

KHUSHAL KHAN KHATTAK UNIVERSITY KARAK



SELF ASSESSMENT REPORT

DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE

June, 2024

TABLE OF CONTENTS

	Page No.
Introduction	4

University Vision	4
University Mission Statement	4
Department of Library & Information Science	4
Program Selected	5
Program Evaluation	5
Criterion -1: Program Mission, Objectives and Outcomes	6
Standard 1.1	7
Standard 1.2	11
Standard 1.3	13
Standard 1.4	14
Performa 7	16
Criterion-2: Curriculum Design and Organization	17
Standard 2.1	18
Standard 2.2	23
Standard 2.3	24
Standard 2.4	24
Standard 2.5	24
Standard 2.6	24
Criterion-3: Laboratory and Computing Facilities	25
Standard 3.1	26
Standard 3.2	27
Standard 3.3	28
Criterion-4: Student Support and Advising	29
Standard 4.1	30
Standard 4.2	30
Standard 4.3	30
Criterion-5: Process Control	32
Standard-5.1	33
Standard 5.2	33
Standard 5.3	34
Standard 5.4	36
Standard 5.5	36
Criterion-6: Faculty	37
Standard 6.1	38
Standard 6.2	38

Standard 6.3		39
Criterion-7: Institutional Facilities		40
Standard 7.1		41
Standard 7.2		41
Standard 7.3		41
Criterion-8: Institutional Support		42
Standard 8.1		43
Standard 8.2		43
Standard 8.3		43
Annexures		
Annexure I	Faculty Resumes	46
Annexure II	Faculty Survey	59
Annexure III	Teacher Evaluation	60
Annexure IV	Student Course Evaluation	63
	Questionnaire	
Annexure V	Curriculum of the Program	71

Introduction

Khushal Khan Khattak University Karak was established in 2012. The university has been a dream of the populace, realized in the form of this University, named after the legendary Khushal Khan Khattak. The University provisionally started functioning in the old building, previously occupied by the revenue academy. The building of revenue academy was in deplorable condition, which has been renovated by spending a huge amount. Site for the construction of the University campus near Jail Chowk Karak, is finalized. At present nine departments have been started in the campus namely, Department of Education & Research, Management Sciences, Computer Sciences & Bioinformatics, Media & Communication Studies, Library & Information Sciences, English, Geology and Physics.

University Vision Statement

Competitive and conducive environment for research, discovery and learning.

University Mission Statement

To make university a place emanating knowledge, exhibiting liberty of thought and coveted seat of learning, to infuse spirit of excellence, creativity, innovation and scholarship into the life of the university. To offer competitive and nationally recognized, opportunities for research, discovery, learning and engagement to a diverse population of students in a conducive environment.

Department of Library & Information Science

Department of Library and Information Science (DLIS), Khushal Khan Khattak University Karak was established in April, 2015, Currently the department offers the following programs.

- 1. Bachelor of Science in Library & Information Science (BS-LIS) - 4 Year Program*
- 2. Master of Philosophy in Library & Information Science (M.Phil-LIS) - 2 Year Program*
- 3. Doctor of Philosophy in Library & Information Science (Ph.D-LIS) - 2 Year Program*

The department has also the honor for taking on board highly qualified faculty including the four PhD's and two numbers of M. Phil teaching staff.

Program Selected

The Department of Library & Information Science has selected the program of BS-Library and Information Science (BS LIS) for Self-Assessment Report (SAR) for the year 2024-25 under the directives of HEC.

Program Evaluation

The program is being evaluated based on eight (8) criterion and thirty one (31) standards as given in the Self-Assessment Manual provided by Higher Education Commission (HEC).

Criterion - 1
Program Mission, Objectives and
Outcomes

Standard 1.1

The program must have documented measurable objectives that support Faculty / College and institution mission statements:

Department Vision

The Department of Library and Information Science, KKKUK will expand its leadership role in preparing information professionals to meet the needs of global information society. LIS graduates will continue to serve as intermediaries between information and information seekers, as well as serve crucial roles in a wide variety of settings with increasingly sophisticated technological tools. The diverse faculty of LIS will contribute individual strengths to increase the quality of teaching, research, and service that will boost the department as a center of excellence in near future.

Department Mission

The department of Library and Information Science (DLIS) provides and supports resources, research, and service for education and leadership to the library and information sciences community and prepares information professionals of the highest quality to serve dynamic roles in the state, nation, and the world.

