Open University of Mauritius

BSc (Hons) Applied Information and Communication Technology with Specialisation [OUBS017]

1. Aim and Rationale

The BSc (Hons) Applied Information and Communication Technology with Specialisation is a 3-year programme that has been developed with the active involvement of the ICT industry and features areas which are highly on demand in the local and regional market.

In the first 2 years, learners will be equipped with the core ICT skills through practical experience with the latest technologies and programming languages. In the final year, learners will choose to follow one specialist field from the following: Networking, Software Engineering, Business Informatics, Security and Web Development. In that same year, learners will have the opportunity to undertake a professional industry-led certification related to their chosen specialist field. Examples of such certifications comprise but not limited to Cisco, Microsoft, SAP, CoBIT, CMMI, Oracle. The specialist areas will be adapted based on the demands of the ICT industry.

The specialized nature of this programme coupled with the value added industry-led professional certification will aim at reducing the mismatch between the skills of the graduates and the requirements of the ICT industry. Furthermore, the modules consist of a greater proportion of labs and practical exercises compared to concepts and theories. Learners will spend the final 6 months of the duration of the programme in the ICT industry to work on an industry based project. The aim is to enhance employability and ensure that graduates require minimal training in order to become productive upon employment.

2. General Entry Requirements

I.   **EITHER** "Credit" in at least three subjects at School Certificate or General Certificate of Education O-Level or equivalent and "Pass" in at least two subjects at Higher School Certificate or General Certificate of Education Advanced Level or equivalent;

II. **OR** An appropriate equivalent Diploma/Certificate/Foundation Courses acceptable to The Open University of Mauritius.

III. Learners who do not qualify under options I and II may register for Foundation Courses offered by The Open University of Mauritius. Those who complete the Foundation Courses successfully will be eligible for registration for the relevant degree programmes.

IV.   **OR** Qualifications awarded by other universities and institutions, which are acceptable to the Open University of Mauritius as satisfying the minimum requirements for admission.

V.   Mature candidates having a strong background of work experience.

3. Programme Requirements

As per general entry requirements.

4. Minimum Credits Required for the Awards

i. Degree Award

For the award of the degree, all modules of the programme must be completed including the Final Year Project. Total credits required for award of degree: 112

ii. Diploma Award

The diploma is awarded as a possible exit point in the programme. A learner may opt for a Diploma provided s/he satisfies the minimum requirements, as specified below and who has obtained a minimum of 64 credits.

5. Programme Duration

	Normal	**Maximum**
Diploma	2 years	3 years
Degree	3 years	6 years

6. Credits per Year

Diploma

	Year 1	Year 2	Year 3
Minimum Credits per Year	20	20	24

Degree

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Minimum Credits per Year	20	20	24	18 (3*6)	14 (6 + 8)	16 (industrial project)

7. Assessment

7.1 Year 1 and Year 2

Each module will be assessed over 100 marks (i.e. expressed as %) with details as follows:

Assessment will be based on a written examination of 2 hours' duration which would account for 70% of the final module grade and continuous assessment would account for 30% of the final module grade.

For a learner to pass a module, an overall total of 40% for combined continuous assessment
and written examination components would be required without minimum thresholds within
the individual continuous assessment and written examination.

7.2 Year 3

Year 3 assessment will comprise of:
  (1) Final Year Project
  (2) Modules
  (3) Professional Certification

Final Year Project

The Final Year Project will be assessed over 100 marks and will account for 100 % of the final module grade.

To pass the Final Year Project, the learner should score a minimum of 40%.

Modules

Each module will be assessed over 100 marks (i.e. expressed as %) with details as follows:

Assessment will be based on a written examination of 2 hours' duration which would account for 70% of the final module grade and continuous assessment would account for 30% of the final module grade.

For a learner to pass a module, an overall total of 40% for combined continuous assessment
and written examination components would be required without minimum thresholds within
the individual continuous assessment and written examination.

Professional Certification

The professional certification will be graded according to the professional body offering the certification.

7.3 Re-Sit

Learners may re-sit up to a maximum of two failed modules for the semester of the programme
Written examinations for all modules, whether taught in semester 1 or in semester 2 or both,
will be organised at the end of the semester (unless otherwise stated).

