Built Environment and Construction

SHORT COURSES | ADVISORY SERVICES

Shifting knowledge to insight
Shifting knowledge to insight

The rapid and vast changes we are beginning to experience in both our personal and professional lives call for a drastic shift in our thinking patterns and the way in which every industry will need to conduct business in the near future. Not only will business models in each and every trade need to transform in order to meet the growing needs and demands of consumers, but – more importantly – we will need to make a shift in the way we see and experience the world.

We currently live in a world governed by unprecedented technological advances – artificial intelligence, 3D printing and self-driving cars to mobile supercomputers, robotics and nanotechnology – that are all evidence of the significant change that is starting to happen around us right now.

We are on the brink of the Fourth Industrial Revolution that will no doubt change the way humankind lives, works and relates to one another. We are experiencing change at a speed unlike anything the world has experienced before, that compels us to live and create realities that were previously unthinkable.

As a means of contributing to the overall growth of the global market and anticipating future shifts in the way we have to do business, Enterprises University of Pretoria (Enterprises UP) provides specialised training programmes and short courses for skills development as well as research and advisory services for critical business insights to both our clients and individuals in South Africa and beyond.

What better way to remain on top of global changes in every walk of life and industry than through a partnership with a leading training and research provider that is backed by a solutions-driven approach and experts from the University of Pretoria.

We not only ensure that you increase productivity and enhance service excellence in your line of business, but also that you continuously engage in groundbreaking knowledge transfer in an ever-changing world by always shifting knowledge to insight.
Our solutions present a multifaceted value proposition aligned with organisational objectives, personal growth and skills development goals – either as a combination of Training Solutions and Research Solutions or as distinct solutions on their own. This also means that your company can optimise on B-BBEE scorecard points with a combination of our offerings that support the following outcomes:

1. **Work readiness development.**
   - Let entry-level employees acquire the right skills to help them integrate into the world of work more easily.

2. **Workplace Skills Plan (WSP) activation.**
   - Develop capacity and equip designated employees with professional skills aligned with industry needs.

3. **Community engagement.**
   - Ignite change in communities through experiential training and innovative business opportunities.

4. **Enterprise and supplier development.**
   - Invest in small business entities and start-ups that aspire to be more effective, efficient and sustainable.

**WHY PARTNER WITH US?**

- **A single point of entry for all training, research and advisory services.**
- **Access to all knowledge outputs from the University of Pretoria.**
- **Personalised services to achieve unique business and professional development goals.**
- **Innovative solutions for targeted training and critical business insight.**
- **An extensive international footprint spanning six continents.**
- **Draw from leading industry experts and South Africa’s finest thought leaders.**

**SOLUTIONS-DRIVEN APPROACH**

We provide a service offering that spans 50 plus areas of functional expertise and capability. Within each of these areas the total service offering is well balanced between applied research, advisory services and specialised business units. Most of our projects are highly customised and the solutions contained within each project draws on the latest best practice as informed by science and evidence.
For more information about our full range of available training programmes and short courses, visit www.enterprises.up.ac.za/training-solutions.

Also enquire with us about possible CPD points on any of our courses, or visit www.enterprises.up.ac.za/cpd-courses for an updated list.

See a range of relevant research and advisory services at the end of this section.
As a result of more rapid technological advances and potentially unlimited opportunities for developing sustainable and profitable business models for the future, now is the time for construction and the built environment to look towards more innovative ways to serve its customers and deliver new production capabilities across all sectors. The acceleration of innovation and the speed at which things are changing can be quite daunting (even for the best-connected and most well-informed), but it also presents exciting prospects for commercial activities in a world where we need to sustain a growing economy serving an ever-growing population.¹

Emerging concepts of circular economy, cradle-to-cradle principles and the Internet of Things (the physical world is becoming more and more connected to the digital one) are quickly building new pillars for organisations to move to genuinely sustainable business models.¹ How well we manage this new revolutionary phase, however, will determine how well we can ensure the ongoing contribution to health and wellbeing in an increasingly populated built environment. Our products and services in Built Environment and Construction will equip you with the latest knowledge and practical skills to make a shift in embracing the impacts and challenges of the Fourth Industrial Revolution.

