 – 3 years work experience in the relevant field. For entry to the programme, an undergraduate qualification is preferred, but not required.*

Cost: R 10 965 per student exclusive of VAT

#### Level 2: CIO Professional Practice for IT Operations and Management

[NQF level 7] (Two month programme, with a two week full time block release attendance at Wits University in Johannesburg) includes: management and governance of the IT organization; enterprise resource planning; advancing IT benefit realization; ICT strategy and leadership in the digital age; capstone case study group research and presentation.

Includes ½ day tour of Wits digital innovation environment.

*Participants should be experienced members of IT and CIO teams with at least 5 years work experience in the relevant field. For entry to the programme, an undergraduate or Honours level qualification is preferred.*

Cost: R 34 200 per student exclusive of VAT

#### Level 3: Advanced CIO Professional Practice for Digital Innovation and Leadership

[NQF level 8] (Six month programme, with a three week full time block release full time attendance at Wits University in Johannesburg, with a research component) includes: the CIO landscape – innovation and digital transformation; making innovation happen: Systems thinking, using and collaborating with digital technology hubs; model driven performance improvement and agile methodologies; performance driven IT operations and project management; digital cities and emerging playground of the digital world; digital cities and associated informatics; digital marketing, Internet of Things, big data analytics and other specialized options (MOOCs); cyber governance, cyber risk and cyber security; IT auditing and standards; legal and regulatory environment; advanced digital strategy and leadership.

This level includes an individual research project. Includes ½ day tour of Wits digital innovation zone.

*Participants should be experienced members of IT and CIO teams who have completed Level 2 above, have at least 8 years work experience, are seeking a foundation for possible future study at Masters level, or are in possession of a Masters level qualification and are seeking to progress in the management echelon. An Honours or equivalent level qualification is preferred.*

Cost: R 48 900 per student exclusive of VAT

### Stream Learning Objectives

Major innovations in ICT and electronic communications are driving strong global trends towards formation of a digital economy or cyber-economy. Across sectors, firms engaged in manufacturing, in banking and finance, in travel and tourism, in health and social services, in higher education, in government services, in transport and logistics, and in many other sectors face a multitude of choices and challenges for keeping up to date with and enterprise resource planning systems and promoting cyber security. From sms to a world of apps, the environments of business and government have become increasingly data driven, requiring high bandwidth and data analytics applications.

In this context, organisations must undertake effective business re-engineering, ensure effective security measures and risk management, and foster effective utilization of the Internet for marketing and electronic transactions. An increasingly mobile Internet means an increasingly mobile workforce, which may present an opportunity or a threat. To manage these challenges, organisations appoint Chief Information Officers (CIOs), with work teams responsible for the strategy, design, procurement and operation of the ICT-enabled business. CIOs lead through strategic capability, technical knowledge and excellent team-building.

These multi-disciplinary certificate learning streams in CIO Practice is aimed at people aspiring to move up the ranks of CIO teams, and covers a mix of topics dealing with issues relating to technology, strategic (C-level) management, business and human capital management processes, and ICT policy and regulation. The focus is to provide an integrated overview of issues and trends in all of these areas.



EXAMPLE TOPICS	DESCRIPTION
From information technology (IT) to business technology (BT)	CIOs and the digital world: Successful approaches include effective demand management; portfolio management; maximising IT resources; converged solutions and IoT; empowering CIO teams; empowering the business; creating innovation capacity in the business.
Model driven performance improvement	Introduction to model driven performance improvement: Software development lifecycle model, software development processes and management. Using the Capability Maturity Model Integration (CMMI) model to measure the maturity of an organisation's software development processes, as a vehicle to demonstrate model driven performance improvement.
Management and control of the ICT organisation	Information, organisation and control; organising and leading the IT function; IT project management and agile methodologies; managing IT outsourcing; IT operations and management processes; a portfolio approach to IT development; IT governance processes and frameworks.
Management of IT benefit realisation	Introduction to the formulation of a business case for IT-business projects; benefits definition; sensitivity analysis and scenarios; IT solution acquisition (build, buy, rent); risk management; business Intelligence/data analytics; digital cities, digital marketing, Internet of Things, big data analytics and other specialized options (MOOCs).
Strategic management and leadership	Strategic IT management, planning and leadership; strategic planning for information systems (IT/IS strategy); knowledge and change management; enterprise architecture for strategy implementation; advancing IT innovation.
Cyber governance and security	Cyber governance, cyber risk and cyber security; IT auditing and standards; legal and regulatory environment.
Capstone case study: Syndicate review report and presentation	A "capstone" IT case study addressing issues in all modules of the programme is conducted. The syndicate groups each submit a written report on the case study and present the report to the course facilitators during the final week.
Individual research assignment	Each participant is required to complete a short written individual research project of approximately 20,000 words on a topic of their choice, relevant to the innovation, business development and leadership role of the CIO.

## PROGRAMME SUMMARY

Each programme is run on a modular basis and includes a combination of course readings, lectures, practice sessions and syndicate group assignments. The modules also include individual take-home examinations. Feedback is given for each of the group assignments and individual exams. Syndicate groups are encouraged to meet regularly, at a venue of their choice, in the weeks between modules. In order to earn a certificate of competence for the programme, participants must have an aggregate of 50% or higher for each of the modules.

These programmes will be offered by a collaborative network of academics from the Joburg Centre for Software Engineering, the LINK Centre and the School of Economic and Business Sciences (University of the Witwatersrand, Johannesburg) and the Centre for Cyberspace Studies (Nasarawa State University, Keffi, Nigeria).

### CIO 2017 Programme Co-Convenors:

Dr Raj Siriram (Wits University) is a specialist in technology innovation, strategy and management.

Dr Uche Mbanaso (Nasarawa State University) is a specialist in the field of cyber governance and cyber security.

### For Course Fees & More Information

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### Online Application

To apply for this programme, complete the online application form:

<http://wits-enterprise.co.za/c/professional-certificate-in-cio-practice>