



COURSE OUTLINE BRIEFS

DEPARTMENT OF
**INFORMATION
MANAGEMENT**



FACULTY OF
**ARTS AND
HUMANITIES**



OVERVIEW

Information is a crucial factor in national development, and the ability to use information tools is considered a source of power. The study of Library and Information Sciences is vitally important for development as librarians, libraries, and library associations, as well as information systems, all play a role in fostering creativity, innovation, and dealing with people's needs and expectations. Librarians should consider what is needed for national development and train sophisticated professionals to deal with development issues.

The Department of Library and Information Science was established in the University of Sargodha in September, 2008 to produce trained library professionals for playing dynamic role in the improvement of library education. The Department evolved with variant nomenclatures across the region and is providing academics excellence to develop such professionals who can serve in this age of competition.

The Department is offering BS, MLIS, MPhil and PhD programs to develop the concept of Library and Information Sciences in students and to prepare library professionals by providing professional education to meet the challenges of Information Technology. We have qualified faculty including four experienced PhD and four MPhil members to provide quality education in the field of Library and Information Science by utilizing all electronic and non- electronic means.

Academic Programs Offered

1. BS Library and Information Sciences
2. MA Library and Information Sciences (MLIS)
3. MPhil Library and Information Sciences
4. PhD Library and Information Sciences

BS Library and Information Sciences

Eligibility: At least 45% marks in intermediate or equivalent.

Duration: 04 Year Program (08 Semesters)

Degree Requirements: 130 Credit Hours (Minimum)

Semester-1

Course Code	Course Title	Credit Hours
URCE-5101	English-I	3(3-0)
URCEP-5106	Pakistan Studies	2(2-0)
ICTC-5201	Introduction to Computer	3(3-0)
*INFM-5101	Foundation of Information Based Organizations (Foundation-1)	3(3-0)
	General-I (To be selected from the list of general courses)	3(3-0)
	General-II (To be selected from the list of general courses)	3(3-0)

* All INFM codes will be subject to approval of new nomenclature of the department and programs, else, these would be LISC

Semester-2

URCE 5102	English-II	3(3-0)
URCI-5105	Islamic Studies/ Ethics	2(2-0)
URCM-5107	Mathematics	3(3-0)
INFM-5102	Human Information Behaviour (Foundation-II)	3(3-0)
	General-IV (To be selected from the list of general courses)	3(3-0)
	General-III (To be selected from the list of general courses)	3(3-0)

Semester-3

URCE-5103	English-III	3(3-0)
STAT-5101	Introduction to Statistics	3(3-0)
INFM-5103	Management of Libraries and Information Centers (Foundation-III)	3(3-0)
	General-V (To be selected from the list of general courses)	3(3-0)
	General-VI (To be selected from the list of general courses)	3(3-0)

Semester-4

URCE -5104	English-IV	3(3-0)
	General-VII (To be selected from the list of general courses)	3(3-0)
INFM-5104	Organization of Information (Foundation-IV)	3(3-0)
INFM-5105	Online Information Retrieval (Foundation-V)	4(3-1)
INFM-5106	Information Services and Sources (Foundation-VI)	3(3-0)

Semester-5

INFM-6101	Managing Collections and Online Access (Foundation-VII)	3(3-0)
INFM-6102	Research Methods for Information Professional (Foundation-VIII)	3(3-0)
INFM-6103	Applied Classification (Major-I)	4(1-3)
INFM-6104	Archives and Records Management (Major-II)	3(3-0)
INFM-6105	Marketing of Library and Information Services (Major-III)	3(3-0)

Semester-6

INFM-6106	Quantitative Research Methods (Foundation-IX)	3(3-0)
INFM-6107	Library Automation Systems (Foundation-X)	4(3-1)
INFM-6108	Applied Cataloging (Major-IV)	4(3-1)
INFM-6109	Information Literacy Instruction (Major-V)	3(3-0)
INFM-6110	Application of Information Systems (Major-VI)	3(3-0)

Semester-7

INFM-6111	Indexing and Abstracting (Major-VII)	4(3-1)
INFM-6112	Library & Information Services in Pakistan (Major-VIII)	3(3-0)
INFM-6113	Qualitative Research Methods (Major-IX)	3(3-0)
	Elective-I (To be selected from the list of elective courses)	3(3-0)
	Elective-II (To be selected from the list of elective courses)	3(3-0)

Semester-8

INFM-6114	Digital Libraries (Major-X)	4(3-1)
INFM-6115	Advance Management & Leadership Skills (Major-XI)	3(3-0)
INFM-6116	Knowledge Management (Major-XII)	3(3-0)
	Elective-III (To be selected from the list of elective courses)	3(3-0)
	Elective-IV (To be selected from the list of elective courses)	3(3-0)

MA Library and Information Sciences (Discontinued from year 2020)

Eligibility: At least 45% marks in BA/BSc or equivalent.

Duration: 02 Year Program (04 Semesters)

Degree Requirements: 66 Credit Hours (minimum)

Semester-1

LISC-6201	Foundations of Librarianship	3(3-0)
LISC-6202	Information Technology: Concepts and Application	3(2-1)
LISC-6203	Introduction to Classification	3(3-0)
LISC-6204	Introduction to Cataloging	3(2-1)
LISC-6205	Bibliography: Theory & Practice	3(3-0)
LISC-6206	Reference and Information Sources and Services	3(3-0)

Semester-2

LISC-6207	Management of Libraries and Information Centers	3(3-0)
LISC-6208	Applied Classification	3(1-2)
LISC-6209	Applied Cataloging	3(1-2)
LISC-6210	Online Information Retrieval	3(2-1)
LISC-6211	Information Literacy Instruction	3(3-0)
LISC-6212	Collection Development Management	3(3-0)

Semester-3

LISC-6213	Research Methods in Library and Information Science	3(3-0)
LISC-6214	Marketing of Library and Information Services	3(3-0)
LISC-6215	Library Automation Systems	3(2-1)
LISC-6216	Personality Development & Communication Skills	3(3-0)
(Any two from the following i.e., LIS 6217-6222)		
LISC-6217	Literature on Islam	3(3-0)
LISC-6218	Literature on Pakistan	3(3-0)
LISC-6219	Literature on Humanities	3(3-0)
LISC-6220	Literature on Social Sciences	3(3-0)
LISC-6221	Literature on Science	3(3-0)
LISC-6222	Literature on Technology	3(3-0)

Semester-4

Courses from LISC-6223, LISC-6258 are optional. Each student will opt five courses in total (one from each group i.e. A, B & C while two from group D or Thesis)		
Group A		
LISC-6223	National Libraries	3(3-0)
LISC-6224	Academic Libraries	3(3-0)
LISC-6225	School Libraries	3(3-0)
LISC-6226	Children Libraries	3(3-0)
LISC-6227	Public Libraries	3(3-0)
LISC-6228	Special Libraries	3(3-0)
LISC-6229	Agricultural Libraries	3(3-0)
LISC-6230	Health and Medical Libraries	3(3-0)
LISC-6231	Law Libraries	
LISC-6232	Science and Technology Libraries	3(3-0)
Group B		
LISC-6233	Advanced Management Techniques	3(3-0)
LISC-6234	Public Records, Rare Materials and their Conservation	3(3-0)
LISC-6235	Communication and Media Librarianship.	3(3-0)
LISC-6236	Indexing and Abstracting	3(3-0)
LISC-6237	Libraries and Society	3(3-0)
LISC-6238	International and Comparative Librarianship	3(3-0)
LISC-6239	Models for Library Management, Decision Making and Planning	3(3-0)
Group C		
LISC-6240	Web Publishing	3(3-0)
LISC-6241	Database Structure and Design	3(3-0)
LISC-6242	Computer Networks	3(3-0)
LISC-6243	Computer Programming for Information Management	3(3-0)
LISC-6244	Systems Analysis and Design	3(3-0)
LISC-6245	Digital Libraries	3(3-0)
Group D		
LISC-6246	Information Policy	3(3-0)
LISC-6247	Knowledge Management	3(3-0)
LISC-6248	Financial Management of Libraries and Information Centers	3(3-0)
LISC-6249	Information Seeking and Use	3(3-0)
LISC-6250	Project Management	3(3-0)
LISC-6251	Archives Management	3(3-0)
LISC-6252	Advanced Cataloging and Classification	3(3-0)
LISC-6253	Resource Sharing and Networking	3(3-0)
LISC-6254	Records Management	3(3-0)
LISC-6255	Serials Management	3(3-0)
LISC-6256	Preservation and Conservation of Library and Archival Material	3(3-0)
LISC-6257	Human Resource Management	3(3-0)
LISC-6258	Thesis and Viva Voce (6 Credits)	6(0-6)

PhD Library & Information Sciences

Eligibility: At least 3.0/4.0 CGPA or 1st division in MPhil LIS with 06 credit hour research work or equivalent - departmental test.

Duration: 3-5 Years Program (6-10 Semesters)

Degree Requirements: 18 Credit Hours Course Work - Dissertation

Semester-1

LISC-8101	Advance Research Methodology in LIS	3(3-0)
LISC-8102	Planning and Management of Library/Information Center	3(3-0)
LISC-8103	Online Information Retrieval (or any other optional course)	3(3-0)

Semester-2

Optional Courses (9 credit hours)

LISC-8104	Digital Libraries	3(3-0)
LISC-8106	Human Resource Management in Libraries and Information Centers	3(3-0)
LISC-8107	Information Seeking Behavior	3(3-0)
LISC-8108	Information Literacy Instruction	3(3-0)
LISC-8109	Leadership in Theory and Practice	3(3-0)
LISC-8111	Computer Applications in Research	3(3-0)
LISC-8112	Organization of Information	3(3-0)
LISC-8113	Seminar in Advance Research in Library and Information Science	3(3-0)
LISC-8114	Information Policy	3(3-0)

Semester 3-6

LISC-8115	Dissertation / Research Project / Thesis	6(0-6)
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MPhil Library & Information Sciences

Eligibility: At least 2.0/4.0 CGPA or 2nd division in MLIS or equivalent – departmental test

Duration: 02 Year Program (04 Semesters)

Degree Requirements: 30 Credit Hours

Semester-1

LISC-7101	Theoretical Foundations of Library Science	3(3-0)
LISC-7102	Theoretical Foundations of Information Science	3(3-0)
LISC-7103	Development of Library & Information Science in Pakistan	3(3-0)
LISC-7104	Quantitative Research Methods	3(3-0)

Semester-2

LISC-7105	Qualitative Research Methods	3(3-0)
LISC-7106	Seminar in Library & Information Science	3(3-0)
Optional courses (02 out of following courses)		
LISC-7107	Computer Applications in Library & Information Science	3(3-0)
LISC-7108	Marketing of Library & Information Services	3(3-0)
LISC-7109	Indexing and Abstracting	3(3-0)
LISC-7110	Online Information Retrieval	3(3-0)
LISC-7111	Knowledge Management	3(3-0)

Semester 3-4

LISC-7113	Thesis	6(0-6)
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**BS
LIBRARY &
INFORMATION
SCIENCE**



The main objective of this course is to understand the information environment in which library and information science (LIS) professionals work. Further, this course will aware the students with the nature of LIS profession, education and ethics. It includes the knowledge of standardization in LIS profession. The role of librarians in society will be ascertained and it will be resulted in awareness among the students about the impact of information and communication technology on the libraries. To achieve this objective, a combination of lecture, class participation, and discussions will be used to conduct the course. Students will be expected to read extensively ahead of each class session and actively participate in discussions

Contents

1. Introduction to information/knowledge society
2. The information/knowledge society
3. Information policy
4. Libraries as organizations
5. Information organization
6. Libraries as organizations
7. Standards implementation in libraries
8. Standardizations in libraries
9. Competencies of LIS professionals
10. Information professions
11. Educating the LIS professionals
12. Professional ethics in a knowledge society
13. Impact of ICT on the libraries
14. Professional ethics

Recommended Texts

1. Rubin, R., Rubin, R. G., & Alire, C. A. (2020). *Foundations of library and information science*. (5th ed.). Chicago: American Library Association.
2. Feather, J. (2013). *The information society: a study of continuity and change*. London: Facet publishing.

Suggested Readings

1. Afzal, W. (2012). *Management of information organizations*. Oxford, U.K: Chandos Publications.
2. Al-Ansari, H., & Yousef, N. (2002). Coverage of competencies in the curriculum of information studies: An international perspective. *Education for Information*, 20(3-4), 199-215.
3. Floridi, L. (2015). *The ethics of information*. Oxford, UK: Oxford University Press.
4. Hauptman, R. (2010). *Ethics and librarianship*. Jefferson, N.C.: McFarland.

The main objective of this course is to demonstrate an understanding of the theoretical foundations of human information behavior. It also aims to understand human information behavior in a variety of contexts. It aims to make students be able to think critically and reflectively about human information behavior. It expects to make students capable to demonstrate the ability to work collaboratively; to apply concepts and research findings from human information behavior to a variety of library and information service settings, as well as to other aspects of life. A combination of lecturing, class participation, and discussions will be used to conduct the course. Students will be expected to read extensively ahead of each class session and actively participate in discussions.

Contents

1. Introduction to information behavior, Nature of information and knowledge
2. Components of information behavior, Types and characteristics of information use and users
3. Models and theories of information behavior
4. Wilson's model of information behavior, Kuhlthau's Information search process
5. Anomalous state of knowledge, Sensemaking theory
6. Information encountering, Ellis's model of information seeking behavior
7. Contexts of information seeking
8. Academic context, Socio-cultural context, Digital context
9. Factors influencing information behavior, Internal factors, External factors
10. Relationship between internal and external factors
11. Collaborative information behavior, Definition, Characteristics, Challenges
12. Related concepts (Information access, dissemination and use)
13. Browsing, scanning, and serendipity, Relevance in information retrieval
14. Avoiding information, Information technology and information behavior

Recommended Texts

1. Al-Suqri, M. N. (2015). *Information seeking behavior and technology adoption: theories and trends*. Hershey: Information Science Reference.
2. Yohannes, K. (2019). *How to implement human information behavior concept for your design?*. New York: ACM.

Suggested Readings

1. Case, D. O. & Given, L. M. (2016). *Looking for information: a survey of research on information seeking, needs, and behavior* (4th ed.). San Diego: Emerald Group Publishing.
2. Chelton, M. K., & Cool, C. (2006). *Youth information-seeking behavior II: context, theories, models, and issues*. Lanham, MD: Scarecrow Press.
3. Fidel, R. (2012). *Human information interaction: An ecological approach to information behavior*. Cambridge, UK: The MIT Press.
4. Fisher, K. E., Erdelez, S., & McKechnie, L. (2005). *Theories of information behavior*. Medford, NJ: Information Today.

The main objective of this course is to develop a basic understanding of managerial concepts and its application in library & information centers; to know the theories and principles of administration for effective management of public, academic, and special libraries. It also aims to create awareness about the key management concepts, processes, aspects and the role of information professionals in organizations. The course aims to develop managerial skills and expertise so that the graduates could be capable of running the information centers effectively and efficiently through impressive planning and its execution. A combination of lecture, class participation, and discussions will be used to conduct the course. Students will be expected to read extensively ahead of each class session and actively participate in discussions.