For the professional certification, learners will be provided with a voucher which they will use as payment for the certification examination. The voucher will be provided for the first-time examination sitting only.

8. Grading

Percentage Range	Description	Grade	Grade Point
70.0% and above	Excellent	A	5
60%< x <70%	Very Good	B	4
50%< x <60%	Good	C	3
45%< x <50%	Satisfactory	D	2
40%< x <45%	Pass	E	1
0%< x <40%	Ungraded	F	0

9. Award

BSc (Hons) Applied Information and Communication Technology with Specialisation

1st Class with Honours	CPA ≥ 70
2nd Class 1st Division with Honours	60≤ CPA < 70
2rd Class 2nd Division with Honours	50≤ CPA < 60
3rd Class	45≤ CPA < 50
Pass	40≤ CPA < 45
No Award	CPA < 40

If CPA < 40, the learner will have to repeat the entire academic year, and retake the modules as and when offered. However, s/he will not be required, if s/he wishes, to retake module(s) for which Grade C or above has been obtained. Learners are allowed to repeat twice once over the entire duration of the Programme of Studies. No award is made if CPA < 40.

10. Programme Plan

YEAR 1		
SEMESTER 1		
Module Code	**Module Name**	**Credits**
OUbs017111	Micro Computer Hardware	4
OUbs017112	Operating Systems	4
OUbs017113	Advanced Office Automation	4
OUbs017114/COMSKIL100	Communication Skills	4
SEMESTER 2		
Module Code	**Module Name**	**Credits**
OUbs017121	Introduction to Programming	4
OUbs017122	Internet and Web Technologies	4
OUbs017123/LAWBAS100	Law Basics	4
OUbs017124	Network and Data Communications	4

YEAR 2		
SEMESTER 1		
Module Code	**Module Name**	**Credits**
OUbs017211	Artificial Intelligence	4
OUbs017212	Design and Algorithms	4
OUbs017213/PROMGT100	Project Management	4
OUbs017214	OO Programming	4
SEMESTER 2		
Module Code	**Module Name**	**Credits**
OUbs017221	DBMS	4
OUbs017222	Information Systems and Security	4
OUbs017223	Multimedia	4
OUbs017224	Distributed Systems	4

YEAR 3

The modules in Year 3 will vary depending on the chosen field of specialisation from the following:
(1) Networking
(2) Software Engineering
(3) Business Informatics
(4) Security
(5) Web Development

The Professional Certification can either be taken in semester 1 or semester 2. However, learners will be encouraged to undertake the certification in semester 1.

The Final Year Project will span throughout the academic year (semester 1 + semester 2).

Learners will choose **ONE** of the following specialisations:

NETWORKING

SEMESTER 1

Module Code	Module Name	Credits
OUbs017311	IP Communications	6
OUbs017312/NETSEC100	Network Security	6
OUbs017313	Next Generation Networks (NGN) and Future Networks(Cloud)	6
OUbs017314/NETPJT100	Network Project Part 1	8

SEMESTER 2

Module Code	Module Name	Credits
OUbs017321/SALENG100	Sales Engineering	6
OUbs017322	Professional Certification: CCNA/CCIE/CWNA	8
OUbs017323/NETPJT100	Network Project Part 2	8

SOFTWARE ENGINEERING

SEMESTER 1

Module Code	Module Name	Credits
OUbs017315	Design Methodologies	6
OUbs017316	Advanced DBMS	6
OUbs017317	Advanced OO	6
OUbs017318/SOFTENG100	Software Engineering Project Part 1	8

SEMESTER 2

Module Code	Module Name	Credits
OUbs017324	Quality Assurance	6
OUbs017325	Professional Certification: CMMI/MCT/JE	8
OUbs0173215/SOFTENG100	Software Engineering Project Part 2	8

BUSINESS INFORMATICS

SEMESTER 1

Module Code	Module Name	Credits
OUbs017319	ERP	6
OUbs0173110	Strategic IS	6
OUbs0173111/SALENG100	Sales Engineering	6
OUbs0173112/BUSPJT100	Business Informatics Project Part 1	8

