INFORMATION AND COMMUNICATION TECHNOLOGY COURSES
## Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Overview</td>
<td>3</td>
</tr>
<tr>
<td>Introduction</td>
<td>4</td>
</tr>
<tr>
<td>Business and Systems Analysis</td>
<td>6</td>
</tr>
<tr>
<td>Advanced Business Analysis</td>
<td>6</td>
</tr>
<tr>
<td>Programme in Business Analysis</td>
<td>6</td>
</tr>
<tr>
<td>Competitive Intelligence</td>
<td>7</td>
</tr>
<tr>
<td>Advanced Competitive Intelligence</td>
<td>7</td>
</tr>
<tr>
<td>Computer and Information Literacy</td>
<td>7</td>
</tr>
<tr>
<td>Basic Computer Literacy</td>
<td>7</td>
</tr>
<tr>
<td>Advanced Computer Literacy</td>
<td>8</td>
</tr>
<tr>
<td>Computer and Information Security</td>
<td>8</td>
</tr>
<tr>
<td>Information Security Management</td>
<td>8</td>
</tr>
<tr>
<td>Digital Forensics and Investigations</td>
<td>8</td>
</tr>
<tr>
<td>Technology Neutral Analysis and Design using UML and URDAD</td>
<td>9</td>
</tr>
<tr>
<td>Digital Government: ICT Governance</td>
<td>9</td>
</tr>
<tr>
<td>Information Technology Management</td>
<td>10</td>
</tr>
<tr>
<td>Information Technology Management Programme</td>
<td>10</td>
</tr>
<tr>
<td>Data Science and Big Data Analytics</td>
<td>10</td>
</tr>
<tr>
<td>Information Systems</td>
<td>11</td>
</tr>
<tr>
<td>Introduction to Enterprise Architecture Concepts</td>
<td>11</td>
</tr>
<tr>
<td>Introduction to Database Design</td>
<td>11</td>
</tr>
<tr>
<td>IT Project Management</td>
<td>11</td>
</tr>
<tr>
<td>IT Project Management</td>
<td>11</td>
</tr>
<tr>
<td>Knowledge Management</td>
<td>12</td>
</tr>
<tr>
<td>Basic Information and Knowledge Management</td>
<td>12</td>
</tr>
<tr>
<td>Mobile Applications</td>
<td>12</td>
</tr>
<tr>
<td>Mobile Application Development</td>
<td>12</td>
</tr>
<tr>
<td>Mobile Site Development</td>
<td>13</td>
</tr>
<tr>
<td>Mobile Marketing and Mobile Advertising</td>
<td>13</td>
</tr>
<tr>
<td>Mobile Technologies and their Uses</td>
<td>13</td>
</tr>
<tr>
<td>E-skills for Entrepreneurs</td>
<td>14</td>
</tr>
<tr>
<td>Network Administration</td>
<td>14</td>
</tr>
<tr>
<td>Cisco-Certified Networking Associate (CCNA Ver 5.0 Exploration)</td>
<td>14</td>
</tr>
<tr>
<td>Cisco-Certified Networking Professional (CCNP1) Building Scalable Internetworks</td>
<td>14</td>
</tr>
<tr>
<td>Programming</td>
<td>15</td>
</tr>
<tr>
<td>Programming with C</td>
<td>15</td>
</tr>
<tr>
<td>Introduction to C# (C Sharp)</td>
<td>16</td>
</tr>
<tr>
<td>Advanced C# (C Sharp)</td>
<td>16</td>
</tr>
<tr>
<td>Software Design Patterns</td>
<td>17</td>
</tr>
<tr>
<td>Enterprise System Development using Java EE</td>
<td>17</td>
</tr>
<tr>
<td>Software Architecture</td>
<td>17</td>
</tr>
</tbody>
</table>
Company overview

Having played a profound part in the history of South Africa for more than 100 years, the University of Pretoria boasts a lasting legacy that endures through a cluster of innovative and multidisciplinary Training Solutions and Research Solutions rendered through Enterprises University of Pretoria (Pty) Ltd.

Our Training Solutions and Research Solutions translate to increased productivity, enhanced customer service excellence and improved profitability within any industry. Drawing on the knowledge of academic and industry experts from the University of Pretoria, our track record includes high-quality, customised and practical solutions that set us apart from the traditional skills development and research organisation.

