Course: LIS 303 - Automation in Libraries and Information Centers (2 Credit Units - Compulsory)

Course Duration: Two hours Theory per week for 15weeks (30 hours), as taught in 2011/2012.
Lecturer: Olasina, Gbola

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Course Content
Definition; planning; automation of library processes such as serial control; acquisitions, circulation, cataloguing, reference services, national and international examples of successful automated bibliographic systems and library automation in developing countries; status of library automation in Nigeria. Hands-on application of appropriate software.

Course Description
An overview of automation with emphasis on computer assisted library processes: subsystems in technical services, acquisitions, readers’ services, user services, and administrative services. Students in this course will evaluate, select, install, and use library and information management software. Students will be introduced to issues related to managing software in library environments. In addition, they will learn mechanisms for assessing the needs of staff and clients for the purpose of acquiring new software. Students will also locate review information for software and write reviews and procedures. Students will also create searchable databases and develop instructions for using those databases. And will explore the use of computers in information centers, library automation, database structure and design, search engines, and the Internet. An examination of topics of current interest related to the application of computer and communications technology in libraries and information centres. Features of library automated systems; data analysis: fields, records and files structure; encode and input bibliographic data in an automated system; course analysis: principles and practice in indexing and classification; bibliographic utilities; online public access catalogues; catalogue users studies.

Justification:
The library and information world and indeed the scholarly and research communities have been affected by the ICT revolution and the concepts of e-learning, the e-library, digital library, virtual library, e-resources and e-solutions which have their foundations in our present age of the virtual environment – an environment sustained by hardware and software. For library and information science professionals to meet the growing information needs of information users, they need not
only to apply the use of computers and other technologies to their information work as knowledge workers but to be aware of acquisition and management of library software and computer based solutions to library routines and service delivery.

Course Objectives:

Upon successful completion of LIS 303, the student will be able to:
- create and examine assessment tools used to determine automation needs for a library or information centre.
- determine the resources required to implement specific software.
- download and install software programs and creating basic library catalogue using appropriate library software.
- using appropriate resources, locate a variety of commercially available software packages suitable for libraries.
- evaluate and test available integrated library systems for suitability in a particular library setting.
- describe the process of purchasing, installing, upgrading, and maintaining integrated library systems and identify and apply the skills required for successful team work.
- discuss how the marketplace affects software development, marketing, and implementation cycles.
- describe the historical development of integrated library systems.
- create searchable databases and develop instructions for databases.

Course Requirements:

Every student is expected to participate actively in group assignments and to review hardware and software needs for various types of libraries and information centres. Attendance at lectures and practical lab sessions should not be less than 75%. Each student must sign up a Yahoo mail account to facilitate online discussion group.

Methods of Grading

<table>
<thead>
<tr>
<th>S/No.</th>
<th>Description</th>
<th>Score %</th>
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<tbody>
<tr>
<td>1</td>
<td>Technology in libraries presentation</td>
<td>20%</td>
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<tr>
<td>2.</td>
<td>Participation in eDiscussions</td>
<td>5%</td>
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<tr>
<td>3</td>
<td>Lab exercises</td>
<td>15%</td>
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<tr>
<td>4</td>
<td>Comprehensive final examination</td>
<td>60%</td>
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<tr>
<td>5</td>
<td>Total Score</td>
<td>100%</td>
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Course Delivery Strategies

Lectures, demonstrations, guests, student presentations, tours.

Week 1: Aspects of Library Automation: History and Evolution

Objectives

By the end of the week, students should be able to:
- trace historical development of library automation.
• discuss management issues related to application of computers in library environments.

Description

First Hour
Discuss the history and evolution of library automation, definition and key aspects of library automation. Library Automation in Nigeria.

Second Hour
Explain aspects of library automation and the need for automation of libraries and information centres.

Study Questions

1. What is library automation?
2. Why automate libraries and information centres?
3. Discuss the evolution of library automation.
4. What is the history of library automation in Nigeria?
5. List advantages of library automation.

Reading List

Week 2: Principles of Automation in Libraries, Archives and Information Centres

Objectives
By the end of the week, students should be able to:

- explain principles of automation of archives, libraries and information centres.
- Discuss the aims, objectives and need for the change of library tools and techniques under the changing environment.

Description

First Hour
Rationale for library automation. Why library automation?
Types of library automation systems, standalone systems, integrated systems, library automation subsystems

Second Hour
Hardware and software for library automation
Single user systems, multi-user systems, LANs
Client Server networks and software requirements

Study Questions

1. What are the key requirements for automation of libraries and information centres?
2. Explain the role of principles of automation of libraries and information centres.
3. Discuss hardware requirements towards building an integrated library system.
4. Discuss software requirement vis-à-vis automation of a library, archive or museum.
5. What is the role of training in the deployment of library automation?