SEMESTER 2

Module Code	Module Name	Credits
OUbs017326/ACCFINA100	Elements of Accounting and Finance	6
OUbs017327	Professional Certification: SAP/MCT/OCP	8
OUbs017328/BUSPJT100	Business Informatics Project Part 2	8

SECURITY		
SEMESTER 1		
Module Code	**Module Name**	**Credits**
OUbs0173113/WEBSEC100	Web Security	6
OUbs0173114/NETSEC100	Network Security	6
OUbs0173115	Computer Forensics	6
OUbs0173116/SECPJT100	Security Project Part 1	8
SEMESTER 2		
Module Code	**Module Name**	**Credits**
OUbs017329	Information Audit and Assurance	6
OUbs0173210	Professional Certification: CISSP/CoBIT/CISA	8
OUbs0173211/SECPJT100	Security Project Part 2	8

WEB DEVELOPMENT		
SEMESTER 1		
Module Code	**Module Name**	**Credits**
OUbs0173117	Web Development	6
OUbs0173118/WEBSEC100	Web Security	6
OUbs0173119	Web Multimedia	6
OUbs0173120/WEBPJT100	Web Development Project Part 1	8
SEMESTER 2		
Module Code	**Module Name**	**Credits**
OUbs0173212	E-business	6
OUbs0173213	Professional Certification: CIW/MCT	8
OUbs0173214/WEBPJT100	Web Development Project Part 2	8

11. Syllabus Outline

YEAR 1 SEMESTER 1

OUbs017111 - MICRO COMPUTER HARDWARE

Module Aims: This module introduces the different components of a computer system. It will investigate various architectures from mainframes to tablets. Interaction between various components and their functionalities will also be covered. Issues related to speed, performance will be addressed.

Unit 1: Computer and Microprocessor Architecture
Unit 2: Primary and Secondary Disk Storage
Unit 3: Memory Units
Unit 4: Interfaces and connectivity

Unit 5: Motherboard
Unit 6: Tablets and Smart Phone Architecture
Unit 7: Human Computer Interaction
Unit 8: Power Supply
Unit 9: Peripheral Devices
Unit 10: Assembly and Disassembly of PC

OUbs017112 - OPERATING SYSTEMS

Module Aim: This module covers Operating Systems structure, administration and management. It will empower the candidates with the operating systems administrative and managerial skills to deal with network services in organisations.

Unit 1: Operating System structure
Unit 2: Operating System Architecture
Unit 2: Shell Scripting
Unit 3: Operating System Services like DHCP
Unit 4: Access List and Control
Unit 5: Network Operating System
Unit 6: Mobile Operating System
Unit 7: Operating System Administration (User administration)
Unit 8: Domain Controller and Active Directory Services
Unit 9: Operating System Security
Unit 10: Open Source Operating System (Linux)

OUbs017113 - ADVANCED OFFICE AUTOMATION

Module Aim: This module covers advanced features in productivity tools for Office applications. It will enable the candidates to maximize benefits from the use of latest technologies for office automation in their daily administrative tasks.

Unit 1: Advanced Features in Word Processing
Unit 2: Advanced Features in Spreadsheet
Unit 3: Advanced Features in PowerPoint
Unit 4: Advanced Features in DBMS
Unit 5: Advanced Features in Outlook
Unit 6: Visual Basic Scripting
Unit 7: Cloud Office Applications
Unit 8: Backup Strategies
Unit 9: Use of Utilities

OUbs017114/COMSKIL100 - COMMUNICATION SKILLS

This module will enhance the learners' writing, reading and presentation capabilities in view of producing good quality technical reports. It will be a supplement to forthcoming modules such as Sales Engineering and Design Methodologies.

Unit 1: Communication Theory and Various Communication Types
Unit 2: Benefits of Effective Communication
Unit 3: Barriers to Effective Communication
Unit 4: Business English and French
Unit 5: Academic English/French and writing conventions
Unit 6: Oral Communications
Unit 7: Body Language
Unit 8: Presentation Skills
Unit 9: Project Management
Unit 10: Teamwork
Unit 11: Workplace Simulated Project

YEAR 1 SEMESTER 2

OUbs017121 - INTRODUCTION TO PROGRAMMING

This module introduces the fundamentals of programming using standard object oriented programming languages. The programming environment will entail the use of simple text editors as well as more sophisticated Integrated Development Environments (IDE). This module will be used as a foundation for more advanced programming topics which will be covered in the second year.