The **Advanced Course in Construction Contracts** is specifically designed to equip you with more progressive knowledge on contract law and the drawing up of contracts as applicable to the South African construction and built environment. The course particularly looks into the topics (contract types) of: Joint Building Contracts Committee (JBCC); General Conditions of Contract (GCC); New Engineering Contract (NEC); and International Federation of Consulting Engineers (FIDIC). The course will enable you to manage construction projects more effectively based on any one of these types of contract and concludes with the submission of an individual practical assignment towards successful completion.

The **Asset Management in the Built Environment** short course will not only provide you with an integrated understanding of the complementary disciplines applicable to the management of building and construction assets, but it will also equip you with the requisite knowledge of the principles and application of alternative building and construction strategies paired with corporate strategic value management. During the course you will have an opportunity to develop a strategic plan based on the fundamentals of corporate construction finance, the performance measurement of corporate building assets, performance benchmarking, sustainability and durability, as well as building performance evaluation and management.

The **Construction Contract Administration and Management** is a practical course that has been designed to provide you with a sound understanding of the importance of construction contracts in the built environment. During the course, you will explore the project lifecycle to help you determine the inherent risks associated with and recognise the contractual tools at your disposal at each stage. Referencing standard form contracts used in the South African construction industry, detailed case studies and proforma administrative documents, you will gain comprehensive knowledge of the legal requirements presented by construction contracts and the potential ramifications of non-compliance.

The short course in **Construction Procurement** offers an overview of procurement in the South African public sector by placing special emphasis on procurement for construction and engineering projects. The course provides you with invaluable skills that will enable you to plan, implement and manage construction or engineering projects and tenders according to the requirements of the Construction Industry Development Board Act 38 of 2000 (CID). You will not only gain requisite knowledge of the legislation and policies that govern and influence construction procurement in South Africa, but also various procurement strategies and principles based on local and international perspectives.
Facilities Management

The Facilities Management short course covers a comprehensive scope of management, finance, reporting, operating and environmental aspects of facilities management in order to equip you with the skills and integrated knowledge to implement a successful facilities management plan and manage its impact on people and the workplace. The course will provide you with a good understanding of the multidisciplinary activities applicable to facilities management, including efficient and effective delivery of support services in your organisation to ensure the successful integration of people, systems, places, processes and technology that are part and parcel of the responsibilities of the facilities manager. Presented on an in-house basis only.

See also: Property, Real Estate and Facilities Management

Advanced Course in Facilities Management

The Advanced Course in Facilities Management progresses your skills to a higher level to enable you to control expenditure and improve service delivery while leaving the management of non-core support and associated services to the relevant specialists. The course specifically focuses on more advanced management principles of facilities management, looking at aspects of cash flow, debtors and cost recovery, maintenance principles applicable to facilities, building plans and the measurement of floor areas for leasing. It also gives you an in-depth overview of the environmental aspects of facilities and building projects, as well as the delictual responsibilities of the facilities manager. Presented on an in-house basis only.

See also: Property, Real Estate and Facilities Management

Online CPD: Joint Building Contract Committee (JBCC®)

The Online CPD: Joint Building Contract Committee (JBCC®) activity provides you with an opportunity to become competent in compiling up-to-date JBCC® contract documentation based on the equitable distribution of contractual risk in the construction industry. Approved by the Construction Industry Development Board (CIDB), this contract standard is used in both the public and private sectors. This activity provides particular expertise with regard to the compilation of contract documentation and its application in the major centres of South Africa as based on relevant and specialised content contributed by building owners and developers, professional consultants, as well as general and specialist contractors.

