



**Iligan Institute of Technology**  
of the Mindanao State University  
Quality Education for a better Mindanao

## **MASTER IN INFORMATION AND LIBRARY SYSTEMS**

### **Rationale**

The design of the existing MLS curriculum was last revised in 1986. It was based on the old/traditional way of library operations. Recent developments in technology have however radically changed the format of information sources, the way of seeking, accessing and delivering information and of the learning styles. It has also brought about the existence of other alternative information providers serving as competitors of the library in the information market place. More so, the capabilities and capacities of technology have increasingly transformed libraries into a virtual place. The expectation of the 21<sup>st</sup> century setting has expanded the role of librarians from mere passive custodians of library materials to librarians with knowledge of computer database and library automation systems. Today's librarian is expected to act as:

- a) Information Architect - having the ability to set up information on the Internet and to control the flow of information inside the organization
- b) Infopreneur - an information professional who could pore over public database, who can scan electronic sources, conduct on-line searches then synthesize, package or customize information for a client.
- c) Information Broker - a freelancing researcher needed by private corporations and consulting firms.
- d) Data Manager - a worker for software developers
- e) Knowledge Navigator - a personal aide to users in identifying suitable website and getting information through the web
- f) Webmaster - a facilitator of individual knowledge gathering
- g) Information Specialist - the "ultimate search engine" skilled in organizing and retrieving information.

To adapt to all these developments and expectations means that library instruction has to restructure its curriculum. Degreed librarians today must have taken courses in basic computing, automated information management, design and implementation of distributed information methods, web site exploration, network management, etc. They have to evolve and stay ahead of changes in the environment; otherwise, other private information providers will usurp the librarian's place. One role that they should be in the forefront now is to involve themselves in system design and to actively participate in the development of information services products (like GOPHER, and other internet products), rather than just coping with the finished information service products.

Hence, this revision, which is inherently ICT-based and interdisciplinary, having links with other related disciplines like IT, and computer applications.

### **Objectives**

Courses in this program are designed:

1. to equip students for professional post in information management, customized library operations and in cognate fields;
2. to enable students to gain understanding of the flow of information and methods of managing organizational knowledge, especially gaining techniques of accessing information; and
3. to produce graduates updated in current information and information technology with the ability to identify, analyze and evaluate the information needs of different groups and make informed decisions to satisfy them.

## **Admission Requirements**

1. At least three (3) units in logic and algorithms, and three (3) units in basic computer course
2. Six (6) units in basic library science courses
3. Undergraduate GPA of at least 2.0

## **Retention Policies**

1. A student must maintain a grade point average of 2.0 per semester. Otherwise, his status during the succeeding semester will be probationary, subject to the improvement of his GPA.
2. The maximum residence requirement is five (5) years to be reckoned from the students' initial enrollment

**MASTER IN INFORMATION AND LIBRARY SYSTEMS (MILS)**  
(LIST OF COURSES BY SEMESTER)

**First Year, First Semester**

Course No.	Course Title	Units	Hrs/Wk			Prerequisite(s)
			Lec.	Lab	Total	
ILS 210	Collection Development	3	2	3	5	Background in Foundation of Libraries, Info Mgt, Info Organization & Servicing, and their equivalent
ILS 220	Information Organization, Storage, Retrieval and Presentation	3	1	6	7	Same
Specialization Course 1		3	3	0	3	None
Specialization Course 2		3	3	0	3	None
	Total	12	9	9	12	

**First Year, Second Semester**

Course No.	Course Title	Units	Hrs/Wk			Prerequisite(s)
			Lec.	Lab	Total	
ILS 230	Information Products and Services	3	1	6	7	Background in Foundation of Libraries, Info Mgt, Info Organization & Servicing, and their equivalent
ILS 240	Information Preservation and Conservation	3	2	3	5	Same
Specialization Course 3		3	3	0	3	None
Elective 1		3	3	0	3	None
	Total	12	9	9	18	