Department Objectives:

The department of Library and Information Khushal Khan Khattak University, Karak has the following objectives:

1. To prepare the professional librarians in the field of Library and Information Science.
2. Preparing the prospective librarian for changing the traditional and obsolete methods and techniques to new one in the field of librarianship.
3. To prepare the prospective librarians and knowledge managers to play their role in the enhancement of readership rate in the province, country and abroad.
4. To further compete and contribute in the field of Library and Information discipline in effective manner.
5. To produce highly skilled men power for the academic development of LIS profession.

Strategic Plan for Achieving Program Objectives:

1. Curriculum design and strengthening of faculty.
2. Use of ICTs and other modern techniques in delivering the lectures and knowledge.
3. Online lectures and literature review facilities.
4. Organizing seminars, workshops and other activities.
5. Study tours and visits of prominent Library and Information Science institutes and model libraries.

Program Objectives:

1. Foundation:

To provide students with concrete foundation in Library and Information Science knowledge with respect to their needs upon entering the profession.

A number of elements and goals are set up to achieve the above objective:

Goal-1: To Identify elements and strategies for graduate program of the department

Elements:

- a. Current HEC and academic council approved curriculum of Library and Information Science for Graduate program with national standards.
- b. Linkage between theory and practice.
- c. Orientation of manual and computerized practical assignments.
- d. Motivation of teachers and students.
- e. Seeking inputs from employers.

Strategy:

Analytical and critical review of graduate program in terms of academic and research activities with new strategy for continuous improvement in Library and Information Science education.

Goal-2: To provide quality education and scholarly research

Elements

- a. Promotion of individual and cooperative research activities.
- b. Efforts of research towards national and international standards and challenges.

Strategy

Close liaison with all the stake holders for critical and analytical review of the program.

Goal-3. To establish cooperative measures and partnership with sister institutes and information settings.

Elements:

- a. To adjust our students for internship in university central library.
- b. Enhance relations with renowned libraries and information settings for trainings.
- c. Seek internship for the students.

Strategy:

Develop viable mechanism for continuous improvement of the program.

2. Skills and Tools:

To provide students with the skills to work in libraries and information settings in the competencies listed below. Actually these competencies are the further specific objectives of the program:

- a) To create awareness of information and communication technologies used in Library and Information Science students.(How could you aware either through lectures or through online activities)
- b) To develop skills among students for the acquisition, organization, and dissemination of information and knowledge.
- c) To develop an understanding among students about the properties of literature in the fields of Humanities, Social Sciences, Pure Sciences, Applied Science, Pakistan and Islam etc.
- d) To inculcate skills among students about the methods of research and to promote problem oriented research in the field of Library and Information Science or related topics.
- e) To develop an understanding among students to use information technology efficiently in information storage, data processing and retrieval services of a library or information centre.
- f) To develop competence among students for the automated management of libraries and information centers in Pakistan.
- g) To develop skills for the production of media and material in the field of Library and Information Science.
- h) To prepare students for planning and designing the software products for their own libraries and to serve the users national benefits.
- i) To develop competence among students for the marketing of information and information technologies in Pakistan.
- j) To make the students aware of the future needs of libraries and information centres.

3. Professional Practices and Ethics:

To provide students with the knowledge relevant to library and information science practices including its ethical, professional, social and global impact on society.

Alignment of Objectives with Program:

“All the above objectives are aligned with vision and mission statements of the program in terms of competencies, needs of society as well as ethical and professional practices to work with the spirit of providing quality education”.

Table-1: Program objectives assessment

S. #	Objectives	How measured	When measured	Improvement identified	Improvement made
A	B	C	D	E	F
1	Foundation	a) Survey of Graduating students. b) Faculty survey.	<i>The program was measured in previous semester and implemented some measures.</i> Feb-2019. (Current Surveys)	<ul style="list-style-type: none"> • <i>The dept. needs the following:</i> • Collection development in departmental library. • Provision of high speed internet connectivity, library visits, • Computer lab, • Arrangement of seminars, conferences and symposiums. • Student internship activities throughout the year in university central & departmental libraries 	<ol style="list-style-type: none"> 1. Implemented new curriculum of HEC. 2. Upgraded Computer Lab. 3. Provided the facility of Internet connectivity. 4. Access to HEC National Digital Library Program 5. Partially acquired few reading material. 6. Workshop was arrange in collaboration of HEC for librarians of southern district of Khyber Pakhtunkhwa 7. Arranged visits to the well established libraries in Peshawar