See also: Property, Real Estate and Facilities Management

Programme in Asset and Maintenance Management (PAMM)

The Programme in Asset and Maintenance Management (PAMM) provides you with an integrated and comprehensive training intervention in the complementary disciplines that direct the management and maintenance of physical assets. The programme provides you with a better awareness and tools to shape collaborative efforts that are required to effectively manage and maintain assets across a wide range of technical, engineering, finance, logistics, communications and other functions. You will gain the necessary skills to realise effective physical asset management by focusing on particular aspects of asset management principles and practices, principles of maintenance management, as well as maintenance approaches and strategies.

See also: Engineering and Technology Management
Programme in Construction Adjudication

The Programme in Construction Adjudication provides you with a unique opportunity to examine the various initiatives being implemented in the promotion and application of construction adjudication. This has given rise to a greater need for construction and legal professionals to advise, assist and/or represent parties, and those who already practice or intend to practice as adjudicators to be trained further in the practice of construction adjudication. As it is progressively becoming more entrenched as a procedure for resolving construction disputes across the South African construction industry, this programme aims to assist you in implementing a relevant statutory framework for construction.

Programme in Engineering Management PEM

The Programme in Engineering Management (PEM) aims to provide you with practical training in managing technical functions, specifically those geared towards engineering management activities that include development, operations, maintenance, technology and project management. The programme focuses on the fundamentals of supervisory and managerial capacity and is ideal if you are involved in or associated with technical management functions, such as design, development, manufacturing, construction, operations, quality and maintenance. Skills, tools and techniques acquired in this programme are relevant to a wide variety of industry and business sectors, including government. The programme offers balanced training in both technical and general management.

Comprehensive Project Management Programme for Built Environment Practitioners CPMP

The Comprehensive Project Management Programme (CPMP) for Built Environment Practitioners presents you with a unique training experience in applying the ten Project Management Body of Knowledge (PMBOK®) areas directly to the built environment by supplementing them with extensive coverage of the law of contracts, standard industry contracts for contractors, agreements for consultants, procurement processes, contract administration, programme management, as well as the principles of property management. The programme further focuses on the topics of project finance, cost estimating, and feasibility studies as well as human resource management to serve as the background to the origin and management of construction projects.

See also: Engineering and Technology Management

See also: Project and Risk Management

CERTIFICATE Successfully completed

DURATION 8 study blocks with 2 contact days each

COURSE CODE P002828

MODE OF DELIVERY Contact sessions

CERTIFICATE Successfully completed

DURATION 4 study blocks of 5 days each

COURSE CODE P000498

MODE OF DELIVERY Contact sessions

CERTIFICATE Successfully completed

DURATION 4 study blocks of 5 days each

COURSE CODE P000010

MODE OF DELIVERY Contact sessions

CERTIFICATE Successfully completed

DURATION 4 study blocks of 5 days each

COURSE CODE P000499

MODE OF DELIVERY Contact sessions

CERTIFICATE Successfully completed

DURATION 4 study blocks of 5 days each

COURSE CODE P000010

MODE OF DELIVERY Contact sessions

CERTIFICATE Successfully completed

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CERTIFICATE Successfully completed

DURATION 4 study blocks of 5 days each
Construction Contracts

COURSE CODE
P003379

MODE OF DELIVERY
Contact sessions

DURATION
5 contact days

CERTIFICATE
Successfully completed

The short course in Construction Contracts introduces you to the law of contracts and, more specifically, the various types of construction contracts used in the current South African construction and built environments. Not only will you gain exposure to different building and contractor agreements, but you will also get access to an in-depth knowledge base of professional liability, professional service agreements (PROCSA) and contract standards such as the Joint Building Contracts Committee (JBCC), New Engineering Contract (NEC), Fédération Internationale des Ingénieurs-Conseils (FIDIC) and General Conditions of Contract (GCC). This course earns you credit towards the Comprehensive Project Management Programme for Built Environment Practitioners (CPMP).