Unit 1: Programming Fundamentals
Unit 2: Compiling and Running Programs
Unit 3: Basic Data Types
Unit 4: Operators and Expressions
Unit 5: Methods and Parameter Passing
Unit 6: Selection and Iteration
Unit 7: Simple IO and Database connectivity
Unit 8: Classes and Objects
Unit 9: Arrays and Collections
Unit 10: Inheritance

OUbs017122 - INTERNET AND WEB TECHNOLOGIES

This module covers the various technologies involved in Internet and the Web. The technologies include the network infrastructure, the protocols and web programming languages. Issues such as User experience and pricing will also be covered.

Unit 1: Network Infrastructure
Unit 2: Internet Protocols
Unit 3: Client Side and Server Side Technologies
Unit 4: Naming Systems
Unit 5: Web Authoring Tools
Unit 6: Markup Languages and Web Standards
Unit 7: Mobile Web

Unit 8: Internet Services and Business Models
Unit 9: Search Engine Optimization
Unit 10: Cloud Computing

OUbs017123/LAWBAS100 – LAW BASICS

This module covers legal aspects and professional issues pertaining to ICT. It also covers legal matters in Outsourcing as well as ICT Professional Code of Conduct. Regulatory Bodies and Frameworks, Social, Ethical and Health and Safety issues will also be addressed. This module will also help the learners towards legal requirements for the creation of their own enterprise.

Unit 1: Current and Emerging Issues of an ever changing technology landscape
Unit 2: Exploring social, legal, ethical and business issues that ICT professionals face in their careers
Unit 3: Basic concepts – what is law? Types and sources of law
Unit 4: Contract law
Unit 5: ICT Authority (Establishment and Functions)
Unit 6: ICT Appeal Tribunal
Unit 7: Computer Misuse and Cybercrime offences
Unit 8: Protection of Works
Unit 9: Mauritius Society of Authors (Establishment and Functions)
Unit 10: Impact of ICT on organisations and society
Unit 11: Developing Professional Code of Ethics
Unit 12: IT professions and professional code of ethics
Unit 13: Health and Safety

OUbs017124 - NETWORK AND DATA COMMUNICATIONS

This module will equip learners with the mathematical foundation of digital communications over computer networks. Furthermore, internetworking models and protocols will be covered.

Unit 1: Communications Systems Fundamentals
Unit 2: Network Topologies
Unit 3: IP Routing and Switching
Unit 4: OSI Layer Model
Unit 5: Binary Mathematics
Unit 6: Coding Techniques
Unit 7: VoIP Technologies
Unit 8: Data Transmission Protocols
Unit 9: Optical Fiber Communications

YEAR 2 SEMESTER 1

OUbs017211 - ARTIFICIAL INTELLIGENCE

This module will equip learners with the AI algorithms in order to solve complex problems and the ones that cannot be solved with traditional algorithms. This module will also supplement level 3 modules.

Unit 1: Use of Prolog and LISP Programming
Unit 2: Operational Research
Unit 3: AI Algorithms
Unit 4: Practical and Real Life Applications using AI algorithms
Unit 5: Expert Systems
Unit 6: Intelligent Agents using AI
Unit 7: Augmented and Virtual Realities

OUbs017212 - DESIGN AND ALGORITHMS

This module covers the software development lifecycle with emphasis on modern design techniques and tools. Moreover, algorithmic optimization will be an important part of the module.

Unit 1: The Software Development Life Cycle
Unit 2: Agile Methodologies
Unit 3: Design Frameworks
Unit 4: Data Structures
Unit 5: Structured Algorithms
Unit 6: Basic Object Oriented Design
Unit 7: Testing Methodologies

OUbs017213/PROMGT100 - PROJECT MANAGEMENT

The aim of this module is to empower learners with the critical success factors towards successful project completion and negative consequences in project failures. It encourages learners to reflect across management disciplines and understand the significance of their application
on the accomplishment of a project.