Contents

1. Basic theories and principles of management
2. Theories and principles of administration
3. Pillars of management paradigm
4. Planning, Organizing, Controlling, Staffing
5. Management of libraries
6. Effective management of public libraries
7. Managing academic, special libraries and information centers
8. Administering technical services in libraries
9. Administrative aspects of public and technical services
10. Facilities, planning, evaluation, public relations
11. Motivational factors among LIS professionals
12. Motivation of information professionals
13. Management of change in libraries and information

Recommended Texts

1. Bryson, J. (2018). *Effective library and information centre management*. London: Routledge.
2. Dinesh, K. S., & Nikam, K. (2007). Strategies for effective library and information centre management. *SRELS Journal of Information Management*, 44(3), 237-248.

Suggested Readings

1. Stueart, R. D., & Moran, B. (1999). Library and information centre management. *Library Management*, 20(8), 447-455.
2. Warraich, N. F., Ameen, K., & Malik, A. (2019). Recruitment and retention of information professionals: library leaders' perspectives in Pakistan. *Global Knowledge, Memory and Communication*, 68(8/9), 568-580.
3. Warraich N. F. & Ameen, K., (2017). Managing the personnel in university libraries: A developing country perspective. *International Information & Library Review*, 49(2), 139-144.

The main objective of this course is to understand the role of the organization in human endeavors. The organization of information is a core area of information management that provides the basics of the theory/ philosophy and practice of the discipline. It is very important to have an understanding of the organization of information to become an information professional. To become familiar with the basic principles of organization developed over the last several centuries. To discuss the organizational concepts that affect how information must be retrieved. To describe various approaches of organization in all types of environments. To demonstrate the role of technical standards in organizing information. A combination of lecturing, class participation, and discussions will be used to conduct the course. Students will be expected to read extensively ahead of each class session and actively participate in discussions.

Contents

1. Introduction to organization of information, Information services in today's world
2. Organization of information: What and why?
3. Classification, Cataloguing, Library approaches to organizing information
4. Bibliographic classification, Catalogues and bibliographies
5. Subject heading lists, Organization of recorded information in different contexts
6. Libraries, Archives, Museums, The Internet , Cataloguing, AACR2 and the process of cataloguing
7. Implications of basic cataloguing rules for OPACs, Cataloguing of Internet resources,
8. Functional Requirements of Bibliographic Records (FRBR)
9. Library classification; Classification schemes, Types of bibliographic classification schemes
10. Major library classification schemes, Dewey Decimal Classification
11. Retrieval tools, The need for retrieval tools, Bibliographies, Catalogs, Indexes
12. Finding aids, Registers, Search engines and directories
13. Systems for vocabulary control, Types of controlled vocabularies
14. Natural language approaches to subjects, Encoding, authority control
15. Encoding of records, MARC, MARC 21, UNIMARC, The future of MARC
16. Issues and trends in organizing information
17. Cataloguing: FRBR and semantic catalogue networks, Classification in the digital age
18. Semantic web technologies and digital libraries

Recommended Texts

1. Chan, L. M., & Salaba, A. (2015). *Cataloguing and classification: an introduction*. (4th ed.). Lanham: Rowman & Little field Publishers.
2. Joudrey, D. N., Taylor, A. G., & Wisser, K. M. (2017). *The organization of information*. (4th ed.). Santa Barbara, California: Libraries Unlimited.

Suggested Readings

1. Chowdhury, G. G., & Chowdhary, S. (2007). *Organizing information: from the shelf to the web*. London: Facet Publishers.
2. Joudrey, D. N., Taylor, A. G., & Miller, D. P. (2015). *Introduction to cataloging and classification* (11th ed.). California: Libraries Unlimited.
3. Rowley, J. E., & Farrow, J. (2008). *Organizing knowledge: an introduction to managing access to information* (4th ed.). Aldershot: Ashgate Publishing.

The main objective of this course is to understand the environment of information retrieval. To develop an understanding of the principal components of information retrieval systems, Web search engines and online databases. To develop the ability to improved retrieval effectiveness using Boolean logic, proximity searching, truncation and other tools. To evaluate the emerging information retrieval practices in library services and on the Web. To achieve this objective a combination of lecturing, class participation, and discussions will be used to conduct the course. Students will be expected to read extensively ahead of each class session and actively participate in discussions. A practical approach for searching techniques in different search engines and online databases (HEC National Digital Library).

Contents

1. Introduction to information retrieval, Definition and concepts
2. Major components/elements of information retrieval
3. Database, search mechanism, language, interface
4. Language in information representation and retrieval
5. Natural language
6. Controlled vocabulary-Thesauri, subject heading lists, classification schemes
7. Natural language vs-controlled vocabulary indexing
8. Retrieval techniques and query representation, Basic information searching techniques
9. Advanced information searching techniques, Information retrieval models
10. Matching model, Boolean logic model, Vector space model
11. Probability model, Information retrieval systems, Online systems, CD-ROM systems, OPACs
12. Web search engines, Evaluation of information retrieval systems

Recommended Texts

1. Brown, C. C., & Bell, S. S. (2018). *Librarian's guide to online searching: cultivating database skills for research and instruction*. (5th ed.). Santa Barbra, California: Libraries Unlimited.
2. Losee, R. M. (2019). *Predicting information retrieval performance (synthesis lectures on information concepts, retrieval, and services)*. San Rafael, CA: Morgan & Claypoll Publishers.

Suggested Readings

1. Chowdhry, G. G. (2010). *Introduction to modern information retrieval*. (3rd ed.). Chicago: Neal Schuman Pub.
2. Chu, H. (2010). *Information representation and retrieval in the digital age*. Medford, New Jersey: Information Today, Inc.
3. Knott, C. (2016). *Find the information you need: Resources and techniques for making decisions, solving problems, and answering questions*. Lanham, Maryland: Littlefield Publishing Group, Inc.
4. Manning, C. D., Raghavan, P., & Schutze, H. (2008). *Introduction to information retrieval*. Cambridge, UK: Cambridge University Press.

The main objective of this course is to develop the ability to understand reference queries through conducting effective reference interviews. To be able to identify and use appropriate reference sources to find answers to reference questions. To apply criteria to be used in evaluating reference sources. To demonstrate knowledge of users' information needs, seeking, and information use. To achieve these objectives, a combination of lecturing, class participation, and discussions will be used to conduct the course. Students will be expected to read extensively ahead of each class session and actively participate in discussions.

Contents

1. Introduction to information services and sources
2. Meaning & definition, Importance, Characteristics, Functions of reference service
3. Evolutions -both print and non-print
4. History and varieties of reference and information services
5. Samuel Green and the founding of reference service
6. Changes since 1876: Technology, Changes since 1876: Diversity
7. Styles of reference service, Types of reference service
8. Models of reference service, The future of reference, Information work environment,
9. Technical aspects, Cultural aspects, Ethical aspects, Legal aspects
10. Reference service, Traditional and virtual environments
11. Reference interview process, Search strategies
12. Organizing and delivering reference and information services
13. Reference as a place, Service models, Delivering virtual reference services
14. Keeping current, staying relevant, Selection and evaluation of reference sources
15. Reference collection development and maintenance
16. Evaluation of sources, Virtual reference collection development
17. Selection aids, Sources, collections, and services in transition
18. Important information sources
19. Directories, Almanacs and fact books, Encyclopedias, Dictionaries and thesauri
20. Biographical sources, Bibliographies and its types, Basic guides to reference materials
21. Library catalogs, Serials guides, Indexes and abstracts
22. Geographical sources-- Maps, atlases & gazetteers

Recommended Texts

1. Cassell, K. A. & Hiremath, U. (2018). *Reference and information services in the 21st century: an introduction* (4th ed.). New York: Neal-Schuman.
2. Hirsh, S (Ed.). (2018). *Information services today* (2nd ed.). Lanham, MD: Rowman & Littlefield.

Suggested Readings

1. Bopp, R. E., & Smith, L. C. (2011). *Reference and information services: an introduction*. Santa Barbara, California: Libraries Unlimited.
2. Janes, J. (2003). *Introduction to reference work in the digital age*. New York: Neal-Schuman.
3. Katz, B. (Ed.). (2013). *Digital reference services*. New York: Routledge.

The objective of this course is to become familiar with the philosophy, principles and main elements of collection development and management (CDM). It also develops insights and methods for dealing with issues pertaining to collection development and management including policy development, selection process, acquisition options, weeding, preservation and conservation strategies for print and electronic resources using relevant theories and practices. Further, it identifies the opportunities and challenges posed by electronic materials in the information environment covering ownership versus leasing models, the differences in licensing options from the major publishers and aggregators. The students will gain valuable insight regarding the impact of e-material on the publishing industry, scholarly communication, and its integration into future technologies and social media.

Contents

1. Collection development and management
2. Selection and acquisitions procedures: Selection tools and resources
3. Access vs. ownership; Licensing options; Digital rights management of e-resources
4. E-resources and technology issues
5. Access, ethics and intellectual freedom: Censorship and intellectual freedom
6. Responding to complaints and challenges to materials
7. Assessment and evaluation of collections: Assessment and evaluation as a management tool
8. Historical overview of collection analysis; Approaches to collection analysis
9. Managing collection: Weeding; Preservation and conservation strategies
10. Collaborative collection development: Overview; Resources sharing; Bibliographic access
11. Coordinated collection development and management

Recommended Texts

1. Albitz, B., Avery, C., & Zabel, D. (Eds.). (2014). *Rethinking collection development and management*. London: Libraries Unlimited.
2. Johnson, P. (2018). *Fundamentals of collection development and management*. (4th ed.). London: Facet Publishing.

Suggested Readings

1. Fieldhouse, M., & Marshall, A. (Eds.). (2011). *Collection development in the digital age*. London: Facet Publishing.
2. Kaplan, R. (Ed.). (2012). *Building and managing e-book collections: A how-to-do-it manual for librarians*. Chicago: ALA Neal-Schuman.
3. Saponaro, M. Z., & Evans, G. E. (2019). *Collection management basics*. (7th ed.). London: Libraries Unlimited.

Information professionals are supposed to provide support to the researchers in their professional careers. It is, therefore, perceived that they should be equipped with a clear understanding of the basics of research so that they can have a common vocabulary to communicate with researchers effectively. Hence, this course aims to provide an opportunity for students to learn basic research skills which would also train them to research by themselves. It will provide an overview of the basic research terminologies, along with popular research designs and methods. The students will get a basic understanding of the ethical principles of research. Moreover, students will practically learn data analysis techniques.

Contents

1. Introduction to research: What is research?; its process; Basic terminologies; its types
2. How to conduct literature review: Information seeking and retrieval
3. Keyword development and mind mapping; Critical analysis; Synthesis
4. Identifying research problem: Researchable and non-researchable topics
5. Realistic and feasible research topics; Identifying gap of literature
6. Understanding research questions and hypotheses
7. Research designs and popular research methods
8. Qualitative research design; Quantitative research design; Survey method; Case study
9. Sampling techniques: Types; Application
10. Data collection techniques: Questionnaires; Interviews
11. Data Analysis Ethical principles of research: Qualitative analysis; Quantitative analysis;
12. Ethical considerations

Recommended Texts

1. Patten, M. L., & Newhart, M. (2017). *Understanding research methods: an overview of the essentials*. New York: Routledge.
2. Connaway, L. S., & Radford, M. L. (2016). *Research methods in library and information science*. Santa Barbara: Libraries Unlimited.

Suggested Readings

1. Patten, M. L., & Newhart, M. (2017). *Understanding research methods: an overview of the essentials*. New York: Routledge.
2. Connaway, L. S., & Powell, R. R. (2010). *Basic research methods for librarians*. Santa Barbara: Libraries Unlimited
3. Guthrie, G. (2010). *Basic research methods: An entry to social science research*. Los Angeles: Sage Publications
4. Beck, S. E., & Manuel, K. (2008). *Practical research methods for librarians and information professionals*. New York: Neal-Schuman Publishers.

The aim of this subject is to enable students to classify library materials using the Dewey Decimal Classification (DDC) scheme. DDC is the classification scheme that is used in most of the libraries throughout the world. In Pakistan, more than 95 % of the libraries use this system for the classification of library resources. It will make the students able to apply techniques of determining the subject of the acquired information materials, number assignment and number building from within the DDC schedule, using standard subdivisions and combining other auxiliary tables. It also provides an opportunity to identify and make connections between the extensive relative index of DDC with schedules and tables. It also demonstrates the application of subject heading and understands the nature of subject heading lists.

Contents

1. Introduction to Dewey Decimal Classification scheme.
2. General principles of classification
3. Use of Tables 1 to 6
4. Practice of building classification numbers in Dewey Decimal Classification classes (000-999)
5. Introduction to Web Dewey
6. Subject analysis practical with Sear List of Subject Headings:
7. Methods used to determine subjects
8. Conceptual analysis process
9. Practice of assigning subject headings using Sears List of Subject Headings
10. Assigning class numbers from schedule
11. Number building within schedules
12. Number building combining standard subdivisions with schedules
13. Number building combining other auxiliary tables with schedules

Recommended Texts

1. Dewey, M., Mitchell, J. S., Beall, J., Green, R., Martin, G., & Panzer, M. (2011). *Dewey decimal classification and relative index (23rd ed.)*. Dublin, Ohio: OCLC Online Computer Library Center, Inc

Suggested Readings

1. Bowman, J. H. (2005). *Essential dewey*. London: Facet publishing.
2. Joudrey, D. N., Taylor, A. G., & Miller, D. P. (2015). *Introduction to cataloging and classification* . (11th ed.). London: Libraries Unlimited
3. Dewey, M., Beall, J., Mitchell, J. S., & Martin, G. (2011). *Dewey decimal classification and Relative Index*. (23rd ed.). Dublin, Ohio: OCLC.
4. Farkas, L. (2015). *Learn dewey decimal classification*. (23rd ed.). Friendswood, TX: Total Recall Publications.

The purpose of this course is to describe the evolution of methods and technologies used to create, store, organize, and preserve records. It discusses the various environments and cultural contexts where records and documents are created, managed, and used and the reasons why societies, cultures, organizations, and individuals create and keep records (research, ongoing operations, accountability, litigation and organizational memory, et al.). It also describes the components of archival programs (appraisal, acquisition/disposition, inventory, arrangement, description, preservation, access, use and outreach) and explains the relationships among these components. The students will be able to describe and discuss legal and ethical issues surrounding archives and records administration. This course will also demonstrate an awareness and understanding of current issues in the archives and records management professions.

Contents

1. Introduction to archives and manuscripts
2. Basic definitions; Archival mission; Difference between libraries and archives
3. Selection and appraisal: The value of records, Appraisal Theory
4. Acquisition and accessioning, Developing an acquisition policy, Applying an acquisition policy
5. Cooperative collecting and documentation strategies
6. Accessions and accessioning
7. Description of archival records: Objectives of a description program;
8. Three categories of finding aids: Networked information systems
9. Preservation: The preservation problem; Preservation surveys
10. The storage environment; Treatment of materials
11. Security and disaster planning: Security; Disaster planning

Recommended Texts

1. Brown, C. (Ed.). (2013). *Archives and recordkeeping: theory into practice*. London: Facet Publishing.
2. Franks, P. C. (2018). *Records and information management*. (2nd ed.). London: Facet Publishing.
3. Hunter, G. S. (2019). *Developing and maintaining practical archives: A how-to-do-it manual*. (3rd ed.). New York: Neal-Schuman Publishers, INC.