Human Resources, Communication and Scope Management in Projects

COURSE CODE
P003510

MODE OF DELIVERY
Contact sessions

DURATION
4 contact days

CERTIFICATE
Successfully completed

The Human Resource, Communication and Scope Management in Projects short course presents you with a unique training experience in applying three of the ten Project Management Body of Knowledge (PMBOK®) areas – namely, Human Resource Management, Communication Management and Scope Management – directly to the construction and built environments. This is supplemented by providing you with extensive coverage of labour law, conflict management, negotiations, communication strategies, project management processes, lifecycle of a project, as well as the identification of work responsibilities and roles on projects. This course earns you credit towards the Comprehensive Project Management Programme for Built Environment Practitioners (CPMP).

Project Estimating and Procurement

COURSE CODE
P003511

MODE OF DELIVERY
Contact sessions

DURATION
5 contact days

CERTIFICATE
Successfully completed

The short course in Project Estimating and Procurement presents you with a unique training experience in applying two of the ten Project Management Body of Knowledge (PMBOK®) areas – namely, Cost Management and Procurement Management – directly to the construction and built environments. The course provides you with an extensive overview of aspects of estimating and pricing on projects, feasibility studies to ensure project success, project finance, cash flow and cost management, as well as a sound knowledge of procurement processes and practices in the construction industry. This course earns you credit towards the Comprehensive Project Management Programme for Built Environment Practitioners (CPMP).

Project Quality, Risk and Time Management

COURSE CODE
P003512

MODE OF DELIVERY
Contact sessions

DURATION
5 contact days

CERTIFICATE
Successfully completed

The Project Quality, Risk and Time Management short course presents you with a unique training experience in applying a further three of the ten Project Management Body of Knowledge (PMBOK®) areas – namely, Quality Management, Risk Management and Time Management – directly to the construction and built environments. The course specifically aims to provide you with extensive knowledge of and the requisite skills in project control and time management, project reporting, project construction and proper close-out to ensure quality standards and minimised risks are met. This course earns you credit towards the Comprehensive Project Management Programme for Built Environment Practitioners (CPMP).
The Advanced Programme in Project Management (APPM) takes you beyond the basic project management principles focusing on mastering advanced concepts and the integration of modern technologies and approaches to project lifecycles. Strategic aspects are balanced with practical application through the extensive use of software techniques, while elevating your skills and applying advanced risk and critical chain tools or techniques to project plans, as well as applying negotiating skills and techniques to project contracts. You should have successfully completed the Programme in Project Management (PPM) or Comprehensive Project Management Programme for Built Environment Practitioners (CPMP) to enrol in the advanced programme. See also: Project and Risk Management

The Infrastructure Delivery Management Programme: Executive Course is aimed at senior managers in the public sector infrastructure environment in order to take advantage of the implementation of the Infrastructure Delivery Management System (IDMS) and subsequent use of the Infrastructure Delivery Management (IDM) Toolkit. The course is designed with the specific aim to familiarise yourself with the IDMS and its processes and procedures as applied to both inter- and intradepartmental decision-making processes on an executive level. During the course, you will become more aware of the advantages of the IDMS and how it specifically impacts on infrastructure delivery and management. See also: Public Administration and Management

The Infrastructure Delivery Management Programme: Foundation Course provides you with critical insights and enhances your skills in the effective use of the Infrastructure Delivery Management System (IDMS) and Infrastructure Delivery Management (IDM) Toolkit in order to achieve standardised work methods and improved workflow. The course gives specific attention to infrastructure planning and budget alignment with infrastructure delivery. During the course, you will also come to understand the purpose, processes and principles of the IDMS – as highlighted by best-practice methodologies – to familiarise yourself as operational public sector manager with the processes, procedures and guidelines available in the IDM Toolkit. See also: Public Administration and Management

The Infrastructure Delivery Management Programme: Planning and Budgeting provides you with an operational training intervention for managers in the public sector who are responsible for planning and budgeting activities within the different Infrastructure Delivery Management System (IDMS) process levels. This includes areas of portfolio, programme and project management, as well as operations and maintenance, with the aim to foster effective implementation of the IDMS and subsequent use of the Infrastructure Delivery Management (IDM) Toolkit. During the course, you will also be equipped with the standardised work methods and improved workflow that contribute to the implementation of the IDMS. See also: Public Administration and Management
Infrastructure Delivery Management Programme:
Supply Chain Management

