

University of Mauritius
CDAC School of Advanced Computing

CD 401 Diploma / BSc (Hons) Business Informatics (Part-Time)

1. OBJECTIVES

Information Technology Enabled Services (ITES) and Business Processing Outsourcing (BPO) are amongst the fastest growing areas in the global Information Technology services sector. Enterprises in developing countries are taking unprecedented advantage of this opportunity and this phenomenon has created the need for IT professionals with thorough understanding of Business Processes in an organization.

This part-time program is designed to provide the right mix of business concepts, programming logic with emphasis on computer applications. There is a substantial focus on the practical and hands-on component, with a provision to actually acquire skills in such a way that it can be immediately utilised without the need for on-the-job training eliminating the skill gaps that industry faces.

This programme has been designed to cater to the needs of working people interested in acquiring IT qualifications. On completing the requirements of the degree program, students will have acquired adequate skills for the exploitation, design, utilization and development of business applications and information systems that are becoming critical to corporate requirements.

This programme will be run by the C-DAC School of Advanced Computing, a joint initiative of the Centre for Development of Advanced Computing (C-DAC), India, and the University of Mauritius. The Diploma/Degree is awarded by the University of Mauritius.

2. GENERAL MINIMUM ENTRY REQUIREMENTS

In accordance with the University General Entry Requirements for admission to undergraduate Programmes.

3. PROGRAMME REQUIREMENTS

A Credit in Mathematics at School Certificate / 'O' Level **and** at least 2 G.C.E. 'A' Level Passes.

General and Programme Requirements - Special Cases

The following may be deemed to have satisfied the general and programme requirements for admission:

- (i) Applicants who do not satisfy any of the requirements as per Sections 2 and 3 above but who submit satisfactory evidence of having passed examinations which are deemed by the Senate to be equivalent to any of those listed.
- (ii) Applicants who do not satisfy any of the requirements as per Sections 2 and 3 above but who in the opinion of Senate submit satisfactory evidence of the capacity and attainments requisite to enable them to pursue the programme proposed.
- (iii) Applicants who hold a full practising professional qualification obtained by examination.

Mature Students

'Mature Students' shall be those candidates having full School Certificate, and

- (i) who do not satisfy the General Entry Requirement and who are (preferably) at least 25 years of age and who have at least 5 years relevant work experience, or
- (ii) who satisfy the General Entry Requirement and who are (preferably) at least 25 years of age, but are lower in terms of their computer list ranking at the UoM; and who have at least 5 years relevant work experience.

4. PROGRAMME DURATION

Degree	Normal 4 years P/T (8 semesters)	Maximum 6 years P/T (12 semesters)
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SEMESTER DURATION

15 weeks (Excluding Examination Period)

5. CREDITS PER SEMESTER

Maximum 24 credits, Minimum 6 credits

6. MINIMUM CREDITS REQUIRED FOR AWARD OF:

MODULES	CREDITS	
	Diploma	Degree
Core	57	96
Project (Compulsory)	3	9
Total	60	106

7. ASSESSMENT

Each module will carry 100 marks and will be assessed as follows (unless otherwise specified):

- i) Continuous assessment carrying a range of 20% to 30% of total marks except for a programme where the structure makes for other specific provision(s). Continuous assessment may be based on laboratory work and/or assignments and would include at least 1 class test.
- ii) Written examination of 2-hour duration carrying a range of 70% to 80%.
- iii) An overall total of 40% is required for a student to pass a module.

8. TERMINATION OF REGISTRATION

A person shall cease to be a registered student of the University if

- (i) his/her CPA remains below 40% for two consecutive registered semesters; or
- (ii) the maximum duration allowed for completion of the programme of studies has been exceeded.

Any student whose registration has been terminated should not be admitted on the same programme until a period of two years after termination of registration.