Suggested Readings

1. Millar, L. A. (2017). *Archives: Principles and practices*. (2nd ed.). Chicago: Neal-Schuman.
2. Read, J., & Ginn, M. L. (2015). *Records management*. (10th ed.). Delmar: Cengage Learning.

The aim of this course is to understand the theoretical and practical aspects of marketing concepts to libraries. It identifies specific audiences and target strategies to meet the information needs of the customers. The students will be able to analyze, select, and position products and services to appeal to specific market segments. This subject designs effective marketing strategies that reflect market segmentation. It applies technology tools and techniques to meet specific communication needs. Furthermore, it will describe how public relations activities can be used to build long-term positive relationships between users and libraries.

Contents

1. Understanding the marketing concept: Definition; Understanding the marketplace and
2. Designing a customer-driven marketing strategy
3. Marketing management orientations; Preparing integrated marketing plan
4. Building customer relationships
3. Services marketing: Evolution of marketing concept in libraries
4. Role of marketing in the 21st-century libraries; Services marketing mix
5. Marketing strategy and market segmentation
6. Product and service identification: Information as a product
7. Planning information products and services for libraries.
8. Marketing communication: Advertising; Sales promotion
9. Events and experiences; Public relations and publicity; Direct marketing; Personal selling
10. AIDA model of communication
11. Environmental scan: SWOT analysis; PESTEL analysis; Preparing the market plan
12. Marketing audit: Macro environment audit; Task environment audit
13. Marketing productivity audit; Marketing function audit

Recommended Texts

1. De Saez, E. E. (2019). *Marketing concepts for libraries and information services*. (3rd ed.). London: Facet Publishing.
2. Kotler, P. & Keller, K. L. (2016). *A framework for marketing management*. Boston: Pearson Education Limited.

Suggested Readings

1. Mathews, B. (2009). *Marketing today's academic library*. Chicago: American Library Association.
2. Rowley, J. (2006). *Information marketing*. (2nd ed.). London: Ashgate Publishing Company.
3. Weingand, D. E. (1998). *Future-driven library marketing*. Chicago: American Library Association.
4. Weingand, D. E. (1999). *Marketing/planning library and information services*. (2nd ed.). Englewood, Col.: Libraries Unlimited.

Quantitative research is one of the major research approaches/paradigms. It is perceived that information professional should have a clear know-how of the paradigm to provide good services to the researchers. Hence, the purpose of this subject is to learn about the nature and application of quantitative research in social sciences research. The students will know and articulate the concept, philosophy and terminology of quantitative research. They will be able to identify and describe various methods for doing quantitative research. This course enables them to practice the procedure of survey research from topic identification to report writing by applying statistical tests on quantitative data with the help of SPSS software

Contents

1. Introduction to quantitative research: Basic concepts and philosophy of quantitative research
2. Basic elements of research
3. Selecting and defining a research topic;
4. Defining research problems;
5. Reviewing the literature;
6. Survey research;
7. Designing questionnaires
8. Application of statistics in research:
9. Selecting a sample
10. Probability and sampling
11. Research questions and logic of hypothesis testing
12. Descriptive statistics
13. Quantitative data analysis using SPSS software

Recommended Texts

1. Creswell, J. W. (2014). *Research design: qualitative, quantitative, and mixed methods approaches*. Los Angeles: Sage.
2. Gay, L. R., Mills, G. E., & Airasian, P. W. (2012). *Educational research: competencies for analysis and applications*. Boston: Pearson.

Suggested Readings

1. Maxim, P. S. (1999). *Quantitative research methods in the social sciences*. Oxford: Oxford University Press.
2. McCormick, K., Salcedo, J., & Poh, A. (2015). *SPSS statistics for dummies*. Hoboken, NJ: John Wiley.
3. Adler, E. S., & Clark, R. (2011). *An invitation to social research: How it's done*. Belmont, CA: Wadsworth.
4. Babbie, E. R. (2016). *The practice of social research*. Singapore: Cengage Learning.

Information and communication technologies (ICTs) have transformed human behavior and changed our landscape. It is being used in every sphere of life, but in the field of information science, it has re-engineered the whole environment. The manual library housekeeping has been converted into automated operations. The aim of this course is to introduce basic concepts of library automation. It will also clarify the concepts of integrated library management systems (ILMS) by developing the understanding of library housekeeping through the use of library automation systems. The students will develop practical skills in using library automation systems of this era. Moreover, it will create awareness of a good portfolio of library services with the usage of ICTs.

Contents

1. Library automation: Definition; History; Need for library automation
2. Advantages and disadvantages
3. Systems analysis for library automation: Need analysis; Hardware and software
4. Relevant technical standards
5. Planning and acquisition of automation systems: Bespoke, off the shelf, and open source systems
6. Technology plan; Selection and evaluation; Contract negotiation; Retrospective conversion
7. Post analysis
8. Overview of the major library automation subsystems: Circulation; inter-library loan
9. Acquisitions and collections management; serials; cataloguing; OPAC services
10. Next-Generation library systems: Trends; Advance features;

Recommended Texts

1. Clayton, M. A. (2020). *Managing library automation*. (2nd ed.). London: Routledge.
2. Bilal, D. (2014). *Library automation: Concepts and practical systems analysis* (3rd ed.). Santa Barbra, CA: Libraries Unlimited.

Suggested Readings

1. Burke, J. J. (2013). *The Neal-Schuman library technology companion* (4th ed.). Chicago: ALA Neal-Schuman.
2. Breeding, M. & Yelton, A. (2011). *Librarians' assessments of automation systems: survey results*. Chicago, IL : ALA TechSource
3. Nagy, A. (2011). *Analyzing the next-generation catalog. library technology reports*. Chicago, IL: ALA TechSource.
4. Engard, N. C., & Gordon, R. S. (2012). *The Accidental systems librarian*. Medford, New Jersey: Information Today, Inc.

The purpose of this course is to demonstrate an understanding of the effectiveness of the organization of information. It will cover learn basic principles and rules of cataloging procedure according to AACR2. this course will enable the the students to Demonstrate understanding of the processes by which information is created, evaluated, and disseminated. Furthermore it will help them to Integrate emerging technologies into professional practice. The students will able to do cataloging practice of print, non-print material, serials and electronic material. It also develops a basic understanding of English and Urdu choice of access points. The students will also learn and practice different cataloging formats, standards and frameworks (MARC, Metadata, FRBR, RDA, BIBFRAME).

Contents

1. Introduction to descriptive cataloguing: Need of descriptive cataloguing
2. Definitions and application
3. Introduction to AACR2 cataloguing: International standard bibliographic description
4. Principles and rules
5. Choice of access points: Statement of responsibility rules; Unknown authorship
6. Audio/video material; Serial publications
7. Practical cataloguing: Print material; Audio-video material; Electronic and serials material
8. MARC (Machine Readable Catalogue): Introduction; Structure;
9. Metadata: Introduction; Types.
10. Other cataloguing standards: FRBR (Functional Requirements for Bibliographic Records)
11. RDA (Resource Descriptive and Access); BIBFRAME

Recommended Texts

1. Fritz, D. A. (2009). *Cataloging with AACR2R & MARC21: For books, computer files, serials, sound recordings, video recordings*. New Dehli: Press.
2. Furrie, B. (2003). *Understanding MARC bibliographic: machine-readable cataloging*. Washington: Cataloging Distribution Service in collaboration with Follett Software Company.

Suggested Readings

1. Gorman, M. (2004). *The concise ACCR2*. Chicago: American Library Association.
2. Hsieh-Yee, I. (2006). *Organizing audiovisual and electronic resources for: A cataloging guide*. Englewood: Libraries Unlimited.
3. Maxwell, R. (2013). *Maxwell's handbook for RDA: Resource description & access: explaining and Illustrating RDA: resource description and access using MARC21*. Chicago: ALA Editions.
4. Tillett, B. B. (2004). *What is FRBR? A conceptual model for the universe*. Washington: Cataloging Distribution Service.

The objective of the course is to enable students to define information needs and access a variety of information sources. The course purpose is to develop the capabilities of the students to apply searching strategies to filter large amounts of information sources. The course will enhance to learn how to avoid plagiarism and give appropriate credit to knowledge creators. The aims of the course to develop an understanding of incorporating ideas from sources by learning critical thinking skills. To facilitate the students about learning the effective use of computers in academics and apply the latest information & communication technologies for their academic requirements and practical applications.

Contents

1. Introduction to information literacy: Concept & background
2. Models/frameworks
3. Defining, accessing & searching for information
4. Identification of types of information sources
5. Best information & reference sources
6. Basic and advance searching strategies
7. Evaluating, filtering and managing information
8. References and avoiding Plagiarism
9. Disseminating & communicating information
10. Learning about input devices
11. Software/hardware
12. Working with application software
13. Operating system & productivity applications
14. Software installation
15. Introduction to websites
16. Website usability
17. Information security & privacy
18. Communication through Internet (Email) etc.

Recommended Texts

1. Alewine, M. C., & Canada, M. (2017). *Introduction to information for students*. Chichester: Wiley and Sons.
2. Burkhardt, J. M. (2016). *Teaching information literacy reframed: 50- framework-based exercises for creating information-literate learners*. Chicago: Neal-Schuman

Suggested Readings

1. Miller, M (2015). *Computer basics absolute beginner's guide, windows* (10 ed.). Indianapolis: Que Publishing,
2. Wempen, F. (2015). *Digital literacy for dummies*. Hoboken: John Wiley & Sons.

The main objective of the course is to enhance the theoretical knowledge of students about information systems particularly currently used in library and information settings. The course will provide an option for practical application and to inculcate the practical skills of students to implement library automation systems and digital library management systems. The course will provide a learning environment about different library software, their theoretical knowledge and practical skill to use and apply.

Contents

1. Information system, Definition,
2. Types and Components
3. Organizational IT infrastructure
4. Components of IT
5. Hardware Platform Trends
6. Software Platform Trends
7. Open source vs. proprietary software
8. Integrated library automation systems, Definition, Components and Choices
9. Digital Content Management Systems, Definition, Components and Choices
10. Information system implementation in knowledge based organization
11. Institutional repositories
12. Digital libraries
13. Open archives
14. Hands-on practice and training
15. LIMS/Koha/Evergreen
16. DSpace/GSDL; OJS, etc.)
17. Develop prototypes for evaluation by instructor

Recommended Texts

1. Evans, A., Martin, K., & Poatsy, (2014). *Technology in action* (11th ed.). NYC: Prentice Hall.
2. Valacich, J. & Schneider, C. (2013). *Information systems today: managing in the digital world* (6th ed.). NYC: Prentice Hall.

Suggested Readings

1. Pearlson, K. E., Saunders, C. S. (2012). *Managing and using information system* (5th ed.). Wiley.
2. Hagg, S. & Cummings, M. (2012). *Management information systems for the information* (9th ed.). McGraw-Hill/Irwin.

A basic core is being identified which is expected to develop essential competencies for any entry-level professional in library and information sciences. An emphasis has been placed on the applied aspect of library education. To create an understanding among the students about information dynamics and its relativity with the body of knowledge. The objective of the course is to inculcate skills among students for evaluation, interpretation and use of information and documents in various forms. The purpose of the course is to develop skills among students for the organization of information sources and documents. Assignments/projects and practice sessions have been introduced in all the courses where practical work is a requirement.

Contents

1. Index, Introduction, Meaning, concepts, and explanation
2. Nature of Information, Information age,
3. Natural Phenomenon,
4. Basic Resources
5. The organization of Information, Information Cycle and Information Retrieval Model,
6. Vocabulary Control
7. Types of Indexes, Alphabetical, Author, Book, Citation, Classified
8. Hypermedia, internet, and Word, multimedia.
9. Indexing Process, Aboutness and Steps in indexing
10. Abstract, Introduction, Definition, Concept and Explanation
11. Types of Abstracts, Indicative abstracts, Informative abstracts, and Structured abstracts.
12. The Abstracting Process
13. Coverage
14. Steps in Abstracting
15. Editing of abstract
16. The writing process abstract
17. Indexing and abstracting services
18. Indexing, abstracting and the internet

Recommended Texts

1. Cleveland, D. B., & Cleveland, A. D. (2013). *Introduction to indexing and abstracting*. Littleton, Colo: Libraries Unlimited.
2. Lancaster, F. W. (2003). *Indexing and abstracting in theory and practice*. Champaign, Illinois: University of Illinois.

Suggested Readings

1. Perlman, J. (2016). *Indexing tactics and tidbits: An A to Z guide*. Medford, NJ: Information Today, INC.
2. Moens, M. F. (2000). *Automatic indexing and abstracting of document texts*. Boston: Kluwer Academic Publishers

The main objective of the course is to develop an understanding of theories, principles and techniques of libraries and information services. In this modern era it necessary to know about libraries and information services in the Pakistani perspective and take strategies for run the libraries in a modern context. The knowledge for the awareness of library services provided by academic, public and special libraries in Pakistan and make a comparison with the modern world.

Contents

1. Reference and Referral service
2. Reference services worldwide
3. Current Awareness Service (CAS)
4. Selective Dissemination of Information (SDI) Service
5. RSS and literature search service
6. Document Delivery Service (DDS)
7. Web-OPAC service, article indexing service
8. Lending service, Union catalogue and ILL service
9. Electronic document delivery service
10. Advanced reference services
11. Outreach services
12. ICT base library services
13. Multimedia services
14. Web-based information services
15. Pillars of references service
16. Access to right and relevant information
17. Library and information services for people with special needs
18. Digital libraries services, database services

Recommended Texts

1. Calvert, P. (2006). *Improving the quality of library services for students with disabilities*. London: Libraries Unlimited.
2. Carter, C. J. (2004). Providing services for students with disabilities in an academic library. *Education Libraries*, 27(2), 13-18.

Suggested Readings

1. Crawford, J. (2003). *Evaluation of library and information services*. London: Routledge.
2. Hussain, A., & Jan, S. U. (2018). User perception on electronic resources and services in National Defense University Library Islamabad. *Pakistan Library & Information Science Journal*, 49(3), 58-68.

The main aim of this course is to learn basic qualitative researcher's skills and techniques. The course will teach the students to get an understanding of the qualitative research design. The course will provide an overview of the basic qualitative research methods and to identify basic qualitative data collection techniques. The overall research methods to get a basic understanding of analyzing qualitative data. The course objective is to learn how to do qualitative research report writings.

Contents

1. Introduction to qualitative research
2. Difference between qualitative and quantitative research
3. Research process
4. Philosophical positioning of qualitative research
5. Basic qualitative research methods
6. Case study
7. Grounded theory
8. Phenomenography
9. Ethnography
10. Identifying qualitative inquiry, Approaches
11. Scope and determinants
12. Sampling in qualitative research, Approach and Types
13. Data collection techniques, Advantages and disadvantages
14. Qualitative data analysis, Methods and Application
15. Ethical approaches in qualitative research, Approaches and Considerations
16. Writing qualitative research report
17. Writing styles
18. Research reporting

Recommended Texts

1. Creswell, J. W. (2015). *30 essential skills for the qualitative researcher*. London: Sage Publications.
2. Gorman, G. E., Clayton, P. R., Shep, S. J., & Clayton, A. (2005). *Qualitative research for the information professional: a practical handbook*. London: Facet Publishing.