The short course in **Infrastructure Delivery Management Programme: Supply Chain Management** is designed to provide you with operational level training intervention as manager in the public sector who is responsible for supply chain management activities within the different IDMS process levels, including portfolio, programme and project management, as well as operations and maintenance. The aim of the course is to further foster the effective implementation of the Infrastructure Delivery Management System (IDMS) and use of the Infrastructure Delivery Management (IDM) Toolkit – specifically based on supply chain management – towards the realisation of standardised work methods and improved workflow in infrastructure delivery.

See also: Public Administration and Management

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Spatial Planning, Land Use Management and Urban Development Dynamics

The short course in **Spatial Planning, Land Use Management and Urban Development Dynamics** is specifically designed to enhance your skills and knowledge as real estate practitioner, property valuer, commercial property broker, estate agent, property developer or property financier in the wake of recent changes in development planning and infrastructure delivery by-laws. The course is ideal if you are involved in real estate or property development and often have to deal with complex processes or sometimes high-risk investment decisions on property deals. The course will provide you with much needed knowledge to counter the effects on your business operations and/or investments.

See also: Property, Retail and Facilities Management

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Municipal Integrated Development Planning

The **Municipal Integrated Development Planning** short course provides you with an essential overview of the municipal development planning landscape as impacted on recently with the promulgation of the Spatial Planning and Land Use Management Act (SPLUMA) of 2013. The course introduces you to the new SPLUMA by-laws and the new roles and responsibilities of both municipalities and provincial governments in development planning. This has resulted in an entirely new principle-led approach to spatial planning and land use management with a set of application procedures and protocols with their own definite challenges for municipal planners, consulting planners and decision makers.

See also: Public Administration and Management
ASSET INTEGRITY MANAGEMENT (C-AIM)

- Condition monitoring
- Experimental modal analysis
- Failure analysis of a metallurgical nature
- Finite element analysis
- Materials characterisation
- Road simulator testing
- Rollover Protection Structures (ROPS) and Falling Object Protection Systems (FOPS) testing
- Rotating machinery analysis
- Scanning laser vibrometry
- Sound and noise analysis
- Stereo photogrammetry for machine dynamics
- Structural design and analysis
- Structural fatigue and durability testing and analysis
- Structural lifecycle analysis
- Vibration and structural dynamics testing and analysis
- Vibration environmental impact studies
- Vibration monitoring and analysis

LAND USE MANAGEMENT AND SPATIAL PLANNING

- Area-based plan review and development
- Community participation facilitation
- Development of Integrated Development Plans (IDPs)
- Development of Spatial Development Frameworks (SDFs)
- Economic development research and advisory support services
- Feasibility studies
- Human settlement strategy development
- Land claims and investigations research
- Local economic development planning strategy development, review and evaluation
- Modelling and scenario building
- Policy review and development
- Property sector profile compilation, strategy development and implementation programme
- Regulatory Impact Assessments (RIA) and Socio Economic Impact Assessment Systems (SEIAS)
- Review and development of by-laws
- Rural development strategy development
- Rural, urban and regional planning
- Strategic planning, research, monitoring and evaluation, and knowledge management support to municipal, regional and provincial institutions/agencies
- Transport system impact studies and evaluation of project implementation and outcomes
We deploy multifaceted teams of experts that provide customised and innovative research and advisory services for a competitive edge shaped around our ability to put science into practice.