With some of South Africa’s most acclaimed academics and thought leaders on our teams of research specialists and course leaders, we ensure that our clients continuously engage in groundbreaking knowledge transfer – shifting knowledge to insight.

TRAINING SOLUTIONS

We offer the best possible Training Solutions to organisations and individuals through career-focused short courses that provide proactive, relevant responses to the skills development needs identified in various industry sectors, places of work, communities, the country, and beyond.

Already having made a significant impact on the careers of more than 320 000 individuals from across the globe, we are taking our commitment to lifelong learning even further. Not only do we offer a selection of more than 500 short courses across 20 industry fields, we also provide a choice of training options that include scheduled courses, Continued Professional Development (CPD) courses, online and blended learning interventions and customised corporate training solutions.

Scheduled courses

Our scheduled courses are specifically designed to meet the training needs of our broader communities and are open to all prospective delegates throughout the year. In fact, at any given time we schedule in excess of 100 courses during a three-month period. This affords delegates and opportunity to pursue a variety of industry-related short courses, while being able to plan ahead and reap the benefits of workplace and professional skills development.

CPD courses

We offer various CPD courses, activities and seminars for engineers, educators, veterinarians and medical professionals, among others, who need to continuously update their knowledge, acquire CPD points and maintain their professional status through their respective professional bodies. We also offer online CPD activities that cover various topics and include online tests, assessments and quizzes that can be completed towards CPD points.

Professional Online Development (PODs)

By recognising that many professionals would like to continue honing their knowledge and skills, but often struggle to find the time to attend formal lectures, we provide intensive, collaborative and focused online or blended learning opportunities that can be accessed anywhere, at any time. Integrated under the University of Pretoria’s Professional Online Development (PODs) offering, our online training options include Open Educational Resources (OERs), online short courses, open online courses and online CPD.

Customised corporate solutions

In an effort to address identified industry- or sector-specific training needs, our customised in-house course options are geared towards organisations that need to upskill and develop their staff accordingly. We can design a basic course to introduce newly appointed staff to a specific topic, or provide specialised training to an executive committee on thought-leading management and leadership issues. All these courses can be presented on one of the various University campuses, any suitable venue or on-site.

RESEARCH SOLUTIONS

We are also in the unique position to offer our clients Research Solutions to help us better serve them as an add-on to our wide range of short courses. We facilitate research projects to clients through personalised services and innovative business solutions that are conducted by specialised project teams.

Our focus areas include, among others, engineering and construction, sensory research and food product evaluation, economic modelling, statistical data mining solutions, agribusiness and actuarial risk management solutions and client retention strategies – with close to 400 projects successfully completed in 2014 alone.

WE ARE PART OF A GLOBAL COMMUNITY

In pursuit of international markets for the extension of our business activities and services across the world, we have adopted a proactive approach in acquiring new business partnerships on the African continent (and beyond) for the successful execution of various training and research projects.

In 2014, delegates from 56 different countries (of which 37 are on the African continent) registered for scheduled short courses, while a total of 170 different courses were attended by international delegates. Other international activities included 69 research projects for 42 clients in 25 countries, and the collaboration with 29 universities and other academic institutions.

ACCREDITATION, CERTIFICATION AND OWNERSHIP

Enterprises University of Pretoria (Pty) Ltd is wholly owned by the University of Pretoria. The University is registered as a multipurpose, public training provider in the higher education and training band. Delegates who successfully complete a course and comply with the related assessment criteria are awarded certificates by the University in recognition of their professional skills development.

We are also registered as a service provider with and member of a selection of national and international organisations and professional bodies through which we can deliver business insight beyond the academic realm that not only showcases market relevance, but also suits clients’ unique organisational and industry needs.

Enterprises University of Pretoria is a level 2 contributor to broad-based black economic empowerment (B-BBEE).
To register online visit
www.enterprises.up.ac.za
You can gain a deeper understanding of new software and application functionalities as well as evolving hardware to more compact platforms with our specialised courses in Information and Communication Technology.

The South African Electrotechnical Export Council (SAEEC) estimates that IT and Telecommunications currently generate about R26 billion in revenue per annum in South Africa alone. With connectivity continuously increasing and technology advancing, there is a body of incontrovertible evidence that ITC is not only paving the way for substantial growth in South Africa, but also into Africa.