Suggested Readings

1. Creswell, J. W., & Poth, C. N. (2017). *Qualitative inquiry and research design: choosing among five approaches*. London: Sage Publications Limited.
2. Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research*. London: Sage Publications Limited.
3. Flick, U. (Ed.). (2009). *The sage qualitative research kit: Collection*. London: Sage Publications Limited.

The objective of the course is to enhance the theoretical knowledge of students about digital libraries' key concepts, challenges, associated issues, design and architecture, DLMS, etc. the purpose of the course is to boot the capabilities of the students to enhance the skills of students to do digitization and implement digital library management systems. Furthermore, it focuses on the theoretical, technological, human factors and evaluative components of digital library (DL) research and practice. Students will read and discuss literature on DLs, review existing technologies and proof-of-concepts implementation projects, and work as a group to develop a prototype but operational DL. This course is foundational for students wishing to engage seriously in the world of digital librarianship

Contents

1. Introduction
2. Concepts and key themes
3. Historical development
4. Collection development
5. Digitization
6. Definition and rationale
7. Digitization process
8. Technical factors
9. Metadata
10. Introduction, definition, history
11. Major types
12. Major metadata schemas
13. Digital library management systems
14. Introduction
15. Design and architecture
16. Current landscape
17. Digital preservation, Definition, Challenges, Strategies and Standards
18. New Developments, issues and challenge

Recommended Texts

1. Xie, I, & Matusiak, K. K. (2016). *Discover digital libraries: theory and practices*. Amsterdam: Elsevier.
2. Calhoun, K. (2014). *Exploring digital libraries: Foundations, practice, prospects*. London: Facet.
3. Corrado, E. M., & Moulaison, H. L. (2014). *Digital preservation for libraries, archives, and museums*. London: Rowman & Littlefield Publishers.

Suggested Readings

1. Leggett, E. R. (2014). *Digitization and digital archiving: A practical guide for librarians*. NYC: Rowman & Littlefield Publishers.
2. Keathley, E. (2014). *Digital asset management: Content architectures, project management, and creating order out of media chaos*. NYC: Apress.
3. Miller, S. J. (2011). *Metadata for digital collections (how-to-do-it manual)*. New Jersey: Neal-Schuman Publishers.

The purpose of the course is to apply management principles to the creation, administration and promotion of information organizations by competing values approach. The course will develop an increased understanding of management functions and managerial roles and techniques especially by creating and sustaining commitment and cohesion and using power ethically and effectively. The course aims to understand leadership theories, styles and leadership qualities for future library leaders and to know leadership issues, such as create a vision, build a team, allocate tasks, develop people, motivate and inspire staff/followers. The course will explore the need for teamwork as a required skill for their professional life and enhance their workplace communication skills.

Contents

1. Advance management techniques
2. Introduction to competing values approach to management
3. Creating and sustaining commitment & cohesion
4. Employing change & change management
5. Promoting change & encouraging adaptability
6. History
7. Application
8. Leadership theories & styles
9. History and application
10. Merits of leadership theories
11. Leadership styles
12. Leadership skills among LIS professionals
13. Leadership qualities for future library leaders
14. Laws of teamwork and integration
15. Workplace communication

Recommended Texts

1. Halachik, C. S. (2016). *Lessons in library leadership: a primer for library managers and unit leaders*. Cambridge: Chandos Publishing.
2. Marcum, D. B. (2016). Library leadership for the digital age. *Information Services & Use*, 36(1-2), 105-111.

Suggested Readings

1. Maxwell, J. C. (2013). *The 17 indisputable laws of teamwork: Embrace them and empower your team*. Thomas Nelson Inc.
2. Quinn, R. E., Bright, D., Faerman, S. R., Thompson, M. P., & McGrath, M. R. (2014). *Becoming a master manager: A competing values approach*. New York: John Wiley & Sons.

Knowledge management (KM) is the field of managing human knowledge, mainly in the corporate sector perspective addressing two major types of knowledge, i.e., Tacit and Explicit Knowledge. Tacit knowledge is simply the knowledge that is embedded in persons and not accessible without sources (generally, persons). Explicit knowledge is the type of knowledge that has been recorded in any form and can be accessed without the original source (the creator) of knowledge. This course has been designed for the graduate program of Library and Information Sciences to make the students aware of following major areas of KM so that they can serve the libraries, information resource centers and corporate organizations as knowledge workers, knowledge officers and later knowledge managers. The main objectives of the course include: to introduce the concepts and tools of knowledge management; to develop an understanding of the knowledge management process; to develop an understanding of knowledge management system implications & implementation.

Contents

1. Introduction to Knowledge
2. Knowledge – opinions and definitions
3. Sources; Influence; Intuition
4. Knowledge and action
5. Knowledge management (KM) – definition, motivation, importance
6. Knowledge management systems
7. Data, Information and knowledge
8. Types of knowledge and examples
9. Knowledge locations – people, artefacts and organizational entities
10. Characteristics of knowledge
11. Factors and assessment of KM in organizational setup
12. Knowledge and innovation
13. Knowledge management solutions
14. Factors influencing KM
15. Assessment of KM in organization

Recommended Texts

1. Kirmiz, D. (2017). *Knowledge management in theory and practice*. (3rd ed.). Boston : Elsevier/Butterworth Heinemann.
2. Becerra - Fernandez, I. Sabherwal, R. (2010.). *Knowledge management: Systems and processes*. London: M.E. Sharpe Inc.

Suggested Readings

1. Schwartz, D.G., (2006) (Ed.). *Encyclopaedia of knowledge management*. Idea Group Inc.
2. Becerra - Fernandez, I.; Gonzales, A.; Sabherwal, R. (2004). *Knowledge management: Challenges, solutions, and technologies*. NYC: Prentice Hall,
3. Cross, J. (2007). *Informal learning: Rediscovering the natural pathways that inspire innovation and performance*. NYC: Pfeiffer.

The main objective of the course is to articulate the particular role that e-resources management plays in the work of the library or information center as a whole. The purpose of the course is to demonstrate theoretical and practical knowledge of the structures, hardware, and software underlying the provision of access to e-resources, and their interrelatedness. The objective of the course is to discuss issues relevant to e-resources management, know where to look in the literature and in other information resources (e.g. websites, discussion lists) to understand them. The course is related to demonstrate the evolving relationships among publishers, vendors, Information organizations, and users.

Contents

1. Emergence and entrenchment of electronic resources in libraries
2. competencies for the electronic resource librarian
3. Advantages and disadvantages of electronic resources to librarians and library customers
4. The information environment
5. Digital content providers and Digital content supply chain
6. Identifying and selecting electronic resources
7. Development of digital formats
8. Identifying resources
9. Selecting electronic resources and Trialing the resource
10. Acquiring and licensing electronic resources
11. Digital content license provisions
12. Providing access to electronic resources
13. Administrative Module Management
14. Customizing services and references
15. Proxy servers and authentication
16. Managing access and discovery Systems, Standards, Discovery
17. Preserving electronic resources
18. Preservation issues and Preservation initiatives

Recommended Texts

1. Jacobs, M. (2008). *Electronic resources librarianship and management of digital information: Emerging professional roles*. New York: Routledge.
2. Ross, S.V.T., & Sutton, S.W. (2016). *Guide to electronic resource management*. Santa Barbara, California: Libraries Unlimited.

Suggested Readings

1. Talboot, H., & Zmau, A. (2018). *Electronic resources librarianship: A practical guide for librarians*. Lanham: Rowman and Littlefield.
2. Verminski, A., & Blanchat, K. M. (2017). *Fundamentals of electronic resource management*. Chicago: Neal-Schuman Publishers.

The objective of the course is to understand the nature of works, expressions, manifestations, and items in the FRBR conceptual model. To demonstrate the organization of information in terms of the Internet, the web and digital libraries. The purpose of the course is to describe tools and techniques and the advantages and disadvantages of various approaches to organizing information.

Contents

1. Metadata: Description
2. Bibliographic and general metadata schemes
3. Domain specific metadata schemes
4. Metadata: Access and authority control
5. Models and standards for authority control
6. Standards for archives
7. Standards for art and museum
8. Theory of categorization
9. Bibliographic classification
10. Classification concepts
11. System for categorization and the Internet
12. Organization of internet information resources
13. Classification of non-print and electronic resources
14. New tools and standards for managing internet information
15. Subject Analysis
16. Challenges in subject analysis
17. Conceptual analysis process
18. Stages in aboutness determination
19. Subject heading lists and thesauri in information organization
20. Vocabulary control tool and Subject heading lists and thesauri

Recommended Texts

1. American Library Association. (2005). *Anglo-American cataloguing rules*. Chicago: ALA.
2. Chan, L. M. (2005). *Library of Congress subject headings: Principles and application*. Westport, Conn.: Libraries Unlimited
3. Fritz, D. A. (2006). *Cataloging with AACR2R & USMARC: For books, computer files, serials, sound recordings, video recordings*. Chicago: American Library Association.

Suggested Readings

1. Hider, P. (2012). *Information resource description: Creating and managing metadata*. London: Facet Publishing.
2. Maxwell, R. (2013). *Maxwell's handbook for RDA, resource description & access: Explaining and illustrating RDA: resource description and access using MARC21*. Chicago: ALA Editions.
3. Mitchell, Anne M., & Surratt, B. E. (2005). *Cataloging and organizing digital resources*. London: Facet Publishing.

The main aim of this course is to identify the basic forms of sources on science and technology. The course objective is to describe the basic forms, communication and sources of scholarship in science & technology. It is required to know the basic information needs and information-seeking behavior of scientists & technology professionals. One of the purposes of the course is to learn the selection criteria, quality indicators and evaluate sources of information on science and technology and to learn the overall management of science & technology information sources, which will equip the students to provide effective and efficient services in a professional manner.

Contents

1. Science and technology
2. Understanding of the discipline
3. Characteristics
4. Applications
5. Scholarship in science & technology
6. Publication process and Types
7. Information seeking
8. Assessing information needs
9. Information seeking of scientists
10. Information seeking of IT professionals
11. Collection management
12. Selection tools
13. Selection criteria and Evaluation
14. Information resources and services and Types and tools
15. Specific services
16. Marketing and promotion
17. SciTech librarian
18. Competencies and Roles

Recommended Texts

1. Besnoy, A. (Ed.). (2018). *Emerging practices in science and technology librarianship*. London: Routledge.
2. Bobick, J. E., & Berard, G. L. (2011). *Science and technology resources: a guide for information professionals and researchers*. Santa Barbara: Libraries Unlimited.

Suggested Readings

1. Hurt, C. D. (1988). *Information sources in science and technology*. Englewood: Libraries Unlimited.
2. Lankes, R. D. (2016). *The new librarianship field guide*. Cambridge: Mit Press.

The aim of this course is to learn the overall management of humanities and social sciences information sources and services. It helps to identify the basic forms of sources in humanities and social sciences and to describe the basic form of communication and scholarship in humanities and social sciences. The course assists to know the basic information needs and information-seeking behavior of scientists & IT professionals. Furthermore, it will guide information managers to learn the selection criteria, quality indicators and evaluation of science and technology information sources.

Contents

1. Understanding of the discipline: Humanities and social sciences
2. Characteristics and applications
3. Scholarship in humanities and social sciences
4. Publication process
5. Types of publications
6. Information seeking
7. Assessing information needs
8. Information seeking of humanists
9. Information seeking of social scientists
10. Collection management
11. Selection tools
12. Selection and evaluation criteria
13. Information resources and services
14. Types and tools
15. Specific services
16. Marketing and promotion
17. Humanist and social science librarian
18. Competencies and roles

Recommended Texts

1. Millson-Martula, C., & Gunn, K. B. (Eds.). (2018). *The digital humanities: implications for librarians, libraries, and librarianship*. London: Routledge.
2. Woolwine, D. (2014). Collection development in the humanities and social sciences in a transitional age: Deaccession of print items. *Library Philosophy and Practice (e-journal)*, 1-40.

Suggested Readings

1. Luo, R. (2008). Constructing humanistic library and harmonious campus. *International education studies*, 1(2), 89-91.
2. Witt, S. W., & Rudasill, L. M. (Eds.). (2010). *Social science libraries: interdisciplinary collections, services, networks*. New York: Walter de Gruyter.

The aim of this course is to discuss concepts of personal information and knowledge management. It describes the tools and strategies used for personal information management. This will also demonstrate the value of knowledge management of Personal Information in the society. The course will enhance student understanding about the collection, maintenance, and supervision of Personal Information.

Contents

1. Understanding personal information management
2. The information item and its form
3. Personal information collections
4. Definitions of personal information management
5. The meta-level and the mapping between needs and information
6. Finding personal information behavior
7. Factors affecting finding information
8. Factors affecting re-finding information
9. People keeping and organizing personal information
10. Key points about keeping and organizing
11. Importance of keeping and organizing
12. Search everything: Importance of searching
13. Basic issues, problems and challenges
14. The giant shift in search interfaces
15. Two approaches to personal search: Scoping and broadening
16. Everything through E-mail
17. Email activities and their relation to finding, management and keeping aspects of PIM
18. Understanding email tasks
19. Organizing messages into folders
20. Techniques to support PIM in email

Recommended Texts

1. Jones, W., & Teevan, J. (Eds.). (2007). *Personal information management*. Seattle, WA: The University of Washington Press.
2. Hawkins, D. T. (Ed.). (2013). *Personal archiving: preserving our digital heritage*. Medford, NJ: Information Today, Incorporated.

Suggested Readings

1. Jones, W. (2012). *The future of personal information management: Part I: our information, always and forever*. San Rafael, California: Morgan & Claypool Publishers.
2. Jones, W. (2013). *Transforming technologies to manage our information: The future of personal information management, part 2*. San Rafael, California: Morgan & Claypool Publishers.
3. Jones, W., Wenning, A., & Bruce, H. (2014). *How do people re-find files, emails and web pages?* Retrieved from: <https://www.ideals.illinois.edu/handle/2142/47300>

The main objective of this course is to develop a basic understanding of linked data technologies in libraries and information center perspective. The course will help to understand the processes to apply LD and semantic web technologies. It will also help to recognize the challenges and benefits of LD technology applications in libraries.

Contents

1. Introducing linked data; Linked data technologies and principles
2. Web of document to web of data
3. Resource Description Framework (RDF) and RDF triples
4. Building blocks of linked open data in libraries
5. W3C library linked data incubator group
6. Application of linked data in different environments
7. Linked data initiatives and application in cultural heritage institutes
8. Future of bibliographic standards in linked data environment
9. Benefits and issues of LD technology applications
10. Challenges and benefits of LD technology applications
11. Issues and opportunities;
12. Trends in metadata

Recommended Texts

1. Van Hooland, S., & Verborgh, R. (2014). *Linked data for libraries, archives and museums: how to clean, link and publish your metadata*. New Delhi: Facet publishing.
2. Alemu, G., Stevens, B., Ross, P., & Chandler, J. (2012). *Linked data for libraries: benefits of a conceptual shift from library-specific record structures to RDF-based data models*. New Delhi: New library world.