**Second Year, First Semester**

Course No.	Course Title	Units	Hrs/Wk			Prerequisite(s)
			Lec.	Lab	Total	
Elective 2		3	3	0	3	None
ILS 399	Thesis Writing	6				None
Compre						All core and specialization courses
	Total	9				

**Second Year, Second Semester**

Course No.	Course Title	Units	Hrs/Wk			Prerequisite(s)
			Lec.	Lec.	Lec.	
ILS 399	Thesis Writing	Residency	Residency/Graduation			None
	Total					

**GRAND TOTAL 33 UNITS**

**Summary Of Courses And Units**

Particulars	Present (Units)	Proposed (Units)
<b>A. Core Courses</b>		
LS 220	3	3
LS 225	3	none
LS 234	3	none
LS 237	3	none
LS 238	3	none
LS 241	3	none
LS 264	3	none
ILS 210	none	3
ILS 220	none	3
ILS 230	none	3
ILS 240	none	3
<b>Sub-Total</b>	21	12
<b>B. Specialization</b>		
Choice 1	none	3
Choice 2	none	3
Choice 3	none	3
<b>Sub-Total</b>	0	9
<b>C. Comprehensive Examination</b>		
<b>D. Electives</b>		
LS 230	3	
LS 244	3	
LS 290	3	
ILS ____		3
ILS ____		3
<b>Sub-Total</b>	9	6
<b>E. Thesis</b>		
LS 299 (ILS 399)	6	6
<b>Sub-Total</b>	6	6
<b>Grand Total</b>	<b>36</b>	<b>33</b>

# CATALOGUE OF COURSES

## PRE-ADMISSION REQUIREMENTS

### LOGIC AND ALGORITHM

Study of logic and algorithms used in programs. Introduction in preparing pseudo-codes; development and design of algorithms.

Credit : 3 units  
Prerequisite : none

### INTRODUCTION TO PROGRAMMING

Basic computer concepts; introduction to programming language like Pascal-simple data types, looping, functions and procedures, arrays, user-defined data types, text files and records. Includes object-oriented programming.

Credit : 3 units  
Prerequisite : none

### FOUNDATION OF LIBRARIES AND INFORMATION MANAGEMENT

(or its equivalent.)

Comparative study of the different types of libraries, documentation centers, information centers and other information providers with focus on their varying forms of information needs. Includes legal issues in information management.

Credit : 3 units (3 hrs lec)  
Prerequisite : none

### INTRODUCTION TO INFORMATION ORGANIZATION AND SERVICING

(or its equivalent)

Basic theories in collection development, cataloguing and classification, indexing/ abstracting, thesaurus making etc. and strategies of reference service.

Credit : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite : none

## CORE COURSES

### ILS 210            COLLECTION DEVELOPMENT

Principles and procedures involved in building library collections, including conservative and networked collection development, collection evaluation and collection maintenance in an automated library setting, and virtual libraries.

Credit            : 3 units (2 hrs lec; 3 hrs lab)  
Prerequisite    : Background in Foundation of Libraries, Information Management, Information Organization and Servicing, or its Equivalent

### ILS 220            INFORMATION ORGANIZATION, STORAGE, RETRIEVAL AND PRESENTATION

The use of standard catalog and classification of information sources including MARC format for inputting cataloguing data into machine readable file; Indexing and Abstracting.

Credit            : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite    : Background in Foundation of Libraries, Information Management, Information Organization and Servicing, or its equivalent

### ILS 230            INFORMATION PRODUCTS AND SERVICES

Designing of value-added and customized information packaging and servicing. Includes electronic information tools such as on-line information system (machine readable bibliographic database) and networking.

Credit            : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite    : Background in Foundation of Libraries, Information Management, Information Organization and Servicing, or its Equivalent

### ILS 240            PRESERVATION AND CONSERVATION OF INFORMATION SOURCES

Management of digital and non-digital information resources including issues of authentication, integrity, version control, legacy control, storage, personal privacy, and right of access. Conservation of information from one medium to another including data format conversion and digitization. Standards regarding quality of physical materials and digital surrogates.