9. PROGRAMME STRUCTURE

LEVEL 1 SEMESTER 1

CODE	UoM/C-DAC MODULES	MODULE	Hrs/Wk L	Hrs/Wk P	CREDITS
MGT 1111	UoM	ORGANISATION AND MANAGEMENT	2	0	3
CSE 1010e	UoM	INTRODUCTION TO IT	2	0	3
CSE 1104	C-DAC	FUNDAMENTALS OF COMPUTING	3	0	3
DAC 1105	UoM	FUNDAMENTALS OF PROGRAMMING	2	2	3
STAT 1010	UoM	INTRODUCTORY STATISTICS	2	0	3

SEMESTER 2

CODE	UoM/C-DAC MODULES	MODULE	Hrs/Wk L	Hrs/Wk P	CREDITS
CSE 2206	UoM	COMPUTER SYSTEM ARCHITECTURE	3	0	3
CSE 1206	UoM	STRUCTURED SYSTEMS ANALYSIS & DESIGN	3	0	3
DAC 1204	C-DAC	DATABASE MANAGEMENT SYSTEMS	2	2	3
DAC 2107	C-DAC	SOFTWARE ENGINEERING	3	0	3
CSE 2105	UoM	HUMAN COMPUTER INTERACTION	3	0	3

LEVEL 2 SEMESTER 3

CODE	UoM/C-DAC MODULES	MODULE	Hrs/Wk L	Hrs/Wk P	CREDITS
MGT 3111	UoM	OPERATIONS MANAGEMENT1	3	0	3
DAC 2202	C-DAC	OPERATING SYSTEMS	3	0	3
DAC 2105	C-DAC	DATABASE TECHNOLOGIES	2	2	3
DAC 1202	C-DAC	OBJECT ORIENTED PROGRAMMING	2	2	3

SEMESTER 4

CODE	UoM/C-DAC MODULES	MODULE	Hrs/Wk L	Hrs/Wk P	CREDITS
DAC 1201	C-DAC	BUSINESS COMMUNICATION	3	0	3
DAC 2211	C-DAC	MULTIMEDIA SYSTEMS	2	2	3
CSE 2110	C-DAC	OBJECT ORIENTED TECHNIQUES	2	2	3

ACF 1000	UoM	ACCOUNTING FOR FINANCIAL DECISION MAKING	3	0	3
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**LEVEL 3
SEMESTER 5**

CODE	UoM/C-DAC MODULES	MODULE	Hrs/Wk L	Hrs/Wk P	CREDITS
DAC 2201	C-DAC	E-BUSINESS	3	0	3
DAC 2205	C-DAC	DATA TRANSMISSION AND NETWORKING TECHNOLOGIES	3	0	3
DAC 2106	C-DAC	CASE STUDY IN FINANCIAL APPLICATION	2	2	3
DAC 2112	C-DAC	VB.NET PROGRAMMING	2	2	3

SEMESTER 6

CODE	UoM/C-DAC MODULES	MODULE	Hrs/Wk L	Hrs/Wk P	CREDITS
DAC 2206	C-DAC	MINI PROJECT			3
DAC 1203	C-DAC	WEB TECHNOLOGIES	2	2	3
CSE 3203	UoM	MANAGEMENT INFORMATION SYSTEMS	3	0	3
DAC 3102	C-DAC	PRINCIPLES OF SOFTWARE PROJECT MANAGEMENT	3	0	3

**LEVEL 4
SEMESTER 7**

CODE	UoM/C-DAC MODULES	MODULE	Hrs/Wk L	Hrs/Wk P	CREDITS
DAC 3103	C-DAC	ENTERPRISE RESOURCE PLANNING	3	0	3
DAC 3203	C-DAC	CYBER LAWS	3	0	3
DAC 3106	C-DAC	BUSINESS PROCESS OUTSOURCING	3	0	3
DAC 3000	C-DAC	FINAL YEAR DEGREE PROJECT*		3	

* CREDITS TO BE EARNED AT THE END OF SEMESTER 8

SEMESTER 8

CODE	UoM/C-DAC MODULES	MODULE	Hrs/Wk L	Hrs/Wk P	CREDITS
CSE 3207	UoM	INFORMATION SYSTEMS SECURITY	3	0	3
DAC 3206	C-DAC	INFORMATION SYSTEMS AUDIT & CONTROL	3	0	3
MGT 3205	UoM	TOTAL QUALITY MANAGEMENT	3	0	3
DAC 3000	C-DAC	FINAL YEAR DEGREE PROJECT		6	9

10. OUTLINE SYLLABUS

SEMESTER 1

MGT1111 ORGANISATION & MANAGEMENT

Management Concepts and Functions; Development of Management Theories; The Internal and External Environments of the Organisation; Social Responsibility and Ethics in Management; Managerial Decision Making; The Planning Process; The Nature of Organisation Structure; Organisational Control; Contemporary Issues in Management; Management in Future.

CSE 1010e INTRODUCTION TO IT

Introduction to Computers; Hardware and Software; Input, Output and Storage; Organization of Data; Systems Analysis and Design; Data Communications; Computers and Society; Future of Computing.