Unit 1: New Venture Creation in Context
Unit 2: Identifying and Evaluating Business Opportunities
Unit 3: Innovation and Intellectual Property Rights
Unit 4: Competitive Entry Strategies
Unit 5: Business Planning and Identifying Resources required
Unit 6: Financial Planning and Control
Unit 7: Long-term Funding – Venture Capital, Cash Flow and Funds Flow
Unit 8: Business Plan Evaluation
Unit 9: Using Project Management Tools: GANNT charts and PERT charts

OUbs017214 - OO DESIGN AND PROGRAMMING

The aim of this module is to provide learners with knowledge of Object Oriented concepts such that the learners can develop on any Object Oriented platform, be it Open Source technology or Proprietary.

Unit 1: Data Types
Unit 2: Compiling and Running Programs
Unit 3: Classes and Objects
Unit 4: Arrays and Collections
Unit 5: Encapsulation
Unit 6: Inheritance
Unit 7: Polymorphism
Unit 8: Exception Handling
Unit 9: Interfaces
Unit 10: Serialisation
Unit 11: Reflection
Unit 12: Threads
Unit 13: Reverse Engineering
Unit 14: UML and RUP

YEAR 2 SEMESTER 2

OUbs017221 - DATABASE MANAGEMENT SYSTEMS

The aim of this module is to equip the learners with the skills of using databases as back end in any system or application. The learners should be able to manage a database in a professional environment. This module will supplement any system or application dealing with data storage.

Unit 1: SQL Language
Unit 2: Modelling Techniques for Databases using ERD /DFD
Unit 3: Algebra for Database Management Systems (DBMS)
Unit 4: Normalisation
Unit 5: Relational Model
Unit 6: Object Oriented DBMS
Unit 7: Database Interfaces

OUbs017222 - INFORMATION SYSTEM AND SECURITY

This module will cover how Information Systems are used in enterprises. It will also feature the Implementation of secure Information System infrastructures.

Unit 1: Intranet Systems

Unit 2: Management Information Systems
Unit 3: Integrated Information Systems
Unit 4: Introduction to MRP & ERP
Unit 5: Web Based IS
Unit 6: Business Process Management
Unit 7: Information Security
Unit 8: IS Case Studies

OUbs017223 - MULTIMEDIA

The aim of this module is to enhance creativity and the use of multimedia tools. It will also equip learners with the required skills as regards including multimedia applications and solutions in the design of ICT products and services.

Unit 1: An Introduction to Vector Graphics
Unit 2: Colours for Printing
Unit 3: Colour Modes for Print
Unit 4: Introduction to Adobe Illustrator
Unit 5: Introduction to Raster Images
Unit 6: GIMP and Adobe Photoshop software for working raster graphics
Unit 7: Working with Adobe Photoshop
Unit 8: The 12 Basics of Web Design
Unit 9: Typography and text layout for web pages
Unit 10: Editing web pages using Dreamweaver
Unit 11: Links and Navigational Systems
Unit 12: Web Page Slicing
Unit 13: Cascading Style Sheets

OUbs017224 - DISTRIBUTED SYSTEMS

Aim of the module is to reveal the paradigm shift in network computing from mainframes to cloud computing. The architectural and programming concepts related to distributed and pervasive systems will be the core of the module.

Unit 1: Introduction to Distributed Systems
Unit 2: Distributed File System
Unit 3: Clock Synchronisation
Unit 4: Fault Tolerance and Replication
Unit 5: Inter-process Communications
Unit 6: Remote Procedure Call / CORBA /RMI
Unit 7: Naming Services

YEAR 3

SPECIALISATION IN NETWORKING

OUbs017311 - IP COMMUNICATION

Aim is to cover in depth IPv4 and IPv6 communication including routing, switching and other advanced features. The aim also is to consider IP communication and business services in an All IP configuration.

Unit 1: Advanced Routing and Switching
Unit 2: IP v6 Addressing Scheme
Unit 3: IP v4/ IP v6 Transition Scheme
Unit 4: Multiprotocol Label Switching (MPLS)
Unit 5: IP Telephony
Unit 6: IP Multimedia Subsystem
Unit 7: Innovative IPv6 Business Services and Applications
Unit 8: Mobile IP

OUbs017312/NETSEC100 - NETWORK SECURITY

Aim is to cover in depth the network security on infrastructure and services. The aim is also to build secure access to resources and control through hardware and software.