Suggested Readings

1. Ali, I., & Warraich, N. F. (2018). *Linked data initiatives in libraries and information centres: a systematic review*. *The Electronic Library*, 36(5), 925-937.
2. Bizer, C., Heath, T., & Berners-Lee, T. (2011). Linked data: The story so far. In *Semantic services, interoperability and web applications: emerging concepts* (pp. 205-227). IGI Global.
3. Bowen, J. B. (2010, September). *Moving library metadata toward linked data: Opportunities provided by the eXtensible catalog*. In International Conference on Dublin and Metadata Applications (pp. 44-59).
4. Godby, C. J., Wang, S., & Mixter, J. K. (2015). Library linked data in the cloud: OCLC's experiments with new models of resource description. *Synthesis Lectures on the Semantic. Web Theory and Technology*, 5(2), 1-154.

This course is designed to identify the basic role of school media information professionals and to get a basic understanding of the school library media center role. It will help to identify different school media library information sources and to best practices to organize & manage these sources. It will also guide to initiate school media library information literacy programs.

Contents

1. School library media center: an introduction
2. Concept and objectives
3. Role of school library media centre in education; Services
4. Assessing users' needs; Dealing with Students; Dealing with Teachers
5. Services to parents
6. Information literacy instruction
7. Techniques and Assessments
8. Media center librarian
9. Roles and responsibilities
10. Role of a teacher librarian
11. Mediating role
12. Resources and services
13. Types and tools
14. Marketing and promotion
15. Managing a school library and its program
16. Planning, organizing, staffing, budgeting, implementing
17. Evaluating schools library-media programs
18. Creating an inviting space for students
19. Successfully running information literacy programs

Recommended Texts

1. Moorefield-Lang, H. (Ed.). (2018). *School library makerspaces in action*. Santa Barbara: Libraries Unlimited.
2. American Association of School Librarians. (2009). *Empowering learners: Guidelines for school library media programs*. Chicago: American Association of School Librarians.

Suggested Readings

1. Erikson, R., & Markuson, C. B. (2007). *Designing a school library media center for the future*. Chicago: ALA.
2. Weisburg, H. K., & Toor, R. (2014). *New on the job: A school librarian's guide to success*. Chicago: American Library Association.
3. Woolls, B., & Coatney, S. (2017). *The school library manager: Surviving and thriving*. Santa Barbara: Libraries Unlimited.

In today's world print and electronic media is the most prominent source. This course is designed to identify the components of a strategic media, electronic media and social media and information sources. It will guide to manage and organize (classify) authentic media content effectively and efficiently. It will also guide practically to preserve and archive media information for fast retrieval.

Contents

1. Introduction to media and its types
2. The evolution of traditional to new media
3. Traditional media
4. New media
5. Media literacy: introduction
6. Tools & functions of media literacy
7. Media librarianship
8. Roles of Media librarianship
9. Collection management
10. Software application
11. Range of media information resources
12. Bibliographic description & organization
13. Retrieval, storage
14. Copyright
15. User services
16. News databases and archives: introduction
17. Legal issues
18. Services and marketing
19. Use of ICTs to manage media information content

Recommended Texts

1. Schopflin, K. (2013). *A handbook for media librarians*. London: Facet Publishing.
2. Smith, D. (2018). *Growing your library career with social media*. Cambridge: Chandos Publishing.

Suggested Readings

1. Bilal, D. (2002). *Automating media centers and small libraries: A microcomputer-based approach*. Colorado: Libraries Unlimited.
2. Leaning, M. (2017). *Media and information literacy: an integrated approach for the 21st century*. Cambridge: Chandos Publishing.
3. Reese, T., & Banerjee, K. (2008). *Building digital libraries: a how-to-do-it manual*. Chicago: Neal-Schuman Publishers.

The main aim of this course is the study of set theory and the concept of research data management. Research data management (or RDM) describes the organization, storage, preservation, and sharing of data collected and used in a research project. ... There are growing research data requirements imposed by funders and publishers. The course will enhance the theoretical knowledge of students about RDM's key concepts, components, models, policies, trends, data repositories, the role of information professionals and best practices. It will also enhance the skills of students to manage RDM initiatives and services.

Contents

1. Why data management?
2. Data policy compliance
3. Unit-II Research data life cycle
4. Introduction to different models of research data life cycles
5. DCC research data life cycle
6. Policies
7. Principles
8. Requirements
9. Trends
10. Storing
11. Moving
12. Publishing
13. Sharing
14. Data repositories
15. Models of RDM
16. Role of institutions
17. Role of information professionals
18. Role of information centers

Recommended Texts

1. Corti, L., Van den Eynden, V., Bishop, L., & Woollard, M. (2019). *Managing and sharing research data: A guide to good practice*. London: Sage Publications Limited.
2. Pryor, G., Jones, S., & Whyte, A. (Eds.). (2013). *Delivering research data management services: Fundamentals of good practice*. London: Facet Publishing

Suggested Readings

1. Pryor, G. (Ed.). (2012). *Managing research data*. London: Facet Publishing.
2. Corti, L., Eynden, V. Van den, Bishop, L., & Woollard, M. (2014). *Managing and sharing research data: A guide to good practice*. Retrieved from http://www.sagepub.com/sites/default/files/upm-binaries/61019_Corti_Managing_and_sharing_research_data.pdf

Information is defined as the facts which are provided or learned about something or someone. Its usability focuses on how well users can learn and use it to achieve their information need and research-oriented goals. It also refers to how satisfied information users are with that process. To gather this information, practitioners (information professionals) use a variety of methods and techniques. This course aims at describing the usability, usefulness, and acceptability of interactive information systems. The course also aims at demonstrating diverse evaluation methods for specific goals and types of systems.

Contents

1. Information users
2. Users in the web environment
3. User studies
4. Human information behaviour
5. Analysis of information needs
6. Factors affecting information needs
7. User study methods
8. Information seeking and retrieval
9. Models in human information behaviour and information seeking and retrieval
10. Information seeking on the web
11. Introduction of usability
12. How to conduct a usability
13. Selection of study participants
14. Challenges when selecting study participants
15. User-centred design and accessibility issues
16. Web usability and accessibility
17. Approaches to digital library usability studies
18. Usability factors in digital libraries
19. Usability methods and techniques
20. External factors affecting usability

Recommended Texts

1. Albert, W., & Tullis, T. (2013). *Measuring the user experience: Collecting, Analyzing, and presenting usability metrics (Interactive Technologies. (2nd ed.)*. San Francisco: Morgan Kaufmann.
2. Chowdhury, G. G., & Chowdhury, S. (2011). *Information users and usability in the digital age*. London: Facet Publishing.

Suggested Readings

1. Goodman, E., Kuniavsky, M., & Moed, A. (2012). *Observing the user experience: a practitioner's guide to user research. (2nd ed.)*. San Francisco: Morgan Kaufmann.
2. Rubin, J. & Chisnell, D. (2008). *Handbook of usability testing: how to plan, design, and conduct effective tests. (2nd ed.)*. Indianapolis: Wiley.

Scientometrics is concerned with the quantitative features and characteristics of science and scientific research. Emphasis is placed on investigations in which the development and mechanism of science are studied by statistical mathematical methods. The main aim of this course is to enable students of understanding the role and procedure of analysis of informational dimensions of science. It enables students to explore relationships of authorships, citations, impact factor, and publications via a scientific method. Moreover, it gives them an idea about how to evaluate scientific performances of authors, articles, and journals.

Contents

1. Definition, scope, context, and evolution of the Scientometrics
2. Quantitative Scientometrics
3. Quantitative-qualitative indices
4. Scientific productivity
5. Citations
6. Immediacy index
7. Cited half-life
8. Citation per paper
9. H-Index; M-Index, G-Index
10. Journal Impact Factor
11. Journal Citation Reports
12. Cites, SNIP, SJR, Author map, Bibcouple, HitCite
13. VOSviewer, ISI Web of Knowledge
14. Scopus, Google Scholar
15. Altmetrics, ORCID, Crown indicators

Recommended Texts

1. Cairo, A. (2012). *The functional art: An introduction to information graphics and visualization*. Berkeley: New Riders.
2. Few, S. (2009). *Now you see it: Simple visualization techniques for quantitative analysis*. Oakland: Analytics Press.

Suggested Readings

1. Herman, I., Melancon, G., & Marshall, M. S. (2000). *Graph visualisation in information visualisation. A survey*. In Proceedings of Eurographics (pp.24-44). IEEE Transactions on Visualization and Computer Graphics.
2. Kerren, A., Stasko, J., Fekete, J. D., & North, C. (Eds.). (2008). *Information visualization: Human-centered issues and perspectives*. New York: Springer.
3. Spence, R. (2001). *Information visualization*. New York: Addison-Wesley.
4. Tufte, E. R. (2001). *The visual display of quantitative information*. Cheshire, CT: Graphics

Information visualization is the practice of giving a computer program a set of instructions for the abstraction and perceptualizing of large amounts of inherently non-spatial, unstructured bodies of complex data, with the goal of transforming raw information into visual form and actionable insights. The main objective of this course is to enable students to present information in an understandable, efficient, effective, and aesthetic manner. They will not only learn a basic understanding of information visualization steps including data selection, presentation, representation, and interaction but also the practical implementation of data visualization applications on different datasets.

Contents

1. Introduction & definition of information visualization
2. Functions and benefits, Methods & techniques, Critical visualization
3. Designing visualization, Application for designing visualization
4. Methods for designing visualization, Arranging tables & spatial data
5. Arranging networks and trees, Techniques & methods of big data
6. Effective ways of big data, Introduction to text and document visualization
7. Techniques & methods to text and document visualization
8. Narrative visualization, Small/large displays
9. Introduction to visualization software
10. Types of visualization software
11. Introduction to multidimensional data and graphical perception
12. Handling multidimensional data and graphical perception
13. Functions multidimensional data and graphical perception

Recommended Texts

1. Cairo, A. (2012). *The functional art: An introduction to information graphics and visualization*. Berkeley: New Riders.
2. Few, S. (2009). *Now you see it: Simple visualization techniques for quantitative analysis*. Oakland: Analytics Press.

Suggested Readings

1. Kerren, A., Stasko, J., Fekete, J. D., & North, C. (Eds.). (2008). *Information visualization: Human-centered issues and perspectives*. New York: Springer.
2. Spence, R. (2001). *Information visualization*. New York: Addison-Wesley.
3. Tufte, E. R. (2001). *The visual display of quantitative information*. Cheshire, CT: Graphics.

Informatics is the study of the structure, behaviour, and interactions of natural and engineered computational systems. Informatics studies the representation, processing, and communication of information in natural and engineered systems. It has computational, cognitive, and social aspects. This subject is aimed at enabling students of analysing and finding an alternative solution to information behaviour and interaction related problems. It will also teach them identifying measuring system performance. Additionally, it will develop in them the ability to combine the pieces of information and to formulate general rules while keeping one step ahead with new trends in the field

Contents

1. The nature of information, from information to informatics
2. What is information?
3. What is technology and information technology
4. How information contours decisions and experiences?
5. How to design information technology to provide equitable access to information
6. Human computer interaction
7. Informatics application in other fields
8. Health informatics
9. Biological informatics
10. Environmental informatics
11. Social informatics
12. Community informatics

Recommended Texts

1. Yatsko, A., & Suslow, W. (2015). *Insight into theoretical and applied informatics: Introduction to information technologies and computer science*. New York: Walter de Gruyter GmbH & Co KG.
2. Cervone, H. F. (2016). Informatics and data science: an overview for the information professional. *Digital Library Perspectives*, 32(1), 7-10.

Suggested Readings

1. Berleur, J., Nurminen, M. I., & Impagliazzo, J. (2006). *Social informatics: an information society for all*. Remembrance of Rob Kling, 223, 4962.
2. Beynon-Davies, P. (2002). *Information systems: an introduction to informatics in organisations*. Palgrave Macmillan.
3. Vijayakumaran, N. K. & Vinod Chandra S.S (2014). Informatics: PHI
4. Yatsko, V. A. (2018). Informatics, information science, and computer science. *Scientific and Technical Information Processing*, 45(4), 235-240.

Data science is the study of data. It involves developing methods of recording, storing, and analysing data to effectively extract useful information. The goal of data science is to gain insights and knowledge from any type of data — both structured and unstructured. The main aim of this course is to make the students understand the field of data science, including its basic principles and tools. This course will make them familiar with the process of data science including different stages of the work. It will also introduce to them some of the programming languages being used in the data science process, data modeling, ethical issues related to the privacy and security of data science.

Contents

1. Introduction to data science
2. Process of data science
3. Covering the framing problem
4. Data wrangling
5. Exploratory analysis
6. Data Modelling
7. Communicating results
8. Operationalize results
9. Programming languages
10. Types of languages used
11. Data Science and ethical issues (privacy, security and ethics)
12. Data Science applications and job trends

Recommended Texts

1. Cady, F. (2017). *The data science handbook*. New Jersey: Wiley and Sons.
2. Saltz, J. S., & Stanton, J. M. (2017). *An introduction to data science*. London: Sage Publications

Suggested Readings

1. Janssens, Jeroen. (2015). *Data science at the command line*. Beijing: O'Really.
2. Jeffrey S. S., & Jeffrey, M. S. (2017). *An introduction to data science*. London: SAGE Publications
3. Irizarry, R. A. (2019). *Introduction to data science: data analysis and prediction algorithms*. London: CRC Press.
4. Schutt, R., & O'Neil, C. (2013). *Doing data science: straight talk from the frontline*. Beijing: O'Reilly Media, Inc.

This course will enable students to understand the various philosophical theories, issues, and ideas that we address and apply those theories, issues, and ideas to problems in information policy and ethics. The course will develop among students the ability to examine and critique the arguments they encounter, and to bring original and creative ideas to bear on those arguments. By learning the course, they shall be able to apply key concepts concerning the relationship between power, knowledge, and information as well as shall be able to evaluate and debate information policy and ethics applicable in local, national, or global contexts. Moreover, they shall be able to apply core ethical principles to professional practice.

Contents

1. Evolution and scope
2. Theories of Information society
3. Intellectual freedom and censorship
4. Intellectual property & Copyright
5. Ownership and licensing
6. Meaning and value of information privacy
7. Accountability, and Government Surveillance
8. Secrecy, Security, and Hacking
9. Cybersecurity and cybercrime
10. Issues of information access and control
11. Right to information
12. The role of information professionals in information policy development
13. Impact of such policies on libraries and other information-intensive workplaces

Recommended Texts

1. Jaeger, P. T., & Taylor, N. G. (2019). *Foundations of information policy*. Chicago: American Library Association
2. Barbara Buckley Owen, Louise Cooke and Graham Matthews (2012). Information policymaking in the United Kingdom: The role of the information professional, *Journal of Information Policy*, 2, 51-78.
3. Sarah Holsen and Martial Pasquier. (2012). Insight on oversight: The role of information commissioners in the implementation of access to information policies. *Journal of Information Policy*, 2, 214-241.

Suggested Readings

1. Browne, M. (1997). The field of information policy: Redefining the boundaries and methodologies. *Journal of Information Science*, 23(5), 339-351.
2. Philip Ayoo and Japhet Otike, (2002). Factors hampering the formulation of National Information Policy in Kenya. *Library Review*, 51(7), 350-357.