Whether you need to maintain technological momentum by increasing your knowledge and/or stay abreast of the latest developments in the ICT sector, or whether you wish to become an expert Java programmer, we have the ideal course for you.
Business and Systems Analysis

Course number: P000270
This course develops the analysis and design skills of systems and business analysts. Theoretical concepts are supplemented by practical work in the form of a comprehensive case studies and assignments. Delegates gain knowledge of the basic concepts of systems life-cycle and development methodologies, as well as object modelling (using UML), data modelling and process modelling.

Course content:
- Building block
- Business requirements
- Process modelling
- Data modelling
- Object modelling
- Theory of systems development life-cycles (SDLCs)

Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12) and relevant work experience.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Advanced Business Analysis

Course number: P000274
Business analysts learn how to use various fact-finding techniques for gathering information about the system’s problems, opportunities and directives. The course also teaches analysts how to write requirements and prepare documents to be presented to the project stakeholders.

Course content:
Every session consists of the following three parts:
- Theory
- Application of specific techniques
- Case studies based on specific business applications

(Note: Case studies will be started in class, completed as homework and discussed in the next sessions.)

Admission requirements:
Prospective delegates should at least have a relevant bachelor’s degree and business analysis experience; Delegates are recommended to have completed the Business and Systems Analysis course prior to enrolment.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Programme in Business Analysis

Course number: P002000
This is a comprehensive programme in all aspects of business analysis. Not only theoretical, the programme focuses on the application of the theory and is aimed at providing delegates with practical knowledge and toolsets which are applicable and usable in the work place. This programme is endorsed by the International Institute of Business Analysis (IIBA) and firmly based on the knowledge areas as described by the Business Analysis Body of Knowledge (BABOK).

Course content:
- Business overview for analysts (GABU) (Self-study)
- Enterprise analysis (BAEA)
- Solution assessment and evaluation (BASA)
- Interpersonal skills for analysts (GAIP)
- Communication skills for analysts (GACS)
• Requirements analysis (BARA)
• Requirements elicitation (BARE)
• ICT overview for analysts (GAIT) (Self-study)
• Change management for analysts (GACM)
• Business analysis management (BAMA)

Admission requirements:
Prospective delegates are recommended to have a relevant bachelor's degree or National Diploma; Minimum requirements include a National Senior Certificate (Grade 12) with a pass mark in either Mathematics or Accounting and/or extensive experience in IT or business.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Competitive Intelligence

Advanced Competitive Intelligence

Course number: P000679
This course provides delegates with techniques and insights on competitive intelligence (CI) that will serve them in the corporate environment. Delegates will have an understanding of the manner in which a CI strategy should be formulated, as well as the relationship between strategy and CI, be able to set up and manage CI capability in an organisation and be able to collect and analyse information for CI purposes.

Course content:
• Formulating an implementation strategy for CI
• CI and strategy
• Guiding information collection in the organisation
• Competitive analysis theory and case studies
• Advanced analysis
• Setting up CI capability in the company
• Change management and CI
• Managing CI in the organisation
• Hands-on CI issues and challenges

Admission requirements:
Prospective delegates should have the relevant working experience or should have successfully completed the Basic Course in Competitive Intelligence.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Computer and Information Literacy

Basic Computer Literacy

Course number: P000629
The course in Basic Computer Literacy is a part-time course that introduces delegates to the basics of computing. Training focuses on the Microsoft Office suite because it is the office automation application of choice in most organisations worldwide. It is an instructor led course that is delivered using a hands-on practical approach. Every delegate uses a computer individually and the strategic selling point is to individualise the training for each delegate.

Course content:
• Basic concepts of computing
• Microsoft Office Word 2010
• Microsoft Office Excel 2010
• Microsoft Windows 7

Admission requirements:
Prospective delegates should at least have a Grade 10 level of education, with the ability to read and write, as well as willingness to learn.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.
Advanced Computer Literacy

Course number: P000630
The course in Advanced Computer Literacy boasts a number of success stories. It is a part-time course with the unique purpose to empower delegates with Microsoft Office skills that will enable them to harness the power of computing for their own benefit (business or private). The course extends over nine weeks with a three-hour session per week. There is also a full time course for people that prefer a four-day breakaway.