Unit 1: IP Spoofing and Traceback
Unit 2: Enterprise Security
Unit 3: Database Security
Unit 4: Operating System Security
Unit 5: Forensics
Unit 6: Mobile Security
Unit 7: PKI & Cryptography
Unit 8: DNSSEC and IPSEC

OUbs017313 – NEXT GENERATION NETWORKS (NGN) AND FUTURE NETWORKS (CLOUD)

Aim is to design and explore future networks using software defined networks and open flow. Learners will also be equipped with stochastic models in this endeavour. The aim is to unveil the learners' imagination in conception of future networks.

Unit 1: Cellular Networks
Unit 2: All IP Network
Unit 3: Open Flow and Software Defined Networks
Unit 4: Network Maintenance & Monitoring
Unit 5: Hi-Performance Networks (Orthogonal Frequency Division Multiple Access)
Unit 6: Virtualisation and Cloud Infrastructure

OUbs017321/SALENG100 - SALES ENGINEERING

Aim is to provide technical and commercial aptitudes of the learners to act as Sales Engineers. This comprises know-how from the English for Communication module and technical know-how from other modules covered in Levels 1 and 2.

Unit 1: Licensing Schemes
Unit 2: Cloud Services
Unit 3: Negotiation Skills
Unit 4: Presentation Skills
Unit 5: Branding
Unit 6: Marketing
Unit 7: Accounting Principles
Unit 8: Customer Services with ITIL framework

OUbs017322/NETPJT100 - NETWORKING PROJECT

The Project will focus on the development of an original prototype that covers the knowledge and skills acquired from the modules in Level 3.

SPECIALISATION IN SOFTWARE ENGINEERING

OUBS017315 - DESIGN METHODOLOGIES

This module will cover in depth the enterprise and development methodologies and frameworks. The aim is to analyse real life scenarios and case studies to produce good standard design that can be translated into coding.

Unit 1: Design Patterns
Unit 2: Advanced RUP / UML
Unit 3: Reusability
Unit 4: Agile Methodologies
Unit 5: Industry-led Frameworks
Unit 6: Large Scale Systems Architecture

OUbs017316 - ADVANCED DATABASE MANAGEMENT SYSTEMS

The aim of this module is provide the learners with skills in advanced database management. Emphasis will be placed on the creation of advanced applications with commercial Relational Database Management Systems.

Unit 1: Enhanced ERD modelling
Unit 2: Object Oriented Relational Databases
Unit 3: Distributed database systems

Unit 4: Data warehousing
Unit 5: Data mining
Unit 6: Data distribution strategies
Unit 7: Managing legacy systems and data
Unit 8: Reporting tools & Analytics
Unit 9: Big Data

OUbs017317 - ADVANCED OBJECT ORIENTATION

This module covers advanced features in Object Oriented programming to respond to complex systems and applications. The Advanced Object Orientation and Advanced Database Management Systems modules complement each other.

Unit 1: Constructors
Unit 2: Error Handling
Unit 3: Multiple Inheritance
Unit 4: Interfaces
Unit 5: Overloading
Unit 6: Component Design
Unit 7: Distributed Components
Unit 8: Object Serialisation
Unit 9: Persistence Management
Unit 10: Remote Objects

OUbs017318/SOFTENG100 - SOFTWARE ENGINEERING PROJECT

The Software Engineering Project should involve the complete lifecycle and should incorporate the development of a complete product.

OUBS017324 - QUALITY ASSURANCE

Module will provide the elements, inclusive of mathematical models, of software quality assurance and testing in software development. The aim is also to use industry quality standards and frameworks.

Unit 1: Automation in Software Testing
Unit 2: Partitioning and Boundary testing
Unit 3: Control Flow and Data Dependency
Unit 4: Defect Prevention and Removals
Unit 5: Software Inspection
Unit 6: Fault tolerance
Unit 7: Black box and Glass box testing
Unit 8: Goals, measures and metrics
Unit 9: Finite Sate Machine and Markov Chain in usage testing
Unit 10: Software Reliability Models

SPECIALISATION IN BUSINESS INFORMATICS

OUbs017319 - ERP

The aim of this module is to provide the learners with the knowledge about the business processes and how they are integrated. Moreover, this module will cover implementation and customization of ERP as well as practical experience on enterprise ERP packages such as SAP.