This course intends to prepare university students as information literate, self-regulated, confident and lifelong learners. It will build students' understanding of information literacy as at once conceptual and process-oriented. It is an introductory course which prepares students for an ever-changing and digital information landscape so that they may be able to define their information needs, to identify, locate, access, evaluate, and use information effectively and efficiently in the digital era with ethical and legal considerations through the identification of right sources and utilization of right resources of information. The students will be allowed to have an interaction with different models and standards of information literacy to support them independence in determining needs and locating relevant information.

Contents

1. Fundamental concepts: Information literacy and other related literacies
2. Elements of information literacy
3. Need and importance; role in lifelong learning
4. Information literacy contexts: academia, workplace, and everyday life
5. IL Models: Big6™, Seven Pillars, E8, Information Search Process
6. Nested Model of Information anxiety: Framework of information anxiety.
7. ACRL Standards and framework of information literacy
8. Introduction to different search engines, meta search engines, and OPACs
9. Scholarly search engines: Google Scholar, Scopus and Web of Science
10. Scholarly communication in different subjects
11. Information credibility issues, fake news, alternative facts
12. Online Searching techniques and evaluation criterion
13. Referencing and style manuals; Citation Management using a software (EndNote; Mendeley, etc.)
14. Academic integrity, avoiding plagiarism, academic and scholarly writing
15. Intellectual property rights and freedom
16. Information ethics and policy issues
17. Information privacy and security issues; Fair use and sharing of information

Recommended Texts

1. Alewine, M. C., & Canada, M. (2017). *Introduction to information literacy for students*. Chichester: J. Wiley and Sons.
2. Badke, W. (2017). *Research strategies* (6th ed.). Bloomington: iUniverse.

Suggested readings

1. Burkhardt, J. M. (2016). *Teaching information literacy reframed: 50- framework-based exercises for creating information-literate learners*. Chicago: Neal-Schuman.
2. Miller, M (2015). *Computer basics absolute beginner's guide, windows 10 edition (includes content update program)* (8th ed.). Indianapolis: Que Publishing.



**MA
LIBRARY &
INFORMATION
SCIENCE**



The discipline of library science is one of the renowned areas of study. The library has been part and parcel of human society for recording, preserving and communication of human knowledge from individuals to individuals, communities to communities and generations to generations. Initially, the libraries were organized based on individuals' expertise and techniques which were unique at different places, which started traveling towards uniformity and common skill sets started being developed with the contact bindings of different human societies. From here onward, the discipline of library science started its journey as library economy as its starting point of nomenclature, then to be librarianship and then becoming library science during the 19th and 20th centuries. Hence, it has got its sound theoretical foundations and the students of graduate-level need must be exposed to theoretical foundations of the library science discipline and profession so that they understand the concepts, their applications, and problems that relate to their discipline. With this objective in mind, this course has been designed which will provide an opportunity for them to understand: 1) Philosophical and theoretical foundations of librarianship; 2) Role of library science professionals in Society; 3) Nature & development of librarianship as a profession, its education and ethics; 4) Theories, Models and Laws of library science

Contents

1. Philosophical foundations of library science
2. Purpose and role of library in society
3. Library laws / principles
4. Technical processing
5. Acquisition of library resources/ Collection development policy and practice
6. Role of classification systems in organization of library resources
7. Role of cataloguing in organization and retrieval of library resources
8. Stacks management and in-house services
9. Information services portfolio
10. Library and society, Library education, Library and education
11. Librarianship as profession
12. Documentation, Digital library; Hybrid library; Virtual library
13. Marketing of LIS, Bibliometrics, Future trends.

Recommended Texts

1. Feather, J. & Sturges, P. (Eds.). (2013). *International encyclopedia of information and library science*. (2nd ed.). London: Routledge
2. Idrees, H. (ed.). (2019). *Compiled readings on LS foundations*. Sargodha: the author [unpublished]

Suggested Readings

1. Rubin, R., Rubin, R. G., & Alire, C. A. (2020). *Foundations of library and information science*. Chicago: ALA.

Advanced students need to be exposed to the theoretical foundations of the information science discipline and profession so that they understand the concepts, their applications, and problems that relate to their discipline. With this objective in mind, this course will be taught in such a way that by the end of the course the students who meaningfully engage with course material, actively participate in class discussions and complete their required course work should have a good understanding of the:

- 1) Philosophical and theoretical foundations of information professionals' work;
- 2) Role of information science in society;
- 3) Nature of information profession, its education and ethics;
- 4) Theories, Models and Laws of information science

Contents

1. Philosophical foundations of IS (Philosophy, epistemology);
2. Purpose and role in society; Information society and Information sphere;
3. Information theory and Communication theory;
4. Information and knowledge management;
5. Information systems and services;
6. Information literacy and anxiety
7. Information ethics and policy;
8. Information governance; Informetric analysis and Informatics;
9. Economics of Information; Information sociology and Politology;
10. Information warfare; Future trends.

Recommended Texts

1. Feather, J. & Sturges, P. (Eds.). (2013). *International encyclopedia of information and library science*. 2nd ed. London: Routledge.
2. Feather, John (1994). *The Information Society*. London: Library Association Publishing, p.1-8.
3. Weber, Frank (2003). Information society. *Encyclopedia of library and information science*, 2nd ed. Vol. 2, p. 1338-1356.
4. Rubin, Richard E. (2004). *Foundations of library and information science*. New York: Neal-Schuman.

Suggested Readings

1. Baruchson-Arbib, Shifra & Bronstein, Jenny (2002). A view of the future of the Library and Information Science profession: A Delphi study. *Journal of the American Society for Information and Technology*, 53(5), 397-408.
2. Elizabeth Orna (2008). Information policies: Yesterday, today, tomorrow. *Journal of Information Science*, 34(4), 547-565.
3. Majid, S. (2018). Information management. In *Information education: Imperatives of the digital environment*. 246-276. Mauritius: Noor Publishing.
4. Anwar, M. A. (2016). To information management and beyond. *Pakistan Journal of Information Management & Libraries*, 17, 30-38.

The objective of this course is to brief the students about the worldwide history of the library and information science (LIS) education, professional growth and its development in Asia. It also discusses the local issues and international trends in library and information science development along with a brief discussion about the LIS education movement in Pakistan and the role of pioneers. It helps the students understand about the role of library and information science associations in professional development to make them able to recognize the journey towards research degrees like M. Phil and PhD in the library and information science in the country, which has resulted into an enormous enhancement in research contribution by Pakistani LIS professionals. It also aims to make the students aware of the prevailing landscape of LIS in Pakistan, so that they are able to grasp the intellectual gaps, which could guide them in identifying areas of research for the fulfillment of their degree requirements.

Contents

1. Worldwide History of LIS Education and its Development in Asia
2. Issues Faced by Asian Countries in the Development of LIS Education
3. International Trends in LIS Education,
4. Library Education Movement in Pakistan
5. Existing Libraries before and After Independence in Pakistan
6. Role of LIS Pioneers in the Development of LIS Education
7. Library Legislation in Pakistan,
8. Library Associations
9. Development of National Library of Pakistan, National Archive of Pakistan
10. Role of PLA in the Development of Profession in Pakistan
11. Development Public Libraries and Challenges
12. Development of School Libraries and Challenges
13. Distance Education in LIS
14. Development of LIS Education in KPK
15. M. Phil & PhD Education in LIS in Pakistan: Role of Library Schools
16. Foreign PhD in LIS during Early Period
17. Challenges and Opportunities in LIS in Pakistan

Recommended Texts

1. Malik, A. & Ameen, K. (2017). Library/information education in Pakistan. A comparison with IFLA guidelines. *Library Review*, 66(4/5), 297-309
2. Anwar, M.A. (1990). "Asa Don Dickinson: The founding father of modern librarianship in British India", in Dickinson, A.S. (Ed.) *Punjab Library Primer*. Lahore: Asia Book Center.

Suggested Readings

1. Anwar, M.A. (1990). "Towards the master's degree over a cup of tea", in Rehman, S.(Ed.), A treatise on library & Information Science in Pakistan, Lahore: PULSAA, [pp. 122-124].
2. Khurshid, A. (1992), "Library education in Pakistan: concerns, issues and practices", in Rehman, S. (Ed.), *A treatise on library & information science in Pakistan*. Lahore: PULSAA. [pp. 11-28].

The main objective of this course is to cover the basic concepts related to the quantitative research approach and methods. It will enable the students to understand how to identify relevant literature sources, conduct a literature review, abstracting the detailed documents in precise statements, being able to identify problems and write statements of the problem. It also aims on making students understanding and developing objectives and research questions. Further, it will help them to understand what sort of stats are required to be applied in data collection, coding and analyzing the quantitative data. The students will also be guided about report writing of the analyzed data. Both lecture and practical methods will be used. Students' participation will be encouraged to make the class interactive and conducive for learning.

Contents

1. Nature and purpose of research
2. Research problem
3. Review of literature
4. Survey research
5. Objectives and research questions
6. Hypothesis formulation
7. Sampling
8. Scale development
9. Experimental design
10. Content analysis
11. Descriptive statistics
12. Inferential statistics
13. Non-parametric statistics
14. Data analysis
15. Report writing
16. Ethical Issues in Research

Recommended Texts

1. Creswell, J. W. (2014). *A concise introduction to mixed methods research*. Los Angeles, CA: Sage.
2. Gay, L. R., Mills, G. E. & Airasiam, P. (2012), *Educational research: competencies for analysis and applications*. (10th ed.). Boston: Pearson.

Suggested Readings

1. Bryman, A. & Bell, E. (2011). *Business research methods* (3rd ed.). Oxford, UK: Oxford, University Press.
2. Cohen, L ; Manion, L & Morrison, K (2000). *Research methods in education* (5th ed.). London, RoutledgeFalmer.

LIS professionals need to research to add to the body of professional knowledge and to improve the working of their organizations. This course is designed to develop a basic understanding of qualitative research procedures relevant to a variety of situations. The course is designed to achieve the following objectives: 1) To develop an understanding of basic qualitative research approach, procedures and their application to the field of library and information sciences; 2) To make the students of M. Phil capable to understand and determine the situations where qualitative research approach and methods are more suitable than the quantitative research methods; 3) To develop in them the ability to collect, analyze and evaluate qualitative data effectively; applying suitable tools; and 4) To enable students to evaluate research done by others.

Contents

1. Introduction to qualitative research: Definitions, nature, and distinctive features
2. Differentiating qualitative research from quantitative research
3. Epistemological foundations;
4. Evaluation criterion for qualitative research
5. Nature of research design: Nonlinear and pyramid approaches
6. Qualitative research strategies: Phenomenology; Ethnography; Case study, Grounded theory
7. Sampling techniques in qualitative research
8. Interviewing and group discussion techniques: Interview, Focus group
9. Participant observation;
10. Field work and field notes: Laying the foundation and Beginning
11. Qualitative data analysis: Techniques and tools
12. Applied qualitative research;
13. Validity and reliability in qualitative research
14. Report writing

Recommended Texts

1. Gorman, G. E. & Clayton, P. (2005). *Qualitative research for the information professionals: a practical handbook*. (2nd ed.). London: Facet Publishing, 2005.
2. Creswell, J. W. & Creswell, J. D. (2017). *Research design: qualitative, quantitative, and mixed methods approaches*. London: Sage publications.
3. Creswell, J. W. & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. London: Sage publications.

Suggested Readings

1. Maxwell, J. A. (2005). *Qualitative research design: an interactive approach*. (2nd ed.). Thousand Oaks, CA: sage Publications.
2. Busha, C. A. & Harter, S. P. (1980). *Research methods in librarianship: techniques and interpretation*. San Diego: Academic Press.
3. Connaway, L. S. & Powell, R. R. (2010). *Basic research methods for librarians*. Santa Barbara: Libraries Unlimited

The main objective of this course is to prepare the students to understand, evaluate and write the articles, thesis and research report. This course aims on covering major problems, trends and developments in the field of library and information science; conducting a critical survey of current and classic research findings. Students also aim to develop their plans for the thesis subject to criticism by other students and faculty. Further, this course will develop the research skills of LIS students so that they could contribute to the body of professional knowledge and improve the working of their organizations. To achieve these objectives, a combination of instruction/lecture, class participation, and discussions will be used to carry out the course. Students will be expected to read extensively ahead of each class session and actively participate in discussions

Contents

1. Research – Introduction
2. Selection of Research Area / Topic
3. Identification/formulation of problems
4. Abstract: Content /types and Development of Abstract for research paper
5. Method of Technical Reading
6. Literature Review
7. Basic understanding of Research Methodologies / Design / Development of Appropriate tool.
8. Research objectives, limitation and delimitations
9. Drawing conclusion, citation and references
10. Report writing, formatting as per APA style,
11. Evaluation and publication: preparation of publication as per prescribed synopsis template
12. Instrument development
13. Validity and reliability of instrument
14. Research proposal for further research
15. Presentation and defense of proposal

Recommended Texts

1. Creswell, J. W. (2014). *A concise introduction to mixed methods research*. Los Angeles, CA: Sage.
2. Connaway, L. S. & Powell, R. R. (2010). *Basic research methods for librarians*. Santa Barbara: Libraries Unlimited

Suggested Readings

1. Creswell, J. W. (2014). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle, NJ : Pearson Education International
2. Sproull, N. L. (2002). *Handbook of research methods: A guide for practitioners and students in the social sciences*. Lanham, Md: Scarecrow Press.
3. American Psychological Association (2019). *Publication Manual of the American Psychological Association: (7th ed.)*. NYC: American Psychological Association.

The main aim of this course is the study is to make students aware of the utilization of computers and information communication technologies in the field of library and information sciences. It also covers the areas related to the use of computers in their data collection, analysis, and overall thesis writing using computers. It also contains the guidelines related to the American Psychological Association's manual of style for language and writing. The course makes students aware of main online databases and digital libraries as well as with advanced searching techniques being used for searching information in the databases.

Contents

1. Introduction to computer
2. Endnote reference management software
3. Statistical Package for Social Sciences
4. Microsoft Word
5. Generation of Table of Contents
6. Assigning 5 Levels of Heading
7. Database Searching
8. LISTAA
9. Scopus
10. ISI Web of Science
11. Emeraldinsight
12. ScienceDirect
13. Boolean Operators
14. Search Process
15. Literature Review Methods (descriptive and inferential)
16. Reference Styles (American Psychological Association's Manual)
17. Cite while you write in Endnote Software

Recommended Texts

1. Suzanne S. B. (2015). *Librarian's guide to online searching cultivating database skills for research and instruction*. London: Libraries Unlimited
2. Bernstein, J. (2020). *Computers made easy: from dummy to geek*. NYC: The author.
3. Connolly, P. (2007). *Quantitative data analysis in education: a critical introduction using SPSS*. London: Routledge.

Suggested Readings

1. Susan B. G. & Finn, K. V. (2005). *Using SPSS for windows data analysis and graphics*. New York: Springer
2. Melart, S. (2015). *Microsoft office 2016: the complete guide*. NYC: CreateSpace Publishing
3. Agrawal, A. (2009). *EndNote 1 - 2 - 3 easy: reference management for the professionals*. New York: Springer.