Credit            : 3 units (2 hrs lec; 3 hrs lab)  
Prerequisite    : Background in Foundation of Libraries, Information Management, Information Organization and Servicing, or its equivalent

# **SPECIALIZATION AREAS**

## **RETRIEVAL AND REPRESENTATION OF INFORMATION**

### **ILS 250            MULTIMEDIA INFORMATION**

Concepts and methods of design, management, creation, and evaluation of multimedia databases. Organization and retrieval of digital multimedia. Issues of image and sound capture storage and storage standards, display, networking, standards, copyright, and vocabulary control. Review of applicable digital technology.

Credit                : 3 units (1 hr lec ; 6 hrs lab)  
Prerequisite        : none

### **ILS 251            INFORMATION VISUALIZATION AND PRESENTATION**

The design and presentation of digital information. Use of graphics, animation, sound, visualization software, and hypermedia in presenting information to the user. Methods of presenting complex information to enhance comprehension and analysis. Incorporation of visualization techniques into human-computer interfaces.

Credit                : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite        : none

### **ILS 252            LIBRARY AND INFORMATION DATA SYSTEMS**

Development of library networks at the local, state, regional and national levels with consideration of organization, administration, services, funding and legislation.

Credit                : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite        : none

### **ILS 253            ORGANIZATION OF INFORMATION AND METADATA**

Processing of information and metadata using standard tools such as cataloguing and classification, indexing and abstracting and the use of Dublin Core and other application softwares.

Credit                : 3 units (1hr lec; 6 hrs lab)  
Prerequisite        : none

### **ILS 254            COGNITIVE APPROACHES TO INFORMATION**

Individual information behavior and use and their relation to information system design. Basics of cognitive psychology applied to information systems. Methods of cognitive psychology.

Credit                : 3 units (3 hrs lec)  
Prerequisite        : none

### **ILS 255            GROUP AND ORGANIZATIONAL APPROACHES TO INFORMATION SYSTEM USE**

The transmission and use of information within groups such as work groups and organizations; information flows in organizations. Organizations as information processes; computer assisted cooperative work; influencing strategies; adoption of innovation; the uses of information for coordination and communication within organizations.

Credit                : 3 units (2 hrs lec; 3 hrs lab)  
Prerequisite        : none

**ILS 256            PRIVACY, SECURITY, AND CRYPTOGRAPHY**

Policy and technical issues related to insuring the accuracy and privacy of information. Encoding and decoding techniques including public and private key encryption. Survey of security problems in networked information environment including viruses, worms, Trojan horses, Internet address spoofing.

Credit            : 3 units (2 hrs lec; 3 hrs lab)

Prerequisite     : none

**INFORMATION RESOURCE SYSTEM**

**ILS 260            INTRODUCTION TO INFORMATION SYSTEM**

Introduces concepts and practice associated with the creation, utilization and evaluation of information delivery. Includes the basics of digitizing and manipulating text, sound and video/ still image.

Credit            : 3 units (1 hr lec; 6 hrs lab)

Prerequisite     : none

**ILS 261            INTRODUCTION TO DATABASE MANAGEMENT**

Introduction to principles of information design and to the use of database management systems. Design considerations and evaluation; data modeling and implementation planning. Characteristics and evaluation of general and specialized database management systems. Design, implementation, and evaluation of a database using commercial database management software.

Credit            : 3 units (1 hr lec; 6 hrs lab)

Prerequisite     : none

**ILS 262            ANALYSIS OF INFORMATION ORGANIZATIONS AND SYSTEM**

Project planning and scheduling, process design, project management and coordination; analysis of information needs specification of system requirements, analysis of alternatives, design of alternatives; quantitative methods and tools for analysis and decision-making; document management; design, implementation, and evaluation of a project.

Credit            : 3 units (1 hr lec; 6 hrs lab)

Prerequisite     : none

**ILS 263            SYSTEM IMPLEMENTATION: USE OF AUTHORING TOOLS, DATABASE MANAGEMENT SYSTEM, ETC.**

Development of informational or instructional resource products using authoring tools; development of specifications based on user needs; system design, implementation, evaluation and testing; development of documentation.