Unit 1: Business Process Modelling
Unit 2: Entreprise Software Development
Unit 3: Business Functions
Unit 4: Systems Integration
Unit 5: ERP package selection including for SMEs
Unit 6: Business Process RE-engineering
Unit 7: ERP Case studies: deployment best practices
Unit 8: Auditing ERPs
Unit 9: ERPs CRM and KM
Unit 10: ERP life cycle
Unit 11: HR management principle

OUBS0173110 - STRATEGIC INFORMATION SYSTEMS

This module covers in depth strategic Information Systems in organisations and enterprises through case studies. It will emphasise on Information Systems strategy alignment with business strategy. Special attention will be given to global IT management.

Unit 1: Supply Chain Management
Unit 2: Porter's Model
Unit 3: Business and IS Strategies Alignment
Unit 4: Information, Technology and People
Unit 5: IT Strategy formulation using CoBIT
Unit 6: Knowledge Management Systems
Unit 7: Global IT Management
Unit 8: Strategic Management principles
Unit 10: Strategic IS Case Studies

OUBS0173111/SALENG100 - SALES ENGINEERING

Aim is to provide technical and commercial aptitudes of the learners to act as Sales Engineers. This comprises know-how from the English for Communication module and technical know-how from other modules covered in Levels 1 and 2.

Unit 1: Licensing Schemes
Unit 2: Cloud Services
Unit 3: Negotiation Skills
Unit 4: Presentation Skills
Unit 5: Branding
Unit 6: Marketing
Unit 7: Accounting Principles
Unit 8: Customer Services with ITIL framework

OUbs0173112/BUSPJT100 - BUSINESS INFORMATICS PROJECT

The Business Informatics Project will entail the development of a model encompassing the use of ERP and Strategic Information Systems for meeting business requirements.

OUBS017327/ACCFINA100 – ELEMENTS OF ACCOUNTING AND FINANCE

This is an introductory module in accounting and finance. It focuses on the users of financial statements; preparation and analysis of final accounts; risk return concepts; time value of money and basic capital budgeting decisions.

Unit 1: Accounting as an Information System; Users of Accounting Information and Accounting Concepts
Unit 2: Double entry and Trial Balance; adjusting entries
Unit 3: Depreciation and other provisions
Unit 4: Preparing Final Accounts
Unit 5: Financial Statement Analysis
Unit 6: Sources of Finance; Introduction to Risk and Return
Unit 7: Time value of money and introduction to capital budgeting Topic 8: Cost of capital

SPECIALISATION IN SECURITY

OUBS0173113/WEBSEC100 - WEB SECURITY

This module covers web security from various perspectives namely user perspective, service provider perspective and other stakeholders. DNS SEC and Escrow will form part of the module.

Unit 1: Threats modelling
Unit 2: Web Applications Scanners and Reporting
Unit 3: Insecure Code Snippets
Unit 4: Common IDEs and SDKs security shortages

Unit 5: SQL and Command injection
Unit 6: Cross Site Scripting
Unit 7: Cookies and Session high jacking
Unit 8: Secure User Interface
Unit 9: XSS threats and attacks
Unit 10: Cryptography
Unit 11: Case Studies & Best Practices

OUBS0173114/NETSEC100 – NETWORK SECURITY

The aim of module provides learners with the skills towards securing IP communication and network infrastructure taking into account the transition from IPv4 to IPv6.

Unit 1: IP Spoofing and Traceback
Unit 2: IPv6 security
Unit 3: Enterprise Security
Unit 4: Database Security
Unit 5: Operating System Security
Unit 6: Forensics
Unit 7: Mobile Security
Unit 8: PKI & Cryptography
Unit 9: DNSSEC and IPSEC

OUBS0173115 - COMPUTER FORENSICS

The aim is to provide students with knowhow of using forensic tools and techniques including smart phones and tablets. The legal issues within the data protection act will also be covered. This module will be complemented by the Network and IP Security module.