This course has been designed keeping in mind the application of marketing concepts to library and information services, e.g., market analysis, use of surveys, market targeting, market positioning, marketing audit, product life cycle & marketing research. This course aims to serve the objectives, like, introducing students with basic concepts of marketing; to introduce library & information products (goods and services) and product lines; to create awareness of marketing philosophies/evolution, and to make the students able to prepare effective and comprehensive marketing plans for information services. The course is also expected to develop an understanding of concepts (like, not limited to) market targeting/segmentation; business portfolio analysis/market positioning; environmental scanning (SWOT/PEST analyses), marketing mix; product-market metrics; and conducting marketing research.

Contents

1. Marketing basics: marketing defined, need, want, demand, supply, product, transaction, cost
2. Marketing basics 2: price, customer cost, customer & consumer
3. Customer value, customer satisfaction & customer loyalty
4. Marketing process
5. Strategic planning, levels of management, company and marketing strategy
6. Designing the business portfolio
7. Planning marketing: partnering to build customer relationships
8. Customer-driven marketing strategy
9. Managing the marketing effort, five marketing concepts / theories
10. LIS marketing: third party theory
11. Marketing information and customer insights, marketing information system
12. Marketing research
13. Environmental scanning: consumer markets and buyer behavior
14. Business markets and buyer behavior
15. Library marketing plan framework, market targeting & positioning
16. Products, services, and brands, services marketing
17. Library product lines, new product development
18. Pricing, Promotion

Recommended Texts

1. Kotler, P., Armstrong, G. (2018). *Principles of marketing*. (17th ed.). Harlow, England: Pearson
2. Rowley, J. E. (2019). *Information marketing*. London: Routledge.

Suggested Readings

1. Andreasen, A. R. & Kotler, P. (2003). *Strategic marketing for nonprofit organizations*. Upper Saddle River, NJ: Prentice Hall.
2. Idrees, H. & Rehman, A. (2009). Preparing a winning marketing plan for your library. *Pakistan library & Information Science Journal*, 40 (2), 13-22.

One of core areas of information management is being identified in the form of this course, which is expected to develop essential competencies for any level professional in the library and information sciences. An emphasis has been placed on the applied aspect of library education. To create an understanding among the students about information dynamics and its relativity with the body of knowledge, this course has been designed. The objective of the course is to inculcate skills among students for evaluation, interpretation and use of information and documents in various forms. Another purpose of the course is to develop skills among students for the organization of information sources and documents. Assignments/projects and practice sessions have been included in all the courses where practical work is a requirement; the same is here with this course.

Contents

1. Index, Introduction, Meaning, concepts, and explanation
2. Nature of Information, Information age,
3. Natural Phenomenon,
4. Basic Resources
5. The organization of Information, Information Cycle and Information Retrieval Model,
6. Vocabulary Control
7. Types of Indexes, Alphabetical, Author, Book, Citation, Classified, Hypermedia, internet
8. Indexing Process, Aboutness and Steps in indexing
9. Abstract, Introduction, Definition, Concept and Explanation
10. Types of Abstracts, Indicative abstracts, Informative abstracts, and Structured abstracts.
11. The Abstracting Process
12. Coverage
13. Steps in Abstracting
14. Editing of abstract
15. The writing process abstract
16. Indexing and abstracting services
17. Indexing, abstracting and the internet

Recommended Texts

1. Cleveland, D. B. & Cleveland, A. D. (2013). *Introduction to indexing and abstracting*. Littleton, Colo: Libraries Unlimited.
2. Lancaster, F. W. (2003). *Indexing and abstracting in theory and practice*. Champaign, Illinois: University of Illinois.

Suggested Readings

1. Perlman, J. (2016). *Indexing tactics and tidbits: an A to Z guide*. Medford, NJ: Information Today, INC.
2. Moens, M. F. (2000). *Automatic indexing and abstracting of document texts*. Boston: Kluwer Academic Publishers

The information superhighway has changed the landscape of our lives. Information is being produced at such a volume since the inception of information technology (IT) that it has become too difficult to give a count because it is changing every moment. Then merger of communication technologies with information technology, known as information & communication technology (ICT) has accelerated the communication of produced information millions of folds, transforming the whole globe into a global village. In such circumstances, when, it is perceived that all information of the world should be available online, it seems necessary to have skills of retrieving online information which could help us retrieving the right information at right time, employing the right resources. This is why this course has been designed. The objective of this course is to get students to know about the process of online information retrieval. This subject will develop an understanding of various information retrieval standards and models. It also discusses web information retrieval and semantic web technologies. The students, after going through this course, are expected to be in a strong position to guide the information users to get their required correct and accurate information efficiently and effectively from the information sources that are available online.

Contents

1. Introduction to Online Information Retrieval System
2. Database Technology
3. Vocabulary Control
4. Online Searching & Retrieval
5. Information Retrieval Models
6. Users of Information Retrieval Systems
7. User's Centered Models of Information Retrieval
8. User's Interfaces
9. Cataloguing & Metadata
10. CD-ROM Retrieval
11. Dublin Core Elements
12. Web Information Retrieval
13. Web Search & Web Crawlers
14. Semantic Web Technologies

Recommended Texts

1. Cowdury, G.G. (2004). *Introduction to modern information retrieval*. London: Facet Publication.
2. Rowley, J, & Farrow, J. (2006). *Organizing knowledge*. (3rd ed.). London: Ashgate.
3. Forrester, W.H. & Rowlands, J. L. (2000). *The online searcher's companion*. London: Library Association Publishing.
4. Bajpai, S.K. (1999). *Modern information retrieval*. New Delhi, India: Ess Ess Publications.

Suggested Books

1. Khan, S.A. and Bhatti, R. (2018). Semantic Web and ontology-based applications for digital libraries: An investigation from LIS professionals in Pakistan. *The Electronic Library*, 36 (5), 826-841. [<https://doi.org/10.1108/EL-08-2017-0168>]

Knowledge management (KM) is the field of managing human knowledge, mainly in the corporate sector perspective addressing two major types of knowledge, i.e., Tacit and Explicit Knowledge. Tacit knowledge is simply the knowledge that is embedded in persons and not accessible without sources (generally, persons). Explicit knowledge is the type of knowledge that has been recorded in any form and can be accessed without the original source (the creator) of knowledge. This course has been designed for the graduate program of Library and Information Sciences to make the students aware with major areas of KM so that they can serve the libraries, information resource centers and corporate organizations as knowledge workers, knowledge officers and later knowledge managers. These major areas include Introduction to knowledge management; Knowledge management cycle; Knowledge management models; Knowledge capture and codification; Knowledge sharing and communities of practice; Transfer of best practices. Role of organizational culture; Knowledge management tools. KM strategy and metrics; KM team; and Future challenges for KM.

Contents


1. Knowledge defined; knowledge characteristics
2. Defining KM: business perspective; cognitive science; process/technology perspective
3. KM overview & objectives of KM; multidisciplinary nature of KM
4. Knowledge pyramid / hierarchy, Kinds of knowledge, Key attributes of KM; rationale for KM
5. History of knowledge management
6. Three major components of KM; common myths about KM
7. KM Process; KM system life cycle
8. Challenges in Building KM Systems
9. Knowledge team, Knowledge management models
10. Role of KM in library and information centers
11. KM System testing/deployment & KM system post implementation review
12. Knowledge transfer fundamentals & factors in knowledge transfer
13. Prerequisites for knowledge transfer
14. Organizational values and beliefs; employee job satisfaction and stability of workplace
15. Transfer methods; inhibitors of knowledge transfer; type of transferred knowledge
16. Knowledge transfer in E-World

Recommended Texts

1. Kirmiz, D. (2017). *Knowledge management in theory and practice*. (3rd ed.). Boston : Elsevier/Butterworth Heinemann.
2. Elias M. Awad. (2010). *Knowledge management*. (2nd ed.). Upper Saddle River, N.J.: Prentice Hall

Suggested Readings

1. Desouza, K. C. & Paquette, S. (2011). *Knowledge management : an introduction*. NYC: Neal-Schuman Publishers
2. Idrees, H. (ed.). (2019). *Compiled readings on LS foundations*. Sargodha: the author [unpublished].



PhD
LIBRARY &
INFORMATION
SCIENCE



The main objective of this course is to cover the basic concepts related to quantitative, qualitative and mixed methods research. It will enable the students to do ascertain an advanced level of knowledge on all three major approaches of research, i.e. quantitative, qualitative and mixed methods. It is necessary for the doctoral students to have a clear understanding with maximum possible details of the methods that are adopted and applied while conducting research. What kind of method is suitable for what sort of phenomenon and circumstance is the first step that should be conceptualized towards a right and valuable research contribution that can potentially guide towards increment in the body of knowledge and development in the field. This course has been designed to fulfill this purpose and make the students conceptually strong enough to take the right decisions for their research projects/dissertations. Both lecture/instruction and active individual and cumulative group participation of the students is used to serve the aim. Student participation not only is encouraged but made it necessary to make the class interactive and conducive for learning.

Contents

1. Nature and purpose of research
2. Research problem,
3. Review of literature
4. Survey research
5. Objectives and research questions
6. Hypothesis formulation
7. Sampling
8. Scale development, e.g., Interview, Observation, Content analysis
9. Experimental design
10. Grounded theory designs
11. Descriptive statistics & Inferential statistics
12. Non-parametric statistics
13. Quantitative data analysis (use of SPSS)
14. Qualitative approaches, application and data analysis using NVivo
15. Mixed method approaches and steps in conducting mixed method research
16. Report writing

Recommended Texts

1. Creswell, J. W. & Creswell, J. D. (2017). *Research design: qualitative, quantitative, and mixed methods approaches*. London: Sage publications.
2. Gay, L. R., Mills, G. E. & Airasiam, P. (2012), *Educational research: competencies for analysis and applications* (10th ed.). Boston: Pearson.

Suggested Readings

1. Creswell, J. W. & Creswell, J. D. (2017). *Research design: qualitative, quantitative, and mixed methods approaches*. London: Sage publications.
2. Cronk, B. C. (2019). *How to use SPSS®: A step-by-step guide to analysis and interpretation*. Routledge.

This course aims on comparative analysis of managerial philosophies and practices with a special reference to attitudes, motivation, problem-solving, decision making, organization theory, human relations, etc. the course also covers the areas ranging planning methodology; organization structures; the library system; management of the library; personnel management; human relations in management, staffing, staff development, applications of systematic techniques to libraries and information organizations; evaluation of library and information center procedures and services; performance testing; cost-benefit analysis; financial management. The course overviews the outcome in the form of: 1) initiating understanding of functions of management and their underlying theoretical concepts; 2) to understand how these functions can be applied to efficiently manage information centers and to provide effective library and information services.

Contents

1. Introduction to management, Classical to modern theories of management
2. History of management
3. Styles of management
4. Organizational design
5. Human resource development
6. Human resources management
7. Management of libraries and information centers
8. Planning in libraries and information centers
9. Team working and conflict handling
10. Financial management
11. Change and innovation management
12. Leadership
13. Managing collection development
14. Marketing and promotion of LIS
15. Types of Management

Recommended Texts

1. Griffin, R. W. (2013). *Management*. 20th ed. Boston, MA : Cengage Learning
2. Moniz, R. J. (2010). *Practical and effective management of libraries: Integrating case studies, general management theory and self-understanding*. Oxford: Chandos

Suggested Readings

1. Stueart, R. D. & Moran, B. B. (2007). *Library and information center management*. (7th ed.). London: Westspot.
2. Arendse, B. (2017). *Human resource management in libraries*. Valley Cottage, NYC: Scitus Academics.
3. Popat, K. (2013). Themes of Management Theory. *International Journal of Research in Humanities and social sciences*, 1(4), 53-55..

The information superhighway has changed the landscape of our lives. Information is being produced at such a volume since the inception of information technology (IT) that it has become too difficult to give a count because it is changing every moment. Then merger of communication technologies with information technology, known as information & communication technology (ICT) has accelerated the communication of produced information millions of folds, transforming the whole globe into a global village. In such circumstances, when, it is perceived that all information of the world should be available online, it seems necessary to have skills of retrieving online information which could help us retrieving right information at right time, employing the right resources. This is why this course has been designed. The objective of this course is to get students to know about the process of online information retrieval. This subject will develop an understanding of various information retrieval standards and models. It also discusses web information retrieval and semantic web technologies. The students, after going through this course, are expected to be in a strong position to guide the information users to get their required correct and accurate information efficiently and effectively from the information sources that are available online.

Contents

1. Introduction to Online Information Retrieval System
2. Database Technology
3. Vocabulary Control
4. Online Searching & Retrieval
5. Information Retrieval Models
6. Users of Information Retrieval Systems
7. User's Centered Models of Information Retrieval
8. User's Interfaces
9. Cataloguing & Metadata
10. CD-ROM Retrieval
11. Dublin Core Elements
12. Web Information Retrieval
13. Web Search & Web Crawlers
14. Semantic Web Technologies

Recommended Texts

1. Cowdury, G.G. (2004). *Introduction to modern information retrieval*. London: Facet Publication.
2. Rowley, J. & Farrow, J. (2006). *Organizing knowledge*. (3rd ed.). London: Ashgate.
3. Forrester, W.H. & Rowlands, J. L. (2000). *The online searcher's companion*. London: Library Association Publishing.
4. Bajpai, S.K. (1999). *Modern information retrieval*. New Delhi, India: Ess Ess Publications.

Suggested Books

1. Khan, S.A. and Bhatti, R. (2018). Semantic Web and ontology-based applications for digital libraries: An investigation from LIS professionals in Pakistan. *The Electronic Library*, 36 (5), 826-841. [<https://doi.org/10.1108/EL-08-2017-0168>]

The main aim of this course is to clarify the concepts of Digital, virtual, electronic, automated and hybrid libraries. It also explains the scope of the digital library by introducing the advantages and disadvantages of the digital library. This course will train the students in writing an effective proposal for digital library development and will develop an understanding of intellectual property rights, metadata standards & Dublin Core with other metadata standards. Further, it will introduce with digitization process and related technologies by providing practice-based training in using digital library software. This subject will also develop digital skills among students for developing & managing digital libraries

Contents

1. Basic Concepts: Digital, Virtual, Electronic, Automated, Hybrid Libraries
2. Scope of Digital Library
3. Advantages & Disadvantages of Digital Libraries
4. Effective Proposal Writing for Digital Library Development
5. Intellectual Property Rights
6. Metadata & Standards
7. Dublin Core
8. Digitization Procedure
9. Introduction to Digital Library Software
10. Practice Based Training: Digital Library Software
11. Access to Digital Library
12. Future of Digital Libraries & Digital Library Services
13. Issues Related to Digital Library Development
14. Digital Competencies for Developing & Managing Digital Libraries
15. Barriers in Developing Digital Skills
16. Practical Solutions to Overcome the Barriers

Recommended Texts

1. Xie, I, & Matusiak, K. K. (2016). *Discover digital libraries: theory and practices*. Amsterdam: Elsevier.
2. Calhoun, K. (2014). *Exploring digital libraries: Foundations, practice, prospects*. London: Facet.