2	Skills and tools:	a. Alumni Survey. b. Employer Survey. Note: As the deptt. is newly established, therefore no alumni exist. The same is for employer survey as we have no product in the market so far.	N/A	N/A	N/A
3	Professional Practices and Ethics:	a. Alumni Survey. b. Employer Survey. Note: As per para above	N/A	N/A	N/A

Note: The survey reports of Faculty and Teachers Evaluation are attached in the Annexure II and III respectively

Standard 1.2

The program must have documented outcomes for graduating students. It must be demonstrated that the outcomes support the program objectives and that graduating students are capable of performing these outcomes:

Program Outcomes

Following are the program outcomes that will enable the graduates of Library & Information Science to:

1. Demonstrate the ability to apply knowledge of Library and Information Science into the field with respect to print and non-print formats of information resources.
2. Assess collection development policy and bibliographical control.
3. Apply library classification system for organizing information.
4. Apply cataloguing codes to compile bibliographic entries of library collection.
5. Locate, retrieve, evaluate and disseminate information and information sources and reference services.
6. Apply principles of library management and demonstrate leadership abilities.
7. Apply relevant research method to problem solving.
8. Analyze tools and practices of information technology.
9. Apply manual and machine readable classification and cataloguing tools.
10. Demonstrate and develop Library Resource Sharing and Networking.
11. Understand information sources and information cycle of disciplines of Social Sciences and Humanities.
12. Analyze the characteristics of academic libraries for effective services to the users.
13. Communicate effective communication and interpersonal skills.

The program outcomes are the byproduct of the program objectives. In this connection, the following table shows interrelationship between program's objectives and outcomes:

Table-2: Relationship between program objectives and program outcomes

Program Objectives	Program outcomes												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	□
2	⊙	⊙	⊙	⊙	⊙	⊙	□	□	□	⊙	●	□	□
2a	⊙	●	⊙	⊙	⊙	⊙	⊙	□	□	⊙	□	□	□
2b	●	⊙	□	●	⊙	⊙	⊙	⊙	⊙	⊙	□	□	⊙
2c	●	⊙	□	●	⊙	□	□	⊙	⊙	⊙	⊙	□	●
2d	⊙	⊙	□	□	⊙	⊙	□	⊙	⊙	□	□	□	⊙
2e	⊙	⊙	⊙	⊙	⊙	⊙	□	⊙	⊙	⊙	●	□	□
2f	●	□	□	□	●	⊙	⊙	⊙	□	□	●	●	⊙
2g	⊙	□	⊙	⊙	□	□	□	●	●	□	□	□	●
2h	⊙	●	□	□	⊙	●	●	●	●	●	□	□	□
2i	⊙	●	●	●	●	⊙	⊙	⊙	□	□	□	●	●
2j	⊙	⊙	□	□	□	●	□	⊙	□	⊙	⊙	□	□
3	⊙	□	□	□	□	□	⊙	□	□	⊙	□	□	□

Legend:

- Denotes substantial contribution to the objectives.
- ⊙ Denotes moderate contribution to the objectives.
- Denotes no contribution to the objectives.

The above table need to be easier not understandable

Standard 1.3

The results of program's assessment and the extent to which they are used to improve the program must be documented:

The program's assessment was carried out in 2024 by using the 2 questionnaires/forms such as Student Course Evaluation ii) Students Feedback on Teaching. Some possible measures were taken in connection to findings of the assessment to improve the program:

- a) Actions Taken:

- i) Started 4 years BS- Library & information science Program (BS-LIS).
 - ii) Implemented the new and revised curriculum of HEC 2023.
 - iii) Some text books both in hard and soft form were acquired.
 - iv) A number of faculty meetings were held for discussion and peer review relating to improving the program.
- b) Future Program improvements plans:
- i) Readdressing the Curricula of Library and Information Science by incorporating emerging techniques of Library and information management studies.
 - ii) Extension of Computer Lab.
 - iii) Improving Quality Education.
 - iv) Improving Team work efforts.
 - v) Achieving the objectives of quality education in terms of needed competencies.
 - vi) Providing and availing the facilities of Continuing Education.
 - vii) Capacity building of faculty through faculty development program.
 - viii) Internship is must for students
- c) Strengths and Weaknesses of the Program:
- Strength:**
- i) Launching of BS-LIS program for the first time in the history of Khyber Pakhtunkhwa.
 - ii) Introduction of Semester System subject to balance in feasibility and desirability by observing all the pros and cons of the system with the parable academic environment of the university.
 - iii) Availability of Computer Lab.
 - iv) Implemented Revised Curriculum of HEC.
 - v) Availability of highly qualified Faculty.
 - vi) Availability of Seminar library
 - vii) Compilation of Alumni Directory.
- Weaknesses:**
- i) Separate Lab for subject Practical.
 - ii) Limited Information resources
 - iii) Scarcity of reading materials and latest practical tools.
 - iv) IT training and sustainable development.
 - v) Limited access to HEC Digital Library.
- d) **Future Development Plans:**
- i) Seeking collaboration with domestic and foreign agencies and organization for receiving the help through exchanging the views, trainings, donations and boasting the research activities.

- ii) Seeking collaboration of different organization for internship of the students.
- iii) Ph.D. is in Programs will be start soon.
- iv) Establishing Practical Lab for convenient conduct of subject practical.
- v) Implementation of RFID and Automation of Central and Seminar Libraries.
- vi) Acquiring the latest editions of reading materials and practical tool.
- vii) Planning and developing collaborative measures with sister departments for strengthening the department.

Standard 1.4

The department must assess its overall performance periodically using quantifiable measure:

- a) Students Enrollment: See the table below:

Table -3: Students enrollment for the last two years

S. #	Year	Degree				Total
		Ph.D	M.Phil.	MLIS	BS-LIS	
1	2015	Nil	Nil	16	15	31
2	2016	Nil	Nil	27	24	51
3	2017	Nil	06	28	47	81
4	2018	Nil	12	28	49	89
5	2019	Nil	06	35	50	91
6	2020	Nil	07	12	53	67
7	2021	Nil	Nil	Nil	42	42
8	2022	03	05	Nil	52	60
9	2023	08	07	Nil	40	65
10	2024	02	16	-	16	34

- b) Faculty/ Student ratio 1:50
- c) Time for completing BS-LIS degree: 4 Years
- d) Average grade point (or) 2nd Division
- e) Employer' Satisfaction: See table below:

Note: Employer satisfaction level can be judged from the outcomes of the Department. As at this stage, the Department has not given any product to the market. That is there is no need of employer survey at this stage.

Table 4: Frequency and percentage distribution of the respondents (Faculty) regarding their satisfaction level and the effectiveness of programs to help them progress and excel in their profession.

Q. #	Question Items	Very Satisfied		Satisfied		Neutral		Dissatisfied		Very Dissatisfied	
		f	%	F	%	f	%	f	%	f	%
1	Your mix of research, teaching and community service	0	0	5	100	0		0	0	0	0
2	The intellectual stimulation of your work	2	40	3	60	0		0	0	0	0
3	Type of teaching/ research you currently do	2	40	3	60	0	0	0	0	0	0
4	Your interaction with students	5	100	0	00	0	00	0	0	0	0
5	Cooperation you receive from colleagues	1	20	4	80	0	0	0	0	0	0
6	The mentoring available to you	0	0	3	60	2	40	0	0	0	0

7	Administrative support from the department	0 00	5 100	0 0	0 0	0 0
8	Providing clarity about the faculty promotion process	0 00	0 00	5 100	0 0	0 0
9	Your prospects for advancement and progress through ranks	0 00	0 00	5 100	0 0	0 0
10	Salary and compensation package	0 00	5 100	0 00	0 0	0 0
11	Job security and stability at the department	3 60	2 40	2 28.57	0 0	0 0
12	Amount of time you have for yourself and family	0 00	0 00	1 20	4 80	0 0
13	The over all climate the department	5 100	0 00	0 0	0 00	0 0
14	Whether the Deptt is utilizing your experience and knowledge	5 100	0 00	0 00	0 00	0 00
14	What are the best programs /factors currently available in your department that enhance your motivation and job satisfaction	New curricula , availability of computer lab facility along with internet connectivity and existing salary package are the factors of enhancing motivation and job satisfaction of the faculty.				
15	Suggest programs/factors that could improve your motivation and job satisfaction	Updating computer lab facilities, acquiring latest editions of reading material, providing IT training, conducting workshop / Seminars and availing the opportunity of pursuing further study are factors of improving motivation and job satisfaction of the faculty.				
16	Information about faculty member	Majority of faculty members are holding the post of Assistant Professor with 16- 20years experience.				

