



TEHRAN UNIVERSITY
— OF —
MEDICAL SCIENCES

School of Allied Medical
Sciences

Course Description Guide

**Non-continues Master of Science in
Medical Library and Information Science**

Program Name & Definition:

Non-continues Master of Science in Medical Library and Information Science.

Medical Library and Information Science is a multidisciplinary field with M.Sc. graduates learning to use information technology and knowledge management for knowledge acquisition, organization and dissemination in academic health settings, including schools, hospital libraries and health information centers, where information exchange among clinicians, health personnel and students is carried out. Master of Medical Library and Information Science focuses on the knowledge and skills necessary for identification, acquisition, organization, retrieval, and dissemination of information used to meet the needs of diversified information, knowledge, and learning environments. Moreover, it can contribute to tracking scientific output of medical research used to plan for expanding further research studies. Master of Medical Library and Information Science provides a foundation for career development in library and information works. The graduates will be able to facilitate information access, dissemination, use and translation and to act as a research consultant. In line with Islamic Republic of Iran's attempt to take on a leadership role in the region, this program enables the graduates to make a significant contribution to tracking the scientific output of medical research and promoting Iran's status.

Courses and number of credits:

Core Courses:	22 credits
Non-core (Electives)	4 credits
Thesis:	6 credits
Total:	32 credits

Table 1. Compensatory Courses

Code of the Course	Title of the Course	Credits			Teaching Hours			Prerequisite or Concurrent courses
		Theory	Practical	Total	Theory	Practical	Total	
01	Specialized English Language	2	-	2	34	-	34	-
02	Medical terminology	2	-	2	34	-	34	-
03	Statistics	2	-	2	34	-	34	-
04	Organization of medical resources *	2	1	3	34	34	68	-
05	Essentials of medicine (1) **	2	-	2	34	-	34	02
06	Essentials of medicine (2)**	2	-	2	34	-	34	05
Total		13						

Students should pass some or all the compensatory courses specified by the department and approved by Post-Graduate Council at the university.

* Passing this course is obligatory except for graduates of Medical Library and Information Science.

** Passing these two courses is obligatory for all students who have not taken them before admission.

Table 2. Core Courses

Code of the Course	Title of the Course	Credits			Teaching Hours			Prerequisite or Concurrent courses	
		Theory	Practical	Total	Theory	Practical	Total		
07	Basics of information science	2	-	2	34	-	34	-	
08	Management of information resources	2	-	2	34	-	34	-	
09	Programming Basics	1	1	3	17	34	51	-	
10	Information technology and systems	1.5	.5	2	26	17	43	09	
11	Indexing and abstracting	1	1	2	17	34	51	04	
12	Specialized medical Databases and references	1	1	2	17	34	51	-	
13	Information storage & retrieval	1.5	.5	2	26	17	43	11	
14	Management of Libraries and information centers	2	-	2	34	-	34		
15	Research method	2	-	2	34	-	34		
16	Research seminar	1	1	2	17	34	81	15	
17	Internship	-	2	2		136	136		
18	Dissertation			6					
Total		28							

Table 3. Non-core Courses*

Code of the Course	Title of the Course	Credits			Teaching Hours			Prerequisite or Concurrent courses
		Theory	Practical	Total	Theory	Practical	Total	
19	Digital libraries	2	-	2	34	-	34	-
20	Introduction to distance learning	1.5	.5	2	26	17	43	-
21	National & international information centers	2	-	2	34	-	34	-
22	Independent study	2	-	2	34	-	34	15
Total		8						

*Students should pass 4 credits of the non-core courses on the basis of their thesis topic and approval of their supervisors

Title: Specialized English Language **01**

Prerequisite: -

No. of Credits: 2

Course: Theory

Objectives: To impact and Strengthen English Language Skills in listening, Understanding, and writing as a postgraduate student of medical library and information science.

Course Description: Summarize English texts and articles in medical librarianship, Correct translation of English to Persian texts and English articles in other to Improve the level of English vocabulary using word components, Correct structural sentence and delivering courses in English.

Title: Medical terminology **02**

Prerequisite: -

No. of Credits: 2

Course: Theory and Practical

Objectives: To expose students to medical terms as a guide to meet the information needs of medical professionals, nurses, patients and the students.