Reading List


Week 3: Evaluation of Library Software Applications

Objective
By the end of the week, students should be able to:

- present a methodology for evaluating and purchasing automation technology
- analyze aims and objectives of automation project

Description

First Hour
How to prepare for library automation?
The impact of IT on libraries and information centres.
Methodology for evaluating and purchasing automation technology

Second Hour
Pre-scoping and scoping – information storage and retrieval software, bibliographic database software and evaluation criteria. Selection of software and selection skills.
Identification of aims and objectives of automation project.
Pragmatics of library software modules.
Training, assistance and support services for automation.

Study Questions

1. Explain technical requirements prior to adopting particular library and information based software.
2. List evaluation criteria of library software.
3. Give the work flow of pragmatics of library software module in Acquisitions Unit of a library.
4. Design a work flow of pragmatics of library software module in Cataloguing Unit of a library.
5. Describe the workings of a library software module for information storage and retrieval.
6. What do you understand by the integrated library system, ILS?

Reading List


Week 4: Automation of Library Routines and Services

Objectives

By the end of the week, students should be able to:
- explore various areas of library automation services
- identify challenges of library automation

Description

First Hour
Library Automation Services, Information resource building, data entry
Cataloguing and classification, circulation and serials controls and IR
Understanding your needs.

Second Hour
Identifying current and existing challenges.
Translating needs and priorities into specifications.

Laboratory Exercises

1. Class discussion on identifying current challenges needing automation
2. Design a workflow to meet those needs.

Reading List


Week 5: Library Databases/Database Management

Objectives
By the end of the week, students should be able to;
- explain how libraries and information centres use data and information
- define database management systems DBMSs
- describe their various functions

Description

First Hour
Database technologies
Database Concepts, metadata and Navigating
Introduction to Access 2007
DBMS and Managing data

Second Hour
Information storage and retrieval
Manipulating records and tables

Study Questions
1. Explain how libraries and information centres use data and information.
2. Explain the basic concepts of data management.
3. Describe file systems and identify their problems.
4. Describe database management systems (DBMS) and describe their various functions
5. Explain how relational database model works.
Reading List


Weeks 6 & 7: Using Microsoft Access

Objectives
By the end of the week, students should be able to:
- create and design a database using Access 2007.
- explain how the relational database model works.
- describe how databases are developed.

Description

Week 6: First Hour
Access database terminologies
Database design

Week 6: Second Hour
Opening, Creating and Using View
Table Modification and Navigation
Primary keys, Indexing, filtering and sorting

Week 7: First Hour
Database functions, database types and database models.
Relational database systems.

Week 7: Second Hour
Relationships
Access 2007 Queries
Access 2007 Forms
Access 2007 Reports

Laboratory Exercises: (Week 6)
1. Visit the Oracle (www.oracle.com) and Microsoft (www.microsoft.com) websites. See and compare notes on the latest Oracle Enterprise DBMS software and that of Microsoft, SQL Server. Indentify features that are common to them.
2. Create a Person_Table in Design View with Fields such as First Name, Last Name, Room No, Matric No, Department of Study and Level of Study.
3. Create a Borrower_Table with Fields such as Name of Borrower, Matric No of Borrower, Title of Book, Accession No of Book, Date of Borrow.
4. Create a Collection_Table with Fields such as Title of Book, Author, Accession No, Number of copies.
5. Establish relationships amongst the three tables by relating them. Assign primary keys to the tables.

Laboratory Exercises: (Week 7)

1. Create a Forms from the Person_Table created in the previous week’s lab exercises using the same Fields.
2. Modify the Person_Table in the Design View by inserting the Borrower_Table so that we can see a person (borrower) and associated borrowed books.
3. Choose the Person_Table from the Tables/Queries box and click on >> to move all the fields to the Selected Fields window and click on next. Click on modify the Query Design button, specify the criteria and run and save queries. Query records to find out book defaulters who have not returned books after 2 weeks.
4. Explore mail merge features of Access database management with Microsoft Office products such as Microsoft Word. Click on Tools > Mail Merge.
5. Explore the use of queries to ask questions of your databases.

Reading List


Week 8: Principles of Data Capture and Retrospective Conversion

Objectives
By the end of the week, students should be able to:
- explain the principles of data capture
- discuss processes involved in capturing data

Description

First Hour
How to capture data?
Digital Images
Second Hour
Types of Image files
Image of capture techniques
Visit to the UNILORIN Library to see its OPAC

Study Questions

1. What are the considerations for capturing data?
2. What is OCR?
3. Mention tools for data capture.
4. Mention types of image/audio files
5. Mention scanning steps.

Reading list


Week 9: Managing a Library System

Objectives
By the end of the week, students should be able to:
- discuss management skills in library systems administration.
- analyse roles of a system administrator.

Description

First Hour
Access to Database:
- Information service
- Back up service
- Document delivery
  CD-ROM Services:
- Information searching
- Text delivery

Second Hour
Online search:
- Access to Database
- Downloading
  E-mail:
- Electronic mailbox Bulletin Boards
Access to Internet
- Information superhighway
- Cyberspace
- World Wide Web (WWW) based library services
- DIALOG and other databases.
- Virtual Library
- Computer networks

Study Questions

1. Describe features of leading library software.
2. Explain the role of the librarian in the face of information and communication technologies.
3. What management skills are needed to manage library automated systems.
4. How can librarians improve user access to library automated resources?
5. How best can Nigerian libraries and information centres put automation to best use?