Course content:
• Microsoft Internet Explorer 8
• Web 2.0 (Facebook, Skype, Google Docs, Whatsapp, etc.)
• Microsoft Office PowerPoint 2010
• Microsoft Office Access 2010
• Microsoft Office Outlook 2010
• Microsoft Publisher 2010

Admission requirements
Prospective delegates should at least have completed the Basic Computer Literacy course; A Grade 10 level of education, with the ability to read and write, as well as willingness to learn is recommended.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Computer and Information Security

Information Security Management

Course number: P000330
This short course in Information Security Management provides delegates with knowledge on management action that must address the implementation and maintenance of processes, procedures and other issues such as organisational culture. These processes and issues include the identification of information security needs and the implementation of strategies to meet those needs. International standards and guidelines, such as those from the OECD, ISO, ACM and IEEE, are discussed in the course.

Course content:
• Introduction to information security management
• Corporate governance and policies
• Security culture, awareness, training and ethics
• Information security architecture

Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12).

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Digital Forensics and Investigations

Course number: P002570
Digital Forensics and Investigations is a short course to teach the basic theoretical concepts of digital forensics as well as the practical side of digital forensics, i.e. how to conduct digital forensic investigations. This course is designed for a wide range of people such as law enforcers, crime investigators, managers in larger organisations, technical personnel in larger organisations, and anyone else interested in a general background of digital forensics.

Course content:
• Introduction to digital forensics
• Digital forensic process overview
• Hardware forensics
• Digital forensics tools
• Forensics readiness
• Networks forensics
• Live forensics
• Professionalism and ethics in digital forensics
• Privacy
• Cyber forensics
• Cyber law
• Cyber warfare and terrorism

Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12) and two years' relevant experience in IT.

(Note: Delegates are required to bring laptops to the contact session that will be used extensively during the practical component of the course.)

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Technology Neutral Analysis and Design using UML and URDAD

Course number: P002748
This course will provide delegates with the knowledge on how to use the URDAD methodology for service-orientated Technology Neutral Analysis and Design. This includes scoping, capturing functional and non-functional requirements for a service, use-case/service contract specification, responsibility allocation, and (business) process specification. Delegates will generate documentation from an URDAD/UML model.

Course content:
• Functional and non-functional requirements elicitation and specification
• Service contract specification
• Technology neutral data structure specification
• Responsibility allocation
• (Business) process specification

Admission requirements:
Prospective delegates should at least have a relevant bachelor’s degree in Computer Science or equivalent qualification.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Digital Government: ICT Governance

Course number: P002785
Corporate governance provides context to assess and deal with investments and risks to corporate information assets and the underlying ICT infrastructure. The management of IT has emerged as an essential element of corporate governance and success. IT governance can deliver on the long-time management paradox of encouraging and leveraging the ingenuity of human capital, while ensuring compliance with the overall vision, principles and strategy of the enterprise.

Course content:
• Nature of IT governance
• IT governance and strategy: the search for competitiveness
• Governance and risk management
• IT regulatory compliance
• IT governance frameworks
• IT project governance
• Mechanisms for implementing IT governance
• Linking strategy, IT governance and performance
• Leadership principles for IT governance
• Making the business case for IT governance

(Note: The course has a series of workshop case analyses and presentations that are evaluated during the contact sessions that comprise 50% of the total mark. There is also a final examination that comprises another 50% of the final mark.)
Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12); A post-matric qualification is strongly recommended.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Information Technology Management

Information Technology Management Programme

Course number: P001546
Providing an excellent appreciation of the key aspects involved in managing the Information and Communication Technology (ICT) resource, this course is ideal for emerging and newly appointed managers and team leaders in all branches of ICT. Experienced IT managers and CIOs will benefit from the course as an update of their knowledge and a confirmation of the best practices, strategic and practical considerations in the field of business use of information technology.

Course content:
• Overview and understanding of the principles and practices of ICT management in enabling delegates to be more effective in their positions.
• Benefits to delegates’ own careers but to their companies in having knowledgeable and well-rounded ICT staff in key positions.

Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12); A post-matric qualification is strongly recommended.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Data Science and Big Data Analytics

Course number: P003126
This course provides practical foundation-level training that enables immediate and effective participation in big data and other analytics projects. It includes an introduction to big data and the data analytics life-cycle to address business challenges that leverage big data. The course provides grounding in basic and advanced analytic methods and an introduction to big data analytics technology and tools.