Course Description: History and definition of medical terms with their application, introduction of common medical vocabularies, suffixes, prefixes, and their roots in medical fields, Common abbreviations of the disease, clinical and para clinical interventions.

Title: Statistics **03**

Prerequisite: -

No. of Credits: 2

Course: Theory

Objective: To familiarize students with statistical concepts and definitions, with their applications in the area of medical library and information sciences using SPSS software.

Course Description: Definition and description of inferential statistics, learning and working with SPSS software, research methods and selection of statistical tests in the field of medical library and information science, and statistical tests related to bibliometric.

Title: Organization of medical resources **04**

Prerequisite: -

No. of Credits: 3

Course: Theory 2, practical 1

Objectives: To introduce students to the principles and procedures for cataloging and classification of medical resources in a print and electronic environment for managing the organizing medical unit of libraries/medical libraries.

Course Description: To Familiarize students with cataloging and documentation Rules, ISBD standards for variety of resources, Familiarity with cataloging tools and practice with them, Familiarity with medical thesaurus and Medical Subject Heading, NLM, LC, and DDC, Familiarity with common types of library applications.

Title: Essentials of medicine (1) **05**

Prerequisite: Medical Terminology

No. of Credits: 2

Course: Theory

Objectives: To familiarize students to various types of illnesses in order to improve their knowledge in providing information services to researchers, students and other users of medical libraries and research centers.

Course Description: About Health and diseases, description of function of various body organs and body systems.

Title: Essentials of medicine (2) **06**

Prerequisite: Essentials of medicine (1) (05)

No. of Credits: 2

Course: Theory

Objective: To familiarize students with the knowledge of various illnesses so as to improve their information services to researchers, students and other users of medical libraries and research centers.

Course Description: familiarity with disease of nervous system, Endocrine, ENT, Dermatology, Maternal, Neonatal and mental illnesses.

Title: Basics of information science **07**

Prerequisite: -

No. of Credits: 2

Course: Theory

Objective: To make students familiar with basic principles of information, information cycle and tele-communication.

Course Description: Information theory, information pollution, information explosion; human information interaction; introduction to science sociology and process of creation, dissemination and organization of the information; information ethics; national information systems in Iran and other countries.

Title: Management of information resources **08**

Prerequisite: -

No. of Credits: 2

Course: Theory

Objectives: To make students familiar with researchers' information needs, information resource and methods of information supply and tools.

Course Description: Information needs with emphasis on Psychological and Sociological of information needs of information consumer; understanding of different kinds of libraries, medical libraries and resource supply base on their needs; knowing tools and methods of acquisition of serial publications, electronic and print resources; budgeting in resource supply.

Title: Programming Basics **09**

Prerequisite: -

No. of Credits: 2

Course: Theory and practical

Objective: To make students familiar with computer programming.

Course Description: Understanding Personal Computer: Storage and Input/output Devices; Data presentation in Computers: Binary Number System, Overview of Character Coding Standards- ASCII and UNICODE; Programming Languages: Programming Concepts, Machine Languages, Assembly Languages, High-Level languages, Generations of Programming Languages, Flow-Charting.

Title: Information technology and systems **10**

Prerequisite: Programming Basics (09)

No. of Credit: 2

Course: Theory and practical

Objective: To make students familiar with concepts of information technology.

Course Description: Understanding of Computers and Communication Technologies (Data Process Cycles and Operations); introduction to different kinds of information systems and their components; Principles of information, database designing; Analyzing information systems.

Title: Indexing and abstracting **11**

Prerequisite: Organizing of medical resources (03)

No. of Credits: 2

Course: 1 Theory/1 Practical

Objective: Familiarity with principles and various systems of information storage and presentation.

Course Description: Importance and role of indexing and abstracting in information storage and retrieval, work and science terminology, theoretical terminology, providing standards for terminology, principles of terminology, ideologies of terminology(Vienna, Prague, Soviet union), reforming methods, theories and concepts of relating to indexing , principles of indexing, subject analysis processing, effective factors of indexing, indexing language, indexing systems, variety of indexing methods, indexing standards, theories and concepts of relating to abstracting, variety of abstracts, abstracting instructions, abstracting standards. Familiarity with concepts of database and type of these, Thesaurus and applications to storage and retrieval, types of thesaurus, automatic systems indexing and abstracting, infoterm, termnet1, 2, 3.