Credit            : 3 units (1 hr lec; 6 hrs lab)

Prerequisite     : none

**ILS 264            DESIGN OF INTERACTIVE SYSTEMS**

Focuses on interactive system design methods in common use covering such topics as interactive design, iterative design, usability analysis, prototyping and evaluation, mental models, conceptual models, interaction styles, the use of guidelines; normative, descriptive, and formative approaches to work analysis; modeling user's activities, defining and validating requirements, presenting interactive system designs, and the theoretical foundations underlying the design of interactive systems.

Credit            : 3 units (1 hr lec; 6 hrs lab)

Prerequisite : none

**ILS 265 KNOWLEDGE -BASE SYSTEMS**

Introduces the concepts, principles and techniques of knowledge base systems, with a focus on implementation of a working expert system. Presents the expert system development life cycle with a focus on analysis and conceptual modeling techniques.

Credit : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite : none

**ILS 266 MANAGEMENT INFORMATION SYSTEM**

Study of management and use of information for control, planning and decision-

making; development and use of database systems with emphasis on the computer approach.

Credit : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite : none

**ILS 267 INFORMATION USERS IN SOCIETY**

The impact of information and information systems, technology, practices, and artifacts on how people organize their work, interact, and understand experiences. Social issues in information systems design and management: assessing user needs, involving users in system design, and understanding human-computer interaction and computer-mediated work and communication. Use of law and other policies to mediate the tension between free flow and constriction of information.

Credit : 3 units (2 hrs lec; 3 hrs lab)  
Prerequisite : none

**ILS 268 USER INTERFACE DESIGN AND DEVELOPMENT**

User interface design and human-computer interaction. Examination of alternative design; tools and methods for design and development; human computer interaction; methods for measuring and evaluating interface quality.

Credit : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite : none

**APPLICATION AREAS**

**ILS 270 INTRODUCTION TO NETWORKED APPLICATIONS AND COMPUTING**

Introduction to application of networked computers, especially social, educational, and information management. Understanding of the networking, computing, and software infrastructure enabling and constraining networked applications, with the goal of empowering the students to use these technologies effectively in their personal and professional life. Related policy, legal, economic, and industry issues will be covered.

Credit : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite : none

ILS 271            DESIGN OF LIBRARY AUTOMATION SYSTEM

The design of computer software for library automation, including acquisitions, serials, circulation systems, and library catalogs; group development of a library automation software package including functional specifications, design, programming, testing, and system implementation.

Credit            : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite     : none

ILS 272            APPLICATION SOFTWARE PACKAGES

Comparative use and different structure, format and style of softwares for application in various library operations.

Credit            : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite     : none

ILS 273            HUMAN-COMPUTER INTERACTION

Focuses on the design and design of human-computer interfaces covering such topics as task analysis techniques for gathering design information, iterative design through prototyping, formative and summative usability testing; theoretical foundations of HCI and cognitive modeling of user interactions; the integration of HCI techniques into the software development life cycle and the use of user constraints to generate new interactions designs.

Credit            : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite     : none

ILS 275            LIBRARY AND INFORMATION DATABASE SYSTEMS

Concepts and database structure, design and applications in library and information services. Includes case studies and database projects in real life situations.

Credit            : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite     : none

ILS 276            DISTRIBUTED COMPUTING APPLICATIONS AND  
                         INFRASTRUCTURE

Technical side of distributed computing, including complexity management, concurrency, protocols, security, performance, networking, and middleware.

Credit            : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite     : none

ILS 277            DESIGN OF LIBRARY SERVICES

The organization and administration of library services and their place in the institutions and communities they serve. Governance, collections and building, planning, organizing, staffing, budgeting, controlling in library and information system; and includes digital libraries and economic aspects.

Credit            : 3 units (1 hr lec; 6 hrs lab)  
Prerequisite     : none