Course content:
• Big data analytics and the role of the data scientist
• Data analytics life-cycle
• Initial analysis of data
• Advanced analytics for big data (Theory and methods)
• Advanced analytics for big data (Technology and tools)
• Integrating technologies and tools

(Note: Five days of intensive (non-residential) study takes place at the University of Pretoria that is divided into three 2½-hour sessions per day. This is followed by a 3-hour sit-in exam on the last day.)

Online option:
This course also has as an online option available that includes more interactive exercises that link directly to websites for research and assignments. This is a convenient way for delegates to study at home or at work. Online support is provided with an online self-study kit that is paired with practical exercises and assignments. Tutorial support ensures progress during the course and in preparation for the final exam.

Admission requirements
Prospective delegates should have the relevant working experience and/or prior learning.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.
Information Systems

Introduction to Enterprise Architecture Concepts

Course number: P002816
This online course provides delegates with a concise and fundamental overview and critical Enterprise Architecture (EA) concepts. This is done by means of case studies, focusing on core concepts and ideas behind architecture, using enterprise architecture frameworks and linking this knowledge back to notational styles and finally the application of these styles. This is a fundamental course that equips delegates with general understanding of enterprise architecture and how it may be applied.

Course content:
• Introduction to Enterprise Architecture
• EA concepts and frameworks
• Introduction to the Zachman framework
• Enterprise Architecture frameworks
• Enterprise Architecture documentation and modelling

Admission requirements:
Prospective delegates should at least have a relevant bachelor’s degree and analysis experience in the field of Computing; Delegates are recommended to have an understanding of the need of Enterprise Architecture within an organisation.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Introduction to Database Design

Course number: P003210
This online course provides delegates with basic and fundamental knowledge of designing simple databases by means of Entity Relationship Diagrams and the implementation of these designs in a Relational Database Management System. Delegates attending the course will also be introduced to the fundamentals of Structured Query Language (SQL), how to design simple small-scale databases and functionally apply SQL to implement and manipulate such databases.

Course content:
• Introduction to database concepts
• Entity Relationship Diagrams
• Getting started with Relational Database Management Systems
• Applying the Relational Model in Relational Database Management Systems
• Functional Structured Query Language (SQL)

Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12) and basic computer literacy.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

IT Project Management

IT Project Management

Course number: P000275
From the implementation of new software to the upgrading of existing hardware, this course aims to equip you with the theoretical and practical knowledge to run an information systems project. At the end of this course, the delegate should be able to scope, plan, execute and run and control an information systems project, as the course runs through the project life-cycle and addresses the knowledge areas of Project Management Body of Knowledge (PMBOK).

Course content:
• Project life-cycle and the knowledge areas of PMBOK
• Initiating and planning projects to work with stakeholders of projects
• Responding to typical events in the project life-cycle
• Updating project schedules and budgets
Knowledge Management

Basic Information and Knowledge Management

Course number: P000666
This programme provides delegates with knowledge of a variety of practical aspects regarding the implementation of information and knowledge management in an organisation. It also entails a discussion on knowledge processes, but focuses specifically on the knowledge of new creation. The programme includes a discussion on the contribution of a variety of scholars to the development of knowledge management.

Course content:
• Overview of information and knowledge management
• Information and knowledge audit
• Business strategy and the development of a knowledge management strategy
• Knowledge management governance
• Corporate information policy
• Records management and electronic document management systems
• Knowledge representation of information resources
• Information organisation for knowledge management
• Intranet: theoretical background and practical project
• Knowledge processes
• Change management in a knowledge-based organisation

Admission requirements:
Prospective delegates should have relevant working experience and/or prior learning.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Mobile Applications

Mobile Application Development

Course number: P003327
Focusing on the delivery of robust mobile business applications and integration with enterprise systems, this course places the following facets under the microscope: creating intuitive, reliable software using activities, services and intents; designing UIs that work seamlessly with a range of phones and tablets; managing data with content providers and the SQLite database; and integrating applications with enterprise web and location-based services.

