LONDON CAPITAL COMPUTER COLLEGE

Advanced Diploma in Business Administration & Database Technology (900) – Management Information Systems & Database Technology

Prerequisites: General database knowledge	**Corequisites:** A pass or better in Diploma in Business Administration or equivalence
Aim: This course will integrate Management Information Systems (MIS) with Oracle SQL. MIS is undertaken as theory while Oracle SQL is undertaken as practical sessions. MIS introduces the use of information systems in business organisations. The role of information systems in management, including current professional practices and methodologies are described. Topics include the general systems theory, decision theory, organisational models, types and benefits of information systems, systems planning and development, and management and control of information systems. Concepts of information systems, business process, hardware, software, systems analysis, e-commerce, enterprise systems and computer applications in organisations, techniques of systems analysis, systems designs, implementations, and information management (both technical and behavioural) are covered as well. Practical sessions focus on fundamentals of relational databases; relational data model, SQL and basic query formulation.	
Required Materials: Recommended learning resources.	**Supplementary Materials:** Lecture notes and tutor extra reading recommendations.
Special Requirements: Oracle SQL is a hands-on course, hence practical use of computers is essential. Requires intensive lab work outside of class time.	

Intended Learning Outcomes: *(Practical sessions – ORACLE SQL)*	**Assessment Criteria:** *(Practical sessions – ORACLE SQL)*
1 Describe a Database Management System (DBMS) and its functions.	1.1 Analyse components of a relational model 1.2 Describe relational database terminology 1.3 Describe SQL statements
2 Understand how to write basic SQL statements.	2.1 Analyse components of a basic SELECT statement 2.2 Explore rules and guidelines of constructing SQL statements 2.3 Investigate different methods of executing SQL statements 2.4 Define the keyword * (asterisk) 2.5 Define arithmetic expressions in SQL statements 2.6 Define NULL values 2.7 Define column aliases 2.8 Define literal character strings 2.9 Define how to suppress duplicate rows 2.10 Define SQL file commands 2.11 Define SQL editing command
3 Understand how to restrict the rows returned from a query by using the WHERE clause	3.1 Define how to use the WHERE clause 3.2 Define comparison operators 3.3 Describe how character strings and dates are used in the WHERE clause 3.4 Describe the BETWEEN, IN, LIKE and IS NULL operators 3.5 Define SQL wildcard characters 3.6 Define logical operators 3.7 Define the ORDER BY clause

		3.8	Understand how to sort in SQL
4 Understand how built-in functions are used in SQL		4.1	Define case conversion functions
		4.2	Define character manipulations functions
		4.3	Describe number functions
		4.4	Define functions of SYSDATE
		4.5	Analyse Oracle date functions
5 Understand how group functions operate on a set of rows to give one result.		5.1	Describe the different types of group functions
		5.2	Demonstrate how group functions operate with NULL values
6 Understand how to create tables		6.1	Define Oracle data types
		6.2	Describe the components of CREATE TABLE statement
		6.3	Describe how to INSERT data into a table
		6.4	Understand the ALTER TABLE statement
		6.5	Demonstrate how to modify a column
		6.6	Demonstrate how to drop a column
		6.7	Demonstrate how to rename a table
		6.8	Demonstrate how to update rows
7 Understand how constraints are used to prevent invalid data entry into tables.		7.1	Describe data integrity constraints
		7.2	Illustrate how to view constraints
		7.3	Define a sequence
		7.4	Illustrate how to create and implement a sequence
(Theory sessions) **Management Information Systems**		*(Theory sessions)* **Management Information Systems**	
1 Define MIS. Why is MIS important.		1.1	Discuss why information technology is important
		1.2	Define e-commerce and e-business
		1.3	Describe why business is changing and what will managers need to know in the future.
		1.4	Demonstrate if technology alone can improve a business.
		1.5	Explain why strategic decisions are difficult.
2 Describe the basic objects that computers process. Analyse how information is processed.		2.1	Describe the main components of a computer.
		2.2	Explain why the operating system is important.
		2.3	Demonstrate how the Internet can change the role of computers
		2.4	Describe the main software applications used in business
3 Describe computer networks and telecommunications in use today.		3.1	Analyse the value of a single computer.
		3.2	Demonstrate why computer networks are important in today's businesses.
		3.3	Describe what is needed to install and create a network.
		3.4	Describe why it matters how the computer is connected to the network.
		3.5	Describe Internet, how is it controlled, and how does it work.