Suggested Readings

1. Rafiq, M. and Ameen, K. (2012). "Digitization in university libraries of Pakistan", *OCLC Systems & Services: International Digital Library Perspectives*, 29(1), 37-46.
2. Khan, S.A. Bhatti, R. (2017). Digital competencies for developing and managing digital libraries: an investigation from university librarians in Pakistan. *The Electronic Library*, 35(3), 573-597.

Information administrators operate in a world of constant change. The ability to manage that change requires learning about key organizational competencies and about working with and for others. This course focuses on key management concepts, processes, and aspects. It also includes human resource management role of information professionals in libraries and information centers regarding planning, staffing, motivating, and communicating in the context of not-for-profit organizations (libraries).

Contents

1. Need for HRM
2. Theoretical approaches to HRM, trends, and developments
3. Human resources management-roles and responsibilities
4. HRM challenges in the twenty-first century
5. Legal issues in HRM
6. Human resources planning
7. Job description, design, and analysis
8. Recruitment and selection
9. Employee orientation and socialization
10. Training and development
11. Performance management
12. HR's role in setting a climate for people development
13. Performance appraisal: Benefits and challenges
14. Appraisal methods, Designing and administering benefits
15. Types of benefits, Managing compensation
16. Types of compensation, Rewarding performance
17. Pay for performance, Creating a safe work environment
18. Establishing a positive work environment
19. Managing employee relations

Recommended Texts

1. Boxall, P. F., Purcell, J. & Wright, P. M (Eds). (2008). *The Oxford handbook of human resource management*. Oxford: Oxford University Press.
2. Dessler, G. (2017). *Human resource management* (15th ed.). Edinburgh Gate, England: Pearson.
3. Dessler, G., Chhinzer, N. & Gannon, G. (2019). *Management of human resources: the essentials* (5th ed.). Toronto, Canada: Pearson Education Limited.
4. Mathis, R. L., Jackson, J. H., Valentine, S. R. & Meglich, P. (2016). *Human resource management* (14th ed.). Boston: Cengage Learning.

Suggested Readings

1. Paauwe, J. (2004). *HRM and performance: Achieving long term viability*. Oxford: Oxford University Press.
2. Schuler, R. S. & Jackson, S. E. (2012). *Strategic human resource management* (2nd ed.). New Delhi: Wiley Blackwell.

Information professionals need to understand and study the information behavior of their clients to develop information resources and provide needed services. This course is designed to achieve the following goals: 1) To develop an understanding of the nature data, information and knowledge; 2) To develop an understanding of the concept of information behavior; 3) To study selected models and theories of information behavior; 4) To review the methodologies used by information behavior researchers; and 5) To understand the role of emotion, cognition and learning theory in information seeking.

Contents

- 1 Nature of data, information, knowledge and behavior;
- 2 Fundamental Concepts
- 3 Varied perspective of information behavior: Affective, social, etc.
- 4 Types and characteristics of information use and users;
- 5 Models of information behaviors
- 6 Theories of information behavior;
- 7 Collaborative information behavior
- 8 Methodologies used in studying information behavior;
- 9 Role of emotion, cognition and learning theory in information behavior
- 10 New dimensions of information behavior research
- 11 Information behavior research in Pakistan

Recommended Texts

1. Ford, N. (2015). *Introduction to information behaviour*. London: Facet Publishing.
2. Case, D. O. (2002). *Looking for information: a survey of research on information seeking, needs, and behavior*. Amsterdam: Academic Press.

Suggested Readings

1. Chelton, M. K. & Cool, C. (2006). *Youth information-seeking behavior: theories, models, and issues*. Lanham, MD: Scarecrow Press.
2. Rubin, R. E. (2005) *Foundations of library and information science*. New York, NY: Neal-Schuman. (p. 40-42).
3. Naveed, M. A., Anwar, M. A., & Bano, S. (2012). Information seeking by Pakistani farmers: A review of published research. *Pakistan Journal of Information Management and Libraries*, 13(1)..
4. Wilson, T. D. (1999). Models in information behaviour research. *Journal of documentation*, 55(3), 249-270.

This course is intended for students' understandings for information literacy instructions as at once conceptual and process-oriented. Students will explore the instructional roles of librarians and library services; the concept of user education (information literacy), its evolution within libraries, and its relevance to librarianship; varying instructional approaches to information literacy; and instructional design principles and learning theories that can inform effective library instructional services. Participants will also apply their growing knowledge to developing their teaching practices. After completing this course, students should gain: 1) Familiarity with varying IL conceptions, models, standards, and frameworks; 2) Recognition various instructional roles librarians play in varying information environments and contexts; 3) Development of a general understanding of instructional design principles (e.g. backward design, outcomes, instructional scaffolding, and learning assessment) 5) Development of working knowledge of teaching methods and learning theories which can inform your instruction of information literacy and 5) Reflection on an emerging or current teaching style and philosophy and its influence on IL instructions.

Contents

1. Defining information literacy; Various conceptions; IL and Other related literacies; IL Elements;
2. Need and importance; Role in life-long learning;
3. Information literacy contexts: academia, workplace, and everyday life;
4. Theorems of information literacy;
5. Models of information literacy: Big6™, ISP, Seven Pillars, and Empowering 8;
6. IL competency standards and framework for higher education;
7. Development of information literacy program: Guidelines, Action plan, and Best practices;
8. IL instruction management; Learning theories & styles;
9. Learning assessment; Information anxiety: Concept and implications for information literacy;
10. IL at the crossroads of educational and information policies: policy perspective;
11. Survey of IL Research Methods;
12. IL development in Pakistan; Challenges and opportunities for IL instruction in Pakistan.

Recommended Texts

1. Inskip, Charles. (2019). *Theories and practices in information literacy*. London: Facet Publishing.
2. Lloyd, Annemaree. (2019). *Information literacy research: core approaches and methods*. London: Facet Publishing.
3. Forster. M. (Ed.). (2017). *Information literacy in the workplace*. London: Facet Publishing.

Suggested Readings

1. Jesús Lau (2006). *Guidelines on information literacy for lifelong learning*. Mexico: IL section, IFLA.
2. Naveed, M. A., & Anwar, M. A. (2019). Development of information literacy in Pakistan: Background and research. *Pakistan Library and Information Science Journal*, 50(2).

This course has been designed to develop a clear understanding of following broad areas: Leadership theory, principles and practices; Communication and diversity in organizations and concept of a global society; Recurring professional and leadership issues within the local, national, and international structure of the library and information profession; Relationship and differences between leadership and management. The course covers the following renowned leadership theories: 1) Participative theory; 2) Trait theory; 3) Great man theory; 4) Relational/Leader-Member Exchange (LMX) leadership theory; 5) Contingency theory; 6) Situational theory; and 7) Behavioral theory. The course also concludes the qualities of an ideal leader and their application in the field of LIS. This course serves to provide outcomes in the form of: 1) introducing the concepts and practice of leadership; 2) developing an understanding of different leadership theories; 3) developing a comprehensive understanding of leadership theories, their comparison, implications & implementation with special reference and implications to LIS; and 4) understanding of relationship and differences between leadership and management.

Contents

1. Leadership theory, principles and practices
2. Communication and diversity in organizations and concept of a global society
3. Recurring professional and leadership issues
4. Relationship and differences between leadership and management
5. Leadership Theories:
6. Participative theory
 - a. Trait theory
 - b. Great man theory
 - c. Relational/Leader-Member Exchange (LMX) leadership theory
 - d. Contingency theory
 - e. Situational theory
 - f. Behavioral theory
7. The qualities of an ideal leader and their application in the field of LIS

Recommended Texts

1. McLaughlin, C. P., & Kunk-Czaplicki, J. A. (2020). Leadership: Theory and Practice by Peter G. Northouse. *Journal of College Student Development*, 61(2), 260-261.
2. Northouse, P. G. (2019). *Leadership: theory and practice*. Los Angeles: Sage.
3. Stueart, R. D. and Moran, B. B. (2007). *Library and information center management*. (7th ed). Westport, Conn. : Libraries Unlimited.

Suggested Readings

1. Winston, M. (2013). *Leadership in the library and information science professions: theory and practice*. London: Routledge.
2. Arendse, B. (2017). *Human resource management in libraries*. Valley Cottage, NYC: Scitus Academics.

This course is aimed at enabling students to learn the use of computers in conducting and writing their researches. It makes students aware of the utilization of computers and information communication technologies in the field of library and information sciences. It also covers the areas related to the use of computers in their data collection, analysis, data representation (graphs, tables, and tables of contents generation) and overall thesis writing using computers. It also contains the guidelines related to the American Psychological Association's manual of style for language and writing. The APA manual of style is followed for writing thesis and research papers. Teaching reference management and cite while you write software are also included in the course. Moreover, the course makes students capable of doing advanced searching in online databases and digital libraries.

Contents

1. Introduction to research and computer
2. Use of computer in research
3. Endnote reference management software
4. Statistical Package for Social Sciences software
5. Microsoft Word
6. Microsoft Excel
7. VosViewer visualization software
8. Generation of Table of Contents
9. Assigning 5 Levels of Heading
10. Database Searching
11. LISTAA
12. Scopus
13. ISI Web of Science
14. Emeraldinsight, ScienceDirect, Mosby, HEC digital library
15. Boolean Operators
16. Search Process
17. Doing a Literature Review (systematic and descriptive)
18. Reference Styles
19. Cite while you write in Endnote Software

Recommended Texts

1. Suzanne S. B. (2015). *Librarian's guide to online searching cultivating database skills for research and instruction*. London: Libraries Unlimited
2. Bernstein, J. (2020). *Computers made easy: From dummy to geek*. Washington: The author.
3. Agrawal, A. (2009). *EndNote 1 - 2 - 3 Easy: Reference Management for the Professionals*. New York: Springer.

Suggested Readings

1. Susan B. G. & Finn, K. V. (2005). *Using SPSS for Windows Data Analysis and Graphics*. New York: Springer

The main objective of this course is to understand the principles, roles, approaches and technical standards in the organization of information developed over the last several decades. This course aims to cover the concepts of the organization of information; cognitive organization of information; abstracting and indexing services; natural language vs. controlled vocabulary; classification systems; subject headings & thesauri; organizing digital collections; cataloging (description & access points); machine-readable catalog (MARC) formats; authority control; online cataloging (OCLC perspective). Both lecture and practical methods are used. Students are participation encouraged and motivated to make the class interactive and conducive for learning, through discussions, assignments and presentations.

Contents

1. Overview of the organization of information
2. Cognitive organization of information
3. Indexing
4. Abstracting
5. Natural language
6. Controlled vocabulary
7. Classification systems
8. Subject headings & thesauri
9. Organizing digital collections
10. Cataloging (Description & access points)
11. MARC formats
12. Dublin core
13. RDA
14. Authority control
15. Online cataloging (OCLC)
16. Bibliographies.

Recommended Texts

1. Joudrey, D. N., Taylor, A. G. & Wisser, K. M. (2017). *The organization of information*. (4th ed.). Santa Barbara, California: Libraries Unlimited.
2. Chan, L. M. & Salaba, A. (2015). *Cataloguing and classification: an introduction*. (4th ed.). Lanham: Rowman & Little field Publishers.

Suggested Readings

1. Joudrey, D. N., Taylor, A. G., & Miller, D. P. (2015). *Introduction to cataloging and classification* (11th ed.). Santa Barbara, California: Libraries Unlimited.
2. Chowdhury, G. G., & Chowdhary, S. (2007). *Organizing information: from the shelf to the web*. London: Facet Publishers.
3. Rowley, J. E., & Farrow, J. (2008). *Organizing knowledge: an introduction to managing access to information* (4th ed.). Aldershot: Ashgate Publishing Limited.

The main objective of this course is to prepare the students how to understand, evaluate and write the articles, thesis and research report. This course will cover major problems, trends and developments in library and information science. A critical survey of current and classic research findings. Students will develop their plans for the thesis subject to criticism by other students and faculty. Further, this course will develop the research skills of LIS professionals so that they could contribute to the body of professional knowledge and improve the working of their organizations. To achieve this objective, a combination of lecture, class participation, and discussions will be used to conduct the course. Students will be expected to read extensively ahead of each class session and actively participate in discussions

Contents

1. Research – Introduction
2. Selection of Research Area / Topic
3. Identification/formulation of problems
4. Abstract: Content /types and Development of Abstract for research paper
5. Method of Technical Reading
6. Literature Review
7. Basic understanding of Research Methodologies / Design / Development of Data tool.
8. Research objectives, limitation and delimitations
9. Drawing conclusion, citation and references
10. Report writing, formatting as per APA style,
11. Evaluation and publication, preparation of research publication
12. Instrument development
13. Research proposal for further research

Recommended Texts

1. Creswell, J. W. (2014). *A concise introduction to mixed methods research*. Los Angeles, CA: Sage.
2. Connaway, L. S., & Powell, R. R. (2010). *Basic research methods for librarians*. Santa Barbara: Libraries Unlimited

Suggested Readings

1. Creswell, J. W. (2014). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle, NJ : Pearson Education International
2. Sproull, N. L. (2002). *Handbook of research methods: A guide for practitioners and students in the social sciences*. Lanham, Md: Scarecrow Press.
3. American Psychological Association (2019). *Publication Manual of the American Psychological Association: 7th Edition*. USA: American Psychological Association.

Information professionals need to be familiar with information policy concepts and issues including the processes through which information policy and legislation are created in Pakistan, individual policies that influence information creation, access and use and the role of information professionals in information policy development. This course is designed as a policy primer to develop a basic understanding of information policy-related concepts, issues and procedures relevant to a variety of situations. After completing this course, students who meaningfully engage with course material, actively participate and complete their required course work should be able to: 1) Evince an awareness of the government policies that shape the information lifecycle; 2) Discuss the role of national information policy and its relationship to international as well as organizational information policies; 3) Evaluate individual policies in Pakistan which influence information creation, access and use; 4) Explain the role of information professionals in information policy development at the national, international and organizational levels.

Contents

1. Introduction to information policy: Nature, scope, and historical background
2. International, national, and organizational information policies
3. Theories of the information society; Trends and issues in information policy;
4. Telecommunications policy; Information governance
5. Cybersecurity and cybercrime;
6. Intellectual freedom and censorship (free expression vs blasphemy and hate speech),
7. Information Privacy (social media, comparison of US vs European and Asian practices);
8. Information Security and secrecy (government spying and surveillance
9. Freedom of information, denial of service attacks, acceptable use policies);
10. e-government (e-commerce and regulations, citizen access to services through the Internet);
11. Intellectual property (copyright, ownership and licensing);
12. Right and access to information;
13. Public records and open government; Open government and open data;
14. Role of information professionals in information policy development
15. Factors hampering the formulation of National Information Policy

Recommended Texts

1. Jaeger, P. T. & Taylor, N. G. (2019). *Foundations of information policy*. Chicago: American Library Association.
2. Cornelius, I. (2010). *Information policies and strategies*. London: Facet Publishing.

Suggested Readings

1. Sandra Braman (2011). Defining information policy. *Journal of Information Policy*, 1, 1-5.
2. Braman, S. (2006). An introduction to information policy. In *Change of state: Information, policy, and power*, pp. 1-8. Cambridge, MA: MIT Press.
3. Elizabeth Orna (2008). Information policies: Yesterday, today, tomorrow, *Journal of Information Science*, 34(4), 547-565.