Course content:
• Deliver robust mobile business applications and integrate with enterprise systems
• Create intuitive, reliable software using activities, services and intents
• Design UIs that work seamlessly with a range of phones and tablets
• Manage data with content providers and the SQLite database
• Integrate applications with enterprise web and location-based services

Delegates will be developing an Android web services client with hands-on experience in:
• Creating an Android application from the ground up
• Building a UI using the ADT Visual Designer
• Composing the GUI from Fragments
• Integrating applications with the SQLite database
• Developing a content provider and binding to a list
• Ensuring application compatibility with tablets and phones

**Admission requirements:**
Prospective delegates should at least have a National Senior Certificate (Grade 12).

**Course dates and fee:**
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

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**Mobile Site Development**

**Course number:** P003328  
Describing industry best practices for mobile site development, this course covers the basics of handset detection, analytics and mobile site code generation. The mobile web refers to access to the World Wide Web (i.e. the use of browser-based internet services) from handheld mobile devices such as a smartphones or feature phones that are connected to a mobile network or other wireless network.

**Course content:**
Handset detection  
Analytics  
Mobile site code generation

**Admission requirements:**
Prospective delegates should at least have a National Senior Certificate (Grade 12).

**Course dates and fee:**
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

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**Mobile Marketing and Mobile Advertising**

**Course number:** P003329  
This course describes the mobile marketing and advertising industry. Mobile marketing is marketing on or with a mobile device, such as a smart phone, tablet, etc. Mobile marketing can provide customers with time and location sensitive, personalised information that promotes goods, services and ideas. Specific areas of interest include: SMS, MMS, PUSH services, app-based, in-game, mobile web, QR codes, Bluetooth, proximity systems, location-based services, instant messaging and so forth.

**Course content:**
Mobile marketing on or with mobile devices, such as a smartphones, tablets, etc.

**Admission requirements:**
Prospective delegates should at least have a National Senior Certificate (Grade 12).

**Course dates and fee:**
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

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**Mobile Technologies and their Uses**

**Course number:** P003330  
With mobile technologies continually evolving, and considering that we are consistently looking for faster and more secure communication networks, this course provides an overview of current and future trends. Understanding these technologies and their application is critical to business success.

**Course content:**
- GSM  
- GPRS  
- 3G  
- LTE  
- SMS  
- MMS
• USSD
• WAP
• OTA
• NFC
• RFID

Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12).

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

E-skills for Entrepreneurs

Course number: P003343
This course provides a great way for entrepreneurs and small business owners to understand the importance of technology in their businesses. It will help to optimise their communications skills through technology and how to use social media as a marketing tool. This course will focus on the introduction levels to computing concepts and will also focus on the intermediate levels of computer skills needed to effectively run a business.

Course content:
• Basic computing concepts (including operating systems)
• Microsoft Office Word 2010 (with an emphasis on business writing)
• Microsoft Office Publisher 2010 (for business templates)
• Microsoft Office Outlook 2010 (including Gmail)
• Microsoft Office Excel 2010 (with an emphasis on business finances)
• Microsoft Office PowerPoint 2010
• Web 2.0 and smartphones
• Microsoft Internet Explorer 8 (with an emphasis on e-Learning and searching the web for information)

Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12).

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Cisco-Certified Networking Associate (CCNA Ver 5.0 Exploration)

Course number: P000226
The CCNA course (R&S Ver 5.0) incorporates theoretical aspects and practical application, while also providing delegates with the skills and hands-on experience that enable them to design, install, operate and maintain networks. The course covers a complete range of networking concepts and features where delegates have access to the building blocks of Local and Wide Area Networks (LANs and WANs), such as wireless access points, switches and routers.

Course content:
• Introduction to networks
• Routing and switching essentials
• Scaling networks
• Connecting networks

Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12).

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.
Cisco-Certified Networking Professional (CCNP1) Building Scalable Internetworks

Course number: P001680
Our Cisco-Certified Networking Professional (CCNP) course (ROUTE Implementing Cisco IP Routing) teaches delegates to create an efficient and expandable enterprise network. It also covers the installation, configuration, monitoring and troubleshooting of network infrastructure equipment. The course curriculum builds on Cisco CCNA® courses with more complex network configurations, diagnosis and troubleshooting.

Course content:
• Scalable network design
• EIGRP
• OSPF
• Integrated IS-IS
• Route optimisation
• BGP
• IP multicasting
• IPv6

Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12); Delegates should have completed CCNA1–4 or equivalent courses; CCNA certification is recommended but not a prerequisite.