Unit 1: Incident Response
Unit 2: Reverse Engineering
Unit 3: Mobile Forensics
Unit 4: Registry Forensics
Unit 5: Binary Forensics
Unit 6: Threats Case Studies
Unit 7: Evidence Analysis
Unit 8: Forensics Tools
Unit 9: Secure Coding

OUBS017328 - INFORMATION AUDIT AND ASSURANCE

This module aims at providing learners with auditing techniques and exercises for enterprises. It will also inculcate the notion of Information Assurance and the appropriate measures for enterprises to protect and secure information. Furthermore, it aims at inculcating the notion of information as an asset for modern enterprises.

Unit 1: Information Assurance Fundamentals
Unit 2: Audit Framework ISACA
Unit 3: Mobile Infrastructure Audit
Unit 4: Risk Management
Unit 5: Information Security Maintenance
Unit 6: Planning Business Continuity
Unit 7: Information Ethics
Unit 8: Information Organization
Unit 9: Identity and trust technologies
Unit 10: Managing Information Resources with CoBIT framework

OUbs017329/SECPJT100 - SECURITY PROJECT

The Security Project will entail the development of a software encompassing various security features.

SPECIALISATION IN WEB DEVELOPMENT

OUBS0173116 - WEB DEVELOPMENT

The aim of this module is to empower learners with the practical and pragmatic tools for web authoring, scripting, hosting and other related functionalities. It will cover a diverse range of client side and server side technologies.

Unit 1: Web Authoring, Scripting tools
Unit 2: Content Management Systems and Web management
Unit 3: Web Queries
Unit 4: Cookies and Caching
Unit 5: Markup languages
Unit 6: Web Mining
Unit 7: Semantic Web technologies
Unit 8: Hosting technologies
Unit 9: Web Portals Design
Unit 10: Web development platforms
Unit 11: Large scale web database design

OUBS0173117/WEBSEC100 - WEB SECURITY

The aim is to provide learners with the skills towards building secure web applications and using appropriate techniques to counter security threats. Moreover, the module will cover web security standards and security technologies.

Unit 1: Threats modelling
Unit 2: Web Applications Scanners and Reporting
Unit 3: Insecure Code Snippets
Unit 4: Common IDEs and SDKs security shortages
Unit 5: SQL and Command injection

Unit 6: Cross Site Scripting
Unit 7: Cookies and Session high jacking
Unit 8: Secure User Interface
Unit 9: XSS threats and attacks
Unit 10: Cryptography and Web Steganography
Unit 11: Case Studies & Best Practices

OUBS0173118 - WEB MULTIMEDIA

This module will cover the use of audio, video, slide shows, animations, text alternates amongst other tools to enhance interactivity in web applications and solutions. More, it will include techniques towards tailoring the contents for web delivery. The multimedia module in level2 is a complement to this module.

Unit 1: Web 2.0
Unit 2: Mass Communication Web Design
Unit 3: Image & Video editing tools
Unit 4: WebTV & Video streaming technology
Unit 5: Lightweight programming for mobile web
Unit 6: VoiP Codec
Unit 7: Web metrics and bandwidth requirements
Unit 9: Multiuser games development
Unit 10: Semantic web technologies for multimedia
Unit 11: Web multimedia Steganography

OUBS0173210 - E-BUSINESS

This module will cover the key characteristics of E-business models as well as the analysis of e-business case studies. The aim is to equip learners with the skills of implementing e-business models on websites/portals.

Unit 1: e-business current and emerging models
Unit 2: e-commerce portals
Unit 3: mobile commerce
Unit 4: Broadband and Cloud Economy
Unit 5: IT outsourcing models
Unit 6: e-marketing
Unit 7: payment modalities and revenue models
Unit 8: legal and VAT issues in e-commerce
Unit 9: SCM and logistics
Unit 10: cloud and mobile infrastructure (AWS and GWS)
Unit 11: e-business case studies
Unit 12: domain name business

OUbs0173211/WEBPJT100 - WEB DEVELOPMENT PROJECT

The Web Development Project will entail the development of a complete database driven web based product, configured and hosted on a site.