CSE 1104 FUNDAMENTALS OF COMPUTING

Propositional Logic: Syntax, Semantics, Proofs and Truth Table; First-Order Logic: Syntax, Semantics and Proofs; Karnaugh Maps and Basics of Digital Logic.

DAC 1105 FUNDAMENTALS OF PROGRAMMING

Pseudocode; structured Programming Techniques; Program structure; Simple data types; Control structures; Modularity; Introduction to Sequential Programming and OOP.

STAT1010 INTRODUCTORY STATISTICS

Introduction to Problems involved in the handling of data; Collection of data including Sample Design; Organisation and Presentation of Data; Measures of Central Tendency; Measures of Dispersion; Measures of Skewness; Introduction to Probability Theory.

SEMESTER 2

CSE 2206 COMPUTER SYSTEM ARCHITECTURE

Stored Program Computer; Advancements in Architectures; Pipelined Systems; Implementation of Pipelining; RISC; RISC v/s CISC, Comparative Architectures.

CSE 1206 STRUCTURED SYSTEMS ANALYSIS AND DESIGN

Introduction to SSAD; Software life cycles; Structured systems analysis and design: concepts and techniques.

DAC 1204 DATABASE MANAGEMENT SYSTEMS

Data Models: ER, Relational and others; DB Design; Views; Normalisation; Query Language: Data Queries, Advanced Queries and Subqueries; Database Administration; Database Security; Privacy and Integrity; Introduction to Object Oriented Databases.

DAC 2107 SOFTWARE ENGINEERING

Software Terminology, Software process; Software requirements and specification; Process Models; Software Architectures; Object Oriented System Design; Reliability; Software metrics; IEEE Standards for Software Engineering

CSE 2105 HUMAN COMPUTER INTERACTION

Introduction to HCI; Components of HCI; Humans and Technology; User Interface design; Interface Evaluation Techniques.

SEMESTER 3

MGT3111 OPERATIONS MANAGEMENT 1

Operation Systems and the Firm; Importance of Operations Management; Types & Characteristics of Manufacturing and Service Systems; Production Planning and Control; Inventory Management; Production Routing and Scheduling; Quality Control.

DAC 2202 OPERATING SYSTEMS

Introduction to Operating System, Processes, Memory Management, File Systems. Network and Distributed OS, General OS Architecture, Scheduling and Synchronization, Virtual Memory and Paging, OS Security, Common OS, Windows, Linux. Preparation for Certified Linux Administrator.

DAC 2105 DATABASE TECHNOLOGIES

Database Concepts, Client/Server Computing, RDBMS Technologies, Codd's Rules, ER Diagrams, Data Flow Diagrams, Concurrency control, Overview of Oracle, SQL*Plus, DDL, DML and DCL, Tables, Indexes and Views, Clusters, sequences and Snapshots, PL/SQL, Cursors, Stored Procedures, Triggers.

DAC 1202 OBJECT ORIENTED PROGRAMMING

Fundamentals of OO Programming, Classes and Objects, Attributes and Methods, Interfaces, Abstractions, Encapsulation, Inheritance, Operator and Function Overloading, Polymorphism, Programming in C++; Variables and Constants, Expressions and Statements, Classes, Derived Classes, Virtual Functions Templates, Exception Handling, Streams, Introduction to Java programming.

SEMESTER 4

DAC 1201 BUSINESS COMMUNICATION

Practice in the fundamentals of Grammar, Usage, Sentence, Structure, Mechanics, Diction and Paragraph Writing, Technical Report Writing, Introduction to Basic Accounting Concepts for use in Business Software Application, Basic Software Documentation skills

DAC 2211 MULTIMEDIA SYSTEMS

Multimedia components PC based multimedia tools, multimedia I/O devices and interfaces; Basics of multimedia programming, Operating system support for multimedia tools and applications; Multimedia data, multimedia databases, MM DB design and querying.

CSE 2110 OBJECT ORIENTED TECHNIQUES

Introduction to Object Oriented Analysis and Design; Classes; Objects; Inheritance; Encapsulation; Polymorphism; OO Programming; OO Methodologies.

ACF1000 ACCOUNTING FOR FINANCIAL DECISION MAKING

The Role of Accounting Information; Recording and Summarising Transactions; Accounting Concepts & Preparing Final Accounts; Adjustments to Final Accounts; Capital v/s Revenue Expenditure; Bank Reconciliation Statement; Accounting Ratios; Accounting for Internal Decision Making Techniques; Elements of Cost; Costing Methods & techniques; Decision Making Techniques; Accounting for Manufacturers; Budgets.