Reading List


Week 10: Computers and People: User Access Issues

Objectives
By the end of the week, students should be able to:
- analyze issues of computer and its accessibility
- discuss techniques for users’ accessibility

Description

First Hour
Ergonomics and human reactions to computer use.
Vendor responsibilities.

Second Hour
Database access
Z39.50
Searching the Internet
Document delivery
User training
Dublin Core

Study Questions

1. Why is it necessary to study Human Computer Interaction, HCI?
2. What would you consider before engaging a library software vendor?
3. Conduct a survey test of user assessment of automated services at the UNILORIN library
4. How can users be encouraged to use automated services in the library, archive or museum?
5. What do you understand by ergonomics?

Reading List


Week 11: Library Software: Using Alice for Windows and Greenstone Digital Library Software GSDL

Objectives
By the end of the week, students should be able to:
- Identify and discuss library software
- Install and run open source library software

First Hour
Open source and library software, openware.
Online exploration of software online, KOHA

Second Hour
Hands on application
Features of different software
GSDL

Laboratory Exercises

2. Explore Web based library software.
3. Search online for open source library software
4. Install and run open source library software you find (see 3)
5. Discuss the difference between an integrated library software system and standalone module.

Reading List

Week 12: Online Public Access Catalogues OPACs

Objectives
By the end of the week, students should be able to:
- explore Online Public Access Catalogues. (OPACs)
- discuss impact of library consortia

First Hour
OPACs and IPACs
MARC records

Second Hour
Library of Congress online catalogue
Worldcat
Interlibrary cooperation and library consortia

Laboratory Exercises

1. Visit online catalogues of libraries and information centres on the Web.
2. Conduct search for specific bibliographic material using LC online catalogue
3. Explore the search tool on LC online catalogue to search for specific titles using ISSN, ISBN, author’s name, publisher and year of publication.
4. Explore the UNILORIN OPAC including backend issues with expert support from the Automation librarian/Systems Analyst of the UNILORIN Library.
5. Use the data sheets to compile bibliographic details of library resources and make entries to the database.

Reading List

Week 13: Automated Systems in the Library (Circulation Systems, Serials Controls, Acquisitions and Cataloguing)

Objective
By the end of the week, students should be able to:
- examine automation systems in the units of libraries and information centres.

First Hour
Flow charting and systems analysis in library automation
Types of flowcharts
Basic symbols used in flowcharting
Techniques in data processing flowcharts
Design and implementation of a systems concept in library automation

Second Hour

Automated Circulation Systems
The rationale of automated circulation: evolution, and present status. Benefits and disadvantages.
Overview of major automated circulation systems: Gaylord, 3M, IBM, etc.
Personnel training, staffing, organization, user management
Effects on interrelated library operations
Mechanized Serials Record Controls

Automated Acquisitions and Cataloging

Study Questions

1. Identify circulation services in a library and write this out in technical language for automation.
2. Draw a flow chart for the process you identify.
3. Why is staff training so important to automation?
4. What do you know about mechanized Serials Controls?
5. Discuss user management of automated library services?

Reading list

Week 14: Challenges and Prospects of Automation of Libraries and Information Centres in Nigeria

Objective
By the end of the week, students should be able to:

- identify the challenges and prospect of automation of libraries and Information centres in Nigeria.

First Hour
Problems of automation
Students to identify problems

Second Hour
Prospects and advantages of automation
Students to identify prospects of automation
Future of automation
Study Questions

1. What are the problems of automation of libraries and information centres in Africa?
2. Compare the deployment of automation of libraries and information centres in Africa to those of the developed countries.
3. Open source library software: a solution to library software needs in Nigeria Discuss.
4. List open source library software that you know.
5. Discuss the role of training in automation of libraries and information centres in Nigeria.

Reading List


Week 15: Revision

Conduct of a comprehensive revision of lessons and exercises.

Revision Questions

1. What do you think this course has taught you?
2. What is the role of the librarian in the face of ICTs in libraries?
3. Visit online catalogues of libraries and information centres on the Web.
4. Conduct search for specific bibliographic material using LC online catalogue
5. Explore the search tool on LC online catalogue to search for specific titles using ISSN, ISBN, author’s name, publisher and year of publication.
6. Explore the UNILORIN OPAC including backend issues with expert support from the Automation librarian/Systems Analyst of the UNILORIN Library.
7. Use the data sheets to compile bibliographic details of library resources and make entries to the database.
8. Search online for open source library software
9. Install and run open source library software you find (see 3)
10. Discuss the difference between an integrated library software system and standalone module.

**General Reading List**


**Keys:**

1. Available in the University Library
2. Available in Bookshop
3. Available on the Web
4. Personal Collection
5. Departmental Library