Our operating paradigm is shaped around solutions applications in relation to real-world challenges experienced by our clients, as well as daily challenges in our communities and society. With this in hand, we offer a diverse range of empirical, business-to-business Research Solutions across the full lifecycle of projects:

- Effectiveness of noise abatement programmes
- Hand–arm and whole-body vibration surveys
- Hazardous chemical substance exposure assessments
- Heat and cold stress surveys
- Indoor air-quality monitoring and control evaluation
- Industry occupational hygiene compliance
- Occupational hygiene health risk assessments
- Personal, area and environmental noise surveys

For more information about our full offering of research and advisory services, visit www.enterprises.up.ac.za/research-solutions
The following credit-bearing courses provides you with an entry point to formal degree programmes exclusively presented by the University of Pretoria (with credits afforded towards the specified degree modules):

### Faculty of Economic and Management Sciences

<table>
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<tr>
<th>Module code and credits</th>
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<tbody>
<tr>
<td>Advanced Programme in Labour Relations Management (ABV700)</td>
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<tr>
<td>Basic Course in Financial Investigation (FRA710  (20 credits))</td>
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<tr>
<td>Economic Crime Schemes (FRA701  (20 credits)</td>
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<tr>
<td>Fraud Risk Management (FRA702  (20 credits)</td>
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<tr>
<td>Interviewing Skills for Fraud Examiners and Auditors (FRA708  (20 credits))</td>
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<tr>
<td>Investigation and Management of Cyber and Electronic Crime (FRA707  (20 credits)</td>
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<tr>
<td>Investigation of Financial Crime (FRA703  (20 credits)</td>
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<tr>
<td>Labour Relations (ABV320  (20 credits))</td>
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<tr>
<td>Law for Commercial Forensic Practitioners (FRA704  (20 credits)</td>
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<tr>
<td>Module in Advanced Module in Basic Taxation (Graduate Level) (BEL300  (40 credits))</td>
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<tr>
<td>Module in Advanced Module in Basic Taxation (Postgraduate Level) (BEL751  (40 credits))</td>
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<tr>
<td>Module in Basic Taxation (BEL200  (40 credits))</td>
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<tr>
<td>Money Laundering Investigation and Detection (FRA705  (20 credits)</td>
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<tr>
<td>Prevention and Detection of Procurement and Contract Fraud (FRA709  (20 credits))</td>
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<tr>
<td>Programme in Empowering Responsible Leaders in Local Government (OBS781  (20 credits))</td>
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### Faculty of Health Sciences

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<th>Module code and credits</th>
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<tr>
<td>Online Course in Higher Exercise Science and Personal Training (FLG331  (18 credits))</td>
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<tr>
<td>Online Course in Neuroscience Visual Skills Testing and Training (FLG211  (12 credits))</td>
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<tr>
<td>Online Course: Introduction to Neuroscience Coaching (FLG327  (30 credits))</td>
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### Faculty of Humanities

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<tr>
<td>Advanced Course in Employee Assistance Programmes (UPO923  (15 credits))</td>
</tr>
<tr>
<td>Cross-Cultural Communication (LCC715  (20 credits))</td>
</tr>
<tr>
<td>Sport Facilities and Events Management (MBK709  (27 credits))</td>
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### School of Public Management and Administration

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<th>Module code and credits</th>
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<tr>
<td>(credits towards enrolment in the Master's in Public Administration [MPA]) Strategic Capability and Leadership for Senior Managers (PAD803  (20 credits))</td>
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<tr>
<td>Programme and Project Management for Senior Managers (PAD804  (10 credits))</td>
</tr>
<tr>
<td>Public Financial Management for Senior Managers (FHB800  (20 credits))</td>
</tr>
<tr>
<td>People Management and Empowerment for Senior Managers (HPB801  (20 credits))</td>
</tr>
<tr>
<td>Public Policy, Problem Solving and Analysis for Senior Managers (OXA800  (10 credits))</td>
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Successful completion of credit-bearing short courses entails that a candidate who otherwise complies with all the admission requirements for corresponding formal degree programmes – as published annually in the respective year faculty year books of the University of Pretoria – may upon registering for the formal programme obtain credits for the corresponding degree modules. Normal application processes for admission to formal programmes at the University of Pretoria must be followed. Certificates of successful completion of credit-bearing short courses issued by Enterprises University of Pretoria must be submitted during the application for recognition of allocated credits.

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**Shifting knowledge to insight**

+27 (0)12 434 2500 | info@enterprises.up.ac.za | enterprises.up.ac.za