**BIT 1204 Information Management (4 CU)**

(a)**Course Description:** This course isimportant to the management, productivity and differentiation of an organization. Informationisderivedfromdata.Thismeans thatdata mustbeefficientlycollected,organized,retrievedandmanagedtomakeitmeaningfulto theorganization. Thus,thedevelopment, deployment,managementandintegrationofdata and information systems to support the organizationare a vital role of the IT professional.

Consequently, theknowledge area of Information Management should include the

collection,organization,modeling,transformation,presentation,safetyandsecurityofthe data and information.

(b)**Aims:** This course is aimed at giving students the skills needed to efficiently collect, organize, model, transform, present, and secure data and information. Students will earn how tointegrateinformationwithInformationSystemstomakeitmeaningfultothe Organization.

(c) **Learning Outcomes:** On completion of this course unit, the students will be able to:

• Differentiate and use key terms such as: information, data, database, database management system, metadata;

• Explain the role of data, information, and databases in organizations;

• Explain how data storage and retrieval has changed over time;

• Explain the advantages of a database approach compared to traditional file processing;

• Identifyandexplainthegeneraltypesofdatabases:personal,workgroup,department, enterprise;

• Definedataquality,accuracyandtimeliness,andexplainhowtheirabsencewillimpact organizations;

• Describemechanismsfordatacollectionandtheirimplications(automateddatacollection, input forms, sources);

• Explainbasicissuesofdataretention,includingtheneedforretention,physicalstorage, security);

• Explainwhydatabackupisimportantandhoworganizationsusebackupandrecovery systems.

(d)**Teaching and learning pattern**: This course has adequate lecture hours and practical hours.Nevertheless,thepracticalsessionswillbeheldweeklytoexpoundonwhathas been taught during the lecture hours. This course will also have some emphasis put on improving writing and practicing oral communication in a way that accentuates both speakingandactivelistening.Courseworkwillbedonebystudentstoemphasizethe mechanics and process of writing. The course works will be presented do rallying groups to further help students learn about the mechanics and dynamics of effective team participation.

(e) **Indicative content**:

• Concepts and fundamentals of Information management.

• Information system: purpose, use and value

• Properties of data (quality, accuracy, timelines)

• Database systems

• Analysis of data, forms &sources

• Data collection and retention.

• Information backup and recovery

• Database Query Languages

• SQL data manipulation, data definition and performance tuning/optimization

• XQuery ad Xpath

• Reports

• Query by example and by optimization.

• Data Organization Architecture

• Datamodels, Hierarchical, network and relational models

• Object and Object-relational databases.

• Logical, XML/XMI databases

• Semantic and dimensional models

• Starschema

• Normalization and DataIntegrity.

• Datamodeling

• Conceptual, logical and physical models

• Reengineering of Databases

• StandardizedmodelinginIDEF1,UML

• CASEtools and data integration

• DataIntegration (data warehouses and data marts).

• Managing the Database Environment

• Dataand Database administration.

• Distributed databases and patterns of distribution.

• Client server databases.

• N-tierarchitectures.

• Special-purpose databases (text, multimedia Temporal, spatial, mobile, scientific/genomic)

• Decision support

• Knowledge management

• Information retrieval (digital libraries)

(f) **Assessmentmethod**:Assessmentwillbeintermsoftestsandcoursework(40%)anda final examination (60%)

(g) **Reference Books:**

(i) Connolly T., Begg C. (2002).Database Systems: A Practical Approach to Design, Implementation and Management. USA:Pearson Education Limited.

(ii) TurbanE., McLean,E. and Wetherbe,J(1998)InformationTechnologyformanagement:

making connections for strategic advantage. John Wiley &Sons, Inc.