ACS 1803
Midterm Topic Outline

I. Management Information Systems

a. Introduction to MIS (Lecture Outline 1)
    i. Data
    ii. The Value of Information Systems
    iii. Input-Processing-Output-Feedback
    iv. Management Information Systems
        1. Hardware
        2. Software
        3. Database
        4. Telecommunications
        5. People
        6. Process

II. Databases

a. Data Management (Lecture Outline 2.1)
    i. The Hierarchy of Data
        1. Bit
        2. Byte
        3. Character
        4. Field
        5. Record
        6. File
        7. Database
    ii. Entities, attributes and Keys
        1. Entities
        2. Attributes
        3. Keys
    iii. Database Administrator (DBA)
    iv. The Enterprise Database Approach
        1. Database Approach
        2. Program Database vs Enterprise Database
        3. Advantages of the Database Approach
        4. Disadvantages of the Database Approach
        5. Database Design
            a. Data Model
            b. Types of database associations
            c. Entity Relationship Diagram (ERD)
            d. Types of Keys
                i. Primary key
                ii. Compound Primary key
                iii. Secondary key

iv. Foreign Key
e. The relational model
f. Database Normalization

b. File Processing (Lecture Outline 2.1.2)
   i. Types of File Organization
      1. Sequential
      2. Indexed Sequential
      3. Direct /Random Access
c. Data Modelling and Database Characteristics (Lecture Outline 2.2)
   i. REA Model
   ii. Database Schema
   iii. Database Management System
      1. Levels of a DBMS
      2. Parts of a DBMS
         a. Data Dictionary
         b. Query
         c. Reports
d. Implementing the Concepts - Database Implementation
   i. Data Requirements Analysis
   ii. Setting up data on a table
   iii. Normalizing a database
      1. Identifying keys
   iv. Establishing relationships
      1. Foreign Keys
   v. Two forms of Database output (Report vs. Query)
e. Using MS Access as a DBMS
   i. Main features of MS Access
   ii. Advantages of Using MS Access for DB Implementation
   iii. Disadvantages of Using Access
f. Data Warehouse, Data mart, Data Mining
   i. Data Warehouse
   ii. Data Mart
   iii. Data Mining
      1. Data mining Applications
         a. Branding and product positioning
         b. Customer Churn
         c. Direct Marketing
         d. Fraud Detection
         e. Market Segmentation
         f. Trend Analysis

III. Information Systems Frameworks (Lecture Outline 3)

a. The Nature of managerial Work
    i. Planning
        1. Scheduling
        2. Budgeting
        3. Resource Allocation
    ii. Control
        1. Management by Exception
    iii. Organizational Management Pyramid
        1. Operational
        2. Tactical
        3. Strategic

b. Information Systems Frameworks
    i. Levels of the Organization
        1. Operational
        2. Managerial
        3. Executive
    ii. Basic Systems Architecture Model
    iii. Levels of Information Systems
        1. Operational Systems (Transaction processing Systems)
        2. Tactical Systems (Management Information Systems)
            a. Types of Reports
                i. Exception Reports
                ii. Summary Reports
                iii. Ad-hoc Reports
                iv. Drill-down Reports
        3. Strategic Systems (Executive Information Systems)

IV. Functional Area Information Systems

a. Functional Areas in the Organization (Lecture Outline 4)
b. Baseline Accounting and Business Transactions Cycles (Lecture Outline 4.1)
    i. Building a Process Map
    ii. Building a Data Flow Diagram
    iii. Business Process Modelling Notation
        1. Example – Create Invoices
        2. Example – Receive Customer Payments
        3. Example – Make Deposit
        4. Example – Create Purchase Order
        5. Example – Receive Items
        6. Example Enter Items
        7. Example – Pay Bills

c. Accounting Information Systems (Lecture Outline 4.2)
    i. Basic Accounting Terminology/ Accounting Information System (AIS)
        1. Types of accounts
        2. Balance Sheet
        3. Income Statement
        4. Journalizing

V. Functional Area Information Systems

a. Financial Information Systems (Lecture Outline 5.1)
    i. Budgeting Systems
    ii. Cash Management Systems
    iii. Capital Management Systems
    iv. Investment Management Systems
b. Production/ Operations Systems (Lecture Outline 5.2)
    i. Manufacturing Resource Planning (MRP) Systems
        1. Bill of Materials (BoM)
        2. Capacity Requirements Planning (CRP)
        3. Production Planning & Control (PPC)
    ii. Operational and Tactical Systems
    iii. Strategic Manufacturing Systems
    iv. Supply Chain Management (SCM) Systems
    v. Just-in-Time (JIT) Manufacturing
    vi. Evolution of MRP2 to ERP
c. Marketing Information Systems (Lecture Outline 5.3)
    i. Contact Management Systems
    ii. Telemarketing Systems
    iii. Direct Mail Advertising Systems
    iv. Delivery Tracking and Routing Systems
    v. Sales Management/ Forecasting Systems
    vi. Market Research Systems
    vii. Customer relationship Management Systems (CRM)
d. Human Resources Information Systems (Lecture Outline 5.4)
    i. Employee Information System
    ii. Attendance Recording Systems
    iii. Employee Scheduling Systems
    iv. Performance Management Systems
    v. Position Control Systems
    vi. Recruiting Systems
    vii. Compensation and Benefits Systems
    viii. Long Term Workforce Planning Systems
    ix. Labour Negotiation Support Systems