Title: Specialized medical Databases and references **12**

Prerequisite: -

No. of Credits: 2

Course: Theory/practical

Objective: To make students familiar with types of medical reference sources, structure, setting out style and information retrieval (principles of information search) in the important print and electronic medical databases and information sources.

Course Description: Definition and concept reference sources, reference sources grouping, assessment types of reference sources, information-seeking behaviors and information needs, formulating query information-seeking skills in print and electronic reference sources of medicine. Introducing the most important print and electronic reference sources in medicine. Introducing the most important print and electronic medical information database and related science. Comparing

medical information database, familiarity with the famous research centers and medical educational in Iran and the world, familiarity with classic sources in medical fields (book, journal...)

Title: Information storage & retrieval **13**

Prerequisite: Indexing and abstracting

No. of Credits: 2

Course: Theory

Objectives: To familiarize students with the importance of systems and database in organization, management, information retrieval and design and recognition of information storage and retrieval database features.

Course Description: concepts of systems and database, importance of systems and information database in organization, information storage and retrieval , characteristics of database ,systems and database architecture, components of database, data engines, data dictionary reporting processor search and forming, types of database models, hierarchical model, relationship model, networking model, the effective factors systems and database designing , programming language database, application to SQL information database, quality control of data entry, data seeker and advanced seeker(query), operation of preservation and support database, updating, making safety and security database and client, evaluation of indicators database, information retrieval models(mathematics, axial models), future of retrieval systems, familiarity with website designing standards.

Title: Management of Libraries and information centers **14**

Prerequisite: -

No. of Credits: 2

Course: Theory

Objective: To make students familiar with concepts and definitions management and leadership in medical libraries and information centers, create the necessary skills for management and supervision through familiarity with basic principles of management, familiarity with planning of executive affairs, organization, motivation, innovation, controlling, evaluation, assessment, effectiveness, efficiency of activities, operation and services through total quality management (TQM)

Course Description: Management history, management theories and different models and application to medical libraries and information centers, total quality management in librarianship and libraries generally, describes adapting management to components of library and principles of TQM in every section of the library, evaluation, assessment, effectiveness, efficiency of activities, operations and information services in the library through common methods.

Title: Research method **15**

Prerequisite: -

No. of Credits: 2

Course: Theory

Objective: To make students familiar with principles of different concepts of research, introduction of research elements, data gathering methods and application of statistics in research.

Course Description: definition of cognitive concepts, knowledge, cognition steps, types of cognition, definitions of science, classifications of sciences, perspective of west and east Islam philosophers. librarianship position in science classification, definition of deductive method, induction, allegory, inductive method, research method, types of research method base on purpose, applied research, basic development research elements, research problem, types of hypotheses, research questions, variable, theory definition, theory rule of research methods, survey research, experimental, semi-experimental, historical, case, correlational, data gathering methods, observation, interview questionnaire, control list, library literature, validity, reliability, descriptive statistics, inferential statistics, sampling, proposal writing.

Title: Research seminar **16**

Prerequisite: Research method (15)

No. of credits: 2

Course: 1 credit theory and 1 credit practical

Objectives: Familiarizing and preparing students in finding the research topics, detecting problems and understanding the notes and problems that are important in the process of researching and proposing a basic research project.

Student at the end of half –term should be able to do the following activities:

- 1- Comparing and criticizing the previous dissertations.
- 2- Assessing and selecting question and problem as a research subject.
- 3- Writing a research project completely and propose to the group.

Course description: Fundamental assessment of previous dissertations, Studying the main concepts of research, generally Studying the contents and papers, various methods of finding the problem of research, how to write a basic research project or a practical proposal.

Title: Internship **17**

Prerequisite: -

No. of credits:2

Course: Internship

Objective: implementing the practical aspects of medical librarianship courses, activity on the various parts of library- orders- reference- searching on the information databases, indexing and abstracting, cataloging with the library software and performing the principles of management on the library, all of the aforementioned activities should be done in the library which have had all of the aforementioned processes and in specific, should be included the practical aspect of librarianship. If a library doesn't have all of the aforementioned parts, the intern can force to do such specialized activities in other libraries which each one does the certain activities, professionally. The considered library shouldn't be from the medical sciences libraries. Coordination and cooperation with other libraries of universities and organizations which do specialized activities in field of library and information science, can be considered.