		3.6	Describe the problems likely to be encountered if one needs to connect to a supplier in a different country.
4 Analyse the importance of computer security. Describe the process of protecting information resources.		4.1	Describe the primary threats to an information system.
		4.2	Describe the primary options used to provide computer security. What non-computer-based tools can be used to provide additional security.
		4.3	Describe additional benefits provided by encryption.
		4.4	Describe computer crime. What special security problems arise in e-commerce.
5 Describe database transactions and operations. Relate and analyse database software programs.		5.1	What are the major elements and risks of a database transaction.
		5.2	Describe how a database transaction is written to a computer.
6 Describe enterprise integration. Describe the process of integrating data and systems.		6.1	How is data combined across functional areas, including production, purchasing, marketing, and accounting.
		6.2	Describe the process of tracking and comparing financial information of a firm.
		6.3	Describe the transaction elements in the human resources management system
		6.4	How can production be made more efficient.
7 How do businesses make decisions. Describe good and bad decisions.		7.1	Describe how a decision support system help analyse data
		7.2	Describe an expert system.
		7.3	What is an intelligent machine. How can more intelligent systems benefit e-business.
8 Describe how the use of information technology can improve an organisation. What are the main factors affecting a firm's competitive advantage.		8.1	Describe how IT can be used to gain a competitive advantage.
		8.2	How can IT support the operations of the firm to provide a competitive advantage.
		8.3	Describe why it is difficult to convince management to make strategic changes. What are the risks of strategic decisions.
9 Describe the main options for building information systems.		9.1	Describe how to control a major development project. Why is control so important.
		9.2	Describe other methodologies apart from System Development Life Cycle (SDLC) approach .
		9.3	Analyse and annotate a process-based system .
		9.4	Describe how object-oriented design is different from process design.
10 Describe the roles and tasks the MIS department perform.		10.1	Describe MIS jobs are available, and how much it costs to hire IT employees.
		10.2	Describe centralisation and decentralisation

11 Describe the relation between Information Management and Society.	11.1 Describe how information technology affect individuals.
	11.2 Describe how technology affect jobs. Does technology change the relationship between businesses and consumers.
	11.3 How does technology affect different areas of society.
	11.4 How can information technology improve governments.
	11.5 Describe the major laws that affect technology and the use of computers.

Methods of Evaluation: A 3-hour essay written examination paper with 5 questions, each carrying 20 marks. Written examination questions will be based on Management Information System only. Candidates are required to answer all questions. Candidates also undertake project/coursework in both Management Information System (MIS) and Oracle SQL, each with a weighting of 100%.

Recommended Learning Resources: Management Information Systems & Database Technology

Text Books	**SQL/Relational Database** • Database Concepts by David M. Kroenke 2nd Edition. ISBN 10: 0131451413 • Database Design, Application Development & Administration. ISBN 0072942207 / 9780072942200 • Database Management Systems by Jerry Post. ISBN 0072472421 • Database Processing – Fundamentals, Design and Implementation. ISBN 10: 0131015141 • Relational Database Principles (Paperback) by C. Ritchie (Author). ISBN-10: 0826457134 • Relational Database Design and Implementation: Clearly Explained 3e: Clearly Explained (Paperback) by Jan L. Harrington. ISBN-10: 0123747309 **Management Information Systems** • Management Information Systems (Paperback) by T. Lucey. ISBN-10: 1844801268 • Information Systems Management in Practice (Paperback) by Barbara C. McNurlin and Ralph H. Sprague. ISBN-10: 0131968777 • Essentials of Management Information Systems (Hardcover) by Jane P. Laudon and Kenneth C. Laudon. ISBN-10: 0130193232
Study Manuals	BCE produced study packs
CD ROM	Power-point slides
Software	Oracle SQL Plus