Course dates and fee:
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Programming

Programming with C

Course number: P002721
This course confers a sound knowledge of basic computer programming. The theory of the basic concepts as well as design methods is investigated. The C programming language is used to implement the concepts. The course will give a very brief introduction to the C++ object-orientated language for the purpose of showing the transition from a structure language like C to an object-orientated programming (OOP) language like C++.

Course content:
• Introduction to computers
• Introduction to C
• Structured program development
• Program control
• Functions
• Arrays
• Pointers
• Characters and strings
• Formatted I/O
• Structures
• File processing
• Introduction to C++
• OO programming
• Introduction to classes and objects

Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12).

Course dates and fee:
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Introduction to C# (C Sharp)

Course number: P002722

The theory of the basic concepts, as well as design methods, is investigated. The C# object-orientated programming (OOP) language is used to implement the concepts. The course also focuses on software engineering best practices and concepts are presented in the context of basic code examples. This course will provide delegates with a sound knowledge of basic and visual computer programming.

Course content:
- Introduction to computers and the Internet
- Introduction to visual programming
- Introduction to C# applications
- Introduction to classes, objects, methods and strings
- Control statements (If, While, For, Do, Switch)
- Arrays
- Basic data structures
- Strings and characters
- File streams
- Inheritance

Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12).

Course dates and fee:
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Advanced C# (C Sharp)

Course number: P002723

Advanced concepts, theory as well as design methods are investigated. The C# object-orientated programming (OOP) language is used to implement advanced concepts in the context of working programmes, rather than in basic code examples. This course also focuses on internet programming on the .NET platform as well as the software engineering best practices. This course confers a sound knowledge of advanced and visual computer programming.

Course content:
- Revision of basic OOP (Classes, Objects and Inheritance)
- Polymorphism
- Interfaces
- Operator overloading
- Exception handling
- GUIs
- Databases
- Web app development
- Searching and sorting
- Advanced data structures
- Generics
- Collections

Admission requirements:
Prospective delegates should at least have a National Senior Certificate (Grade 12).

Course dates and fee:
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Software Design Patterns

Course number: P002724
This course introduces delegates to the essentials of design patterns as applied in software design. It introduces design patterns as identified by Gamma, Helm, Johnson and Vlissides in 1995 (referred to as GoF). Visualisation of the patterns will be done in the Unified Modelling Language (UML). The following UML diagrams will be discussed to illustrate the design patterns: Structural - Class and Object; Behavioural - State, Activity and Sequence and Communication interaction diagrams.

Course content:
• Revision of basic object-orientated programming (OOP) concepts (Classes, Objects, Inheritance, Polymorphism and Delegation)
• Overview of the UML as required
• In-depth discussion and application of the design patterns as defined by the GoF
• Discussion of alternative implementations of the patterns and the merits thereof

Admission requirements
Prospective delegates should at least have a National Senior Certificate (Grade 12); Basic knowledge of object-orientated programming and knowledge of basic UML modelling will be an advantage (UML design course).

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.

Enterprise System Development using Java EE

Course number: P002746
This short course on Enterprise System Development using Java EE provides delegates with a solid understanding of the Java EE 6 architecture. Included in the course content are the best practices in Java EE development, as well as its strengths and weaknesses. Through the course, delegates will gain hands-on experience in developing enterprise beans using JPA-2-based persistence and developing JSF/Facelet-based web front ends.

Course content:
• Java EE architecture
• JPA based persistence
• Enterprise bean development
• JSF web clients
• AJAX based dynamic web interfaces

Admission requirements
Prospective delegates should at least have a relevant bachelor’s degree in Computer Science or an equivalent qualification.

Course dates and fee:
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Software Architecture

Course number: P002747
This course focuses on enabling delegates to design elective software architectures and on how to document and validate them. The course covers architectural requirements specification, architectural patterns and strategies as well as commonly used reference architectures for enterprise systems, including Java EE, services-orientated architectures, Microsoft.NET, event-driven architectures, space-based architectures and cloud computing.

Course content:
• Architecture requirements specification
• Architecture design
• Architecture documentation
• Architecture validation

Admission requirements:
Prospective delegates should at least have a relevant bachelor’s degree in Computer Science or an equivalent qualification.

Course dates and fee:
For group bookings, send an email to info@enterprises.up.ac.za. Scheduled dates and prices are available on www.enterprises.up.ac.za.
To register online visit www.enterprises.up.ac.za
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