

INFORMATION TECHNOLOGY
CAPE UNIT 2
SEPTEMBER- DECEMBER 2023
CHRISTMAS TERM PLAN

Date	Specific objective	Content	Suggested Assessment
Week 1 Sept. 11-15	<i>Course Overview</i>	<i>Syllabus Requirements of SBA</i>	<i>Quizzes, Presentation, Classwork assignments</i>
	<i>Explain database concepts</i>	<i>Differentiate among terms used in Information Management. For example, fields, records, tables, files, database and database management system.</i>	
	<i>Explain how files and databases are used in organizations</i>	<i>Uses: including store, organize, search, retrieve, eliminate redundancies, data mining, data marts and data warehouses</i>	
	<i>Internal Assessment</i>	<i>Outline Internal Assessment</i>	
	<i>Explain how the absence of data quality, accuracy, and timeliness impact on organizations;</i>	<i>Including loss of revenue, sales, competitive advantage, customers; poor decision-making; missed opportunities; impact on problem solutions.</i>	
Week 2 Sept. 18-22	<i>Explain how data storage and retrieval have changed over time</i>	<i>Concept of the terms; history of storage devices; formats of data (from text-based to multimedia); volumes to be stored; compression utilities; access method and speed.</i>	<i>Presentation on organization of files, Classwork/Assignment</i>
	<i>Explain the advantages and Disadvantages of using a database approach compared to using traditional file processing.</i>	<i>Advantages including speed, efficiency, cost; data quality: completeness, validity, consistency, timeliness and accuracy; data handling, data processing.</i>	
	<i>Internal Assessment: Meet in groups to discuss</i>		
	<i>Describe the different types and organization of files and</i>	<i>File types including master and transaction files; file organization including serial, sequential, random or direct,</i>	

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	<i>databases</i>	indexed sequential database types including personal, workgroup, department and enterprise databases;	
Week 3 Sept. 25-29	<i>Describe the different types and organization of files and databases</i>	Database organization including hierarchical, relational, network and object-oriented.	<i>Graded audio/visual presentation on Database organization.</i>
	<i>Use Data Flow Diagrams (DFD) to document the flow of information within an organization</i>	Use of symbols for data stores, processing, data flow and external entities; context level DFD and first level detailed DFD;	
	<i>Internal Assessment</i>	Meet in groups to finalize problem definition	
	<i>Quiz</i>	<i>Quiz</i>	
			<i>Quiz via Edulastic/Quizzes</i>
Week 4 Oct. 2-6	<i>Use Data Flow Diagrams (DFD) to document the flow of information within an organization</i>	Use of symbols, context level DFD and first level detailed DFD to illustrate the information flow.	<i>Class activity, Presentations, group work.</i>
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	<i>Internal Assessment</i>	Analysis of problem	
			<i>Graded DFD</i>
Week 5 Oct. 9-11	<i>Activity on DFD diagrams</i>	<i>Activity on DFD diagrams</i>	<i>Class activities, Presentation</i>
	<i>Explain how the growth of the Internet impact on data handling and data processing;</i>	Including the demands for information (by customers and suppliers); data mining, data warehousing; interfacing websites to underlying databases.	

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MID-TERM			
Oct. 12-16			
Six weeks test			
Oct. 23-27			
Week 7 Oct. 30-Nov 3	<i>Explain the concept of normalization</i>	Definition of normalization	
	<i>Explain the concept of normalization</i>	Attribute redundancy and anomalies; normal forms: including first normal form (1NF), second normal form (2NF), third normal form (3NF); keys: primary, foreign and composite (or compound or concatenated); partial and non-key dependencies; relationships	Class activity <i>Revision of concepts done.</i>
Week 8 Nov. 6-10	<i>Apply normalization rules to remove normal form violations</i>	To 1NF, 2NF and 3NF; removal of attribute redundancy and anomalies, such as repeating groups of data (or attributes), partial and non-key dependencies.	<i>Class activities, quiz, presentation.</i>
	<i>Internal Assessment</i>		
Week 9 Nov. 13-17	<i>Apply normalisation rules to remove normal form violations</i>		Graded Worksheet ERD and Normalization, Classwork.
	<i>Internal Assessment- Analysis</i>		
	<i>Apply normalisation rules to remove normal form violations</i>		
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Week 10 Nov. 20-Nov 24	Apply techniques to create entity relationships diagrams; <i>Normalization Test</i>	Introduction to the use of ER diagrams Keys: primary, foreign and composite (or compound or concatenated); relationships (one to one, one to many); entity- relationship diagrams (ERD).	
Week 11 Dec. 11-15	<i>Explain how normal for relations impact databases;</i>	Including improve performance, data consistency, data integrity.	<i>Quizzes, practical activity.</i>
	<i>Construct a database.</i>	For importing, entering, manipulating, viewing reporting. Including forms; reports, queries, tables, records; use of foreign Keys, relationship links.	<i>Submission of analysis of data for Internal Assessment</i>
	Internal Assessment- Analysis		
Six Weeks test Dec. 4-8			
Week 11 Dec. 12-14	<i>Construct a database.</i>	Enforcing referential integrity, updates or deletions, use of foreign keys, use of macros	<i>Class activities, Quizzes, practise exercise</i>
	<i>Construct a database.</i>	SQL	
	IA		
	<i>Construct a database.</i>	data validation and verification strategies;	
Week 12 Dec. 13- 17	<i>Construct a database.</i>		Presentation/ Class discussion- Explain where each tool is necessary <i>Research on Construct web pages;</i>
	<i>Explain reasons for the use of IT tools;</i>	Enhanced speed, accuracy, reliability, efficiency, flexibility, communication, presentation of information, integration of processes, decision making; storage and retrieval of large volumes of data; manageability of task; pressures from clients, competitors and suppliers.	
	<i>Internal Assessment</i>	Identify the tools for solution	
	<i>Explain the functions and uses of the major types of software tools;</i>	Examples of different types of software packages and their function and uses. Including Financial Packages, Software Development Tools, Statistical Tools, Word Processors, Spreadsheets, Presentation Tools, and Database Management	

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