SEMESTER 5

DAC 2201 E-BUSINESS

Overview of E-Business; The E-Business domain; E-Business models; E-business strategies; E-business planning – (operational, financial, marketing planning); E-business infrastructure; Understanding the international marketplace; internet security considerations; CRM; SCM; Knowledge management.

DAC 2205 DATA TRANSMISSION AND NETWORKING TECHNOLOGIES

Data Transmission: Data Types, Transmission Media, Multiplexing and Multiple Access; Networks: Protocol and Components, LAN, WAN, WPAN, Networking Technologies: Wired-PSTN, ISDN, DSL, ATM, Wireless- WLAN, GSM, CDMA, GPRS, WAP, Bluetooth, ZigBee, UWB

DAC 2106 CASE STUDY IN FINANCIAL APPLICATION

DAC 2112 VB.NET PROGRAMMING

Introduction to the visual programming paradigm and OOP paradigm; Introduction to Visual Programming Language and Environment – The .NET Framework; The Visual Basic.NET Language Fundamentals–Statements, functions, operators, the IF statement and CASE, Looping and Counting, The controls, the Menu Design, MDI applications, MDI Child and MDI Parent forms, Modules and class, Error-Handling, Debugging, Sequential Files and Filestream class, Databases concepts, ADO.NET Architecture, Data Adaptor, Data Reader, Connection, Command, Dataset Concepts, Binding Context objects, Database Application with ADO.NET using Wizard and Programmatically, Database Queries with SQL, Database Reports Development

SEMESTER 6

DAC 2206 MINI PROJECT

Students need to develop an application based on their learning from previous semesters.

DAC 1203 WEB TECHNOLOGIES

Brief history of the Internet; How the internet works; Internet protocols; Web servers; Introduction to Web Programming; HTML; DHTML; VBscript; JavaScript; Introduction to server side Programming; ASP and JSP, Introduction to Java programming.

CSE 3203 MANAGEMENT INFORMATION SYSTEMS

Fundamentals of Information systems; Information systems for business operations; Decision Support systems; Information systems for strategic advantage; Managing Information technology; Planning and implementing change; Business process reengineering; Executive Information systems.

DAC 3102 PRINCIPLES OF SOFTWARE PROJECT MANAGEMENT

Strategy; Scope; Planning; Control; scheduling and tracking; Quality issues; Testing; People Management; Costing; Implementation; Documentation; post-implementation issues.

SEMESTER 7

DAC 3103 ENTERPRISE RESOURCE PLANNING

Introduction to ERP. Exposure to various components and modules. Business Process Re-engineering, BPR Techniques. ERP Implementation, Exploring an ERP Software , Business Intelligence, Data warehousing and Data mining Concepts.

DAC 3203 CYBER LAWS

Laws related to Information and Communication Technologies, Intellectual Property, Regulatory Framework, Copyrights and Patents; Privacy; Cyber crimes and computer misuse.

DAC 3106 BUSINESS PROCESS OUTSOURCING

Principles of business process outsourcing, Process refinement and re-engineering, Benchmarking, Business process outsourcing and transition, Offshoring business processes, Case studies.

DAC 3000 FINAL YEAR DEGREE PROJECT

SEMESTER 8

CSE 3207 INFORMATION SYSTEMS SECURITY

Basic Concepts such as Authentication; Cryptographic Sealing and Certification; Security Planning; Analysis of Security Threats; Security Controls; Design Issues of Security Systems; Implementation of Security Systems.

DAC 3206 INFORMATION SYSTEMS AUDIT AND CONTROL

The IS Audit Process, Management Planning and Organisation of Information Systems, Technical Infrastructure and Operational Practices, Protection of Information Assets, Disaster Recovery and Business Continuity Planning, Risk Assessment.

MGT 3230 TOTAL QUALITY MANAGEMENT

Quality Definitions and History; Business Excellence Model – MBNQA; Total Quality Management; Quality Leadership; Quality Standards- ISO 9000; Organising for TQM; Quality Planning and Error Prevention; Team building and Quality; Training for Quality; Quality Improvement and Communication; Quality Tools and Techniques; Cost of Quality; Benchmarking

DAC 3000 FINAL YEAR DEGREE PROJECT