The above table reveals that faculty members seem satisfied with relation to program effectiveness in order to progress and excel in the profession except the availability of mentoring for them.

PROFORMA 7: ALUMNI SURVEY

Students of Master of Library & Information Science (MLIS) 2016 and 2017 Batches has been passed out, Alumni of which compiled. Since no student of BS-LIS has been graduated from this Department so far, so there are no alumni to collect data from them

Criterion-2

Curriculum Design and Organization

CRITERION-2: CURRICULUM DESIGN AND ORGANIZATION

Standard 2.1:

The Curriculum must be consistent and supports the programs documented objectives

The curriculum designed for BS- Library and Information Science is based on certain objectives and learning outcomes. The curriculum is a blend of theory and practical covering the needs of all types of library management. The curriculum of the program is attached in the **Annexure V**

The department of Library and Information Science is running its academic program through semester system of examination.

a) Title of Degree Program:	BS- Library & Information Science
➤ Total numbers of credit hours	134
➤ Duration	4 years (8 Semester)
➤ Semester duration	16-8 weeks
➤ Semesters	8
➤ Course load per semester	15-18 Cr hr
➤ Number of courses per semester	4-6

Eligibility Criteria

F. A, F. Sc. with at least 2nd division

Definition of credit hour:

1 credit hour is 1 hour of theory lecture or 3 hours of laboratory work in a week

Breakdown of Courses: BS-Library and Information Science Under Graduate Education Policy: Effective from Fall-2023

- i- General education courses: 30 credit hours
- ii. Major: minimum 72 credit hours
- iii. Interdisciplinary/allied courses: minimum 12 credit hours
- iv. Field experience/internship: 03 credit hours
- v. Capstone project: 03 credit hours
- vi- Teaching of holy Quran: Non-Credit Course

S. No	Domain	Minimum requirements	DLIS Workload Credit Hours
1	General Education	30	32
2	Allied Courses	12	12
3	Major	72	84
4	Internship/Field Study	03	03
5	Research Project	03	03
6	Teaching of the Holy Quran	Non-Credit	
	Total Credit Hours		134

Year 1
First Semester

Course Code	Course Title	Domain	Cr Hrs
GC-100	Physical Education and Sports (A&H)	Gen Edu	3 (3-0)
IS-101	Islamic Studies	Gen Edu	2 (2-0)
ENG-100	Functional English	Gen Edu	3 (3-0)
LIS-111	User services in Libraries	Major	3 (3-0)
LIS-112	Evolution of Libraries and Information Sources	Major	3 (3-0)
LIS-113	Information, Library and Society	Major	3 (3-0)
	Total		17

Second Semester

Course Code	Course Title	Domain	Cr Hrs
LIS-121	Information Literacy (SS)	Gen Edu	3 (3-0)
PS-101	Ideology and Constitution of Pakistan	Gen Edu	2 (2-0)
ENG-101	Expository Writing	Gen Edu	3 (3-0)
LIS-122	Basic Reference and Information Services	Major	3 (3-0)
LIS-123	Management of Library and Information Centres	AC	3 (3-0)
LIS-124	Introduction to Technical Operations in Libraries	Major	3 (3-0)
	Total		17

Year 2
Third Semester

Course Code	Course Title	Domain	Cr Hrs
LIS-231	Bibliographic Control	AC	3 (3-0)
CS-101	Application of Information and Computer Technologies (ICT)	Gen Edu	3 (2+1)
PHY-100	Every Day Science (NS)	Gen Edu	3 (2+1)
STAT-101	Basic Statistics (Quantitative Reasoning – I)	Gen Edu	3 (3-0)
LIS-232	Introduction to Book Publishing	Major	3 (3-0)
LIS-233	Library Automation Systems	Major	3 (3-0)
	Total		18

Fourth Semester

Course Code	Course Title	Domain	Cr Hrs
MATH-100	Basic Mathematics(Quantitative Reasoning – II)	Gen Edu