Course description: Due to the importance of the subject and student's introduction to the practical aspects of library services and activities matched with the lessons and educational headlines, the internship should be conducted under the supervision of one of the academic staff as an internship tutor accompanied by the head of library or documentary center to the amount of the determined hours of internship. Libraries and information centers and the considered institutes for internship should have central library or authentic documentary and archive center in the national or in terms of medical sciences included all of the units and processes related to the library's serving and activities of. Purchase and acquisition, investigation of requirements, indexing and abstracting, and reserving and restoring the information, archive and other related activities and also should consist of all types of information resources.

Title: Dissertation **18**

Prerequisite: After passing all of the course credits

No. of credits: 6

Course: -

Objective: Providing the essential facilities for the students to utilize from the scientific researching method due to analyze aspects of medical library and information science and other related topics.

Course description: Assessing and studying theoretical and practical cases of one of the library and information terms and related topics by using one of the scientific researching methods according to the content of the educational agenda for the discrete master's program which approved by the high council of medical sciences planning.

Title: Digital libraries **19**

Prerequisite:

No. of credit: 2

Course: Theory

Objective: Familiarizing the students with the concepts of digital library, digital library standards, Software and hardware in the digital library, organizing the digital resources, problems of creating the digital library and comparing some of the most important digital libraries of the world.

Course description: General concepts of digital libraries, changes in the future libraries, descriptions, targets, software and hardware features, digitalize the library, problems, challenges, legal management, making a digital collection, collection- making from the web, cultural sensitivities, core elements, digital library's standards, divisions of the digital library's standards, characteristics of the digital documents template, digital resources organization, marking the metadata (SGML), classification of various plans, cataloging tools.

Title Introduction to distance learning **20**

Prerequisite: -

No. of credits: 2

Course: 1.5 credit theory and 0.5 credit practical

Objective: By passing from the industrial society to the information society, establishing knowledge oriented society has become possible. In current era, learning can be facilitated by help of information and communication technology. And the possibility of creating knowledge for more members of society would be prepared. In 21 century, reaching to the "learning high quality for all" via information and communication technology has become accessible. In response to the need of societies for education, the use of various distance educational methods progresses everyday such as electronic education based on the computer, cell phones and so on. It is obvious that what leads to the success and improvement of quality of education, is not media and instruments of education alone, but also the theoretical concepts, presentation and supplying strategies.

According to the evolution which occurred in the learning concept, the view of constructivism has been emphasized globally in recent decades. That indicates the applications of mind on the deep learning and creating knowledge by learner. Numerous researches all over the world have been done that emphasize on the important role of libraries and information systems on the success of learners and distance educational system and electronic education.

This course is designed to familiarize the master's students of medical library and information science with online electronic educational systems and the role of libraries in success of virtual education.

Course description:

Introduction to the generals –history – the Universities ahead- description of terms- benefits and restrictions, Theoretical foundations of tele-education and electronic education- pedagogy, behaviorism – cognitive theories- constructivism, Electronic education approach- failure reasons of electronic education- improvement methods for presenting the electronic education- role of media on the electronic education, Infrastructures for electronic education- electronic education

standards- learning management systems (LMS)- LCMS- Authoring tools, Knowledge management- knowledge management description- types of knowledge- profits of knowledge management- knowledge management pyramid- performance support(internal and external)- society and cooperation in the knowledge management- knowledge structure- solving problems and decision making skills, Learning architecture- description of learning architecture- stages of learning architecture, Organizational infrastructures required –electronic education assessment- electronic education management- role of libraries in the electronic education.

Title: National & international information centers **21**

Prerequisite: -

No. of Credits: 2

Course: Theory

Objective: Familiarity with activities and services of information systems available at the national and international level in order to know and use their services in different fields.

Course Description: Survey the appearance and development information centers and networks, study of various activities in information centers, documentation centers, special libraries and Providers of specialized information services at national, regional and global levels, familiarity with structure, goals and tasks of the information centers, examining a variety of services and studying how to use different systems according to the field of expertise.

Title: Independent study **22**

Prerequisite: Research method

No. of Credits: 2

Course: Theory

Main Objective: Creating the effectiveness and empowerment of students in research by carrying out a study and research work on the issues related to medical library and information science and affiliated fields.

Course Description: Theoretical and applied observations examining one the favorite areas of the student under the supervision of the corresponding professor along with progress report and final report. In the end, the student is required to report in writing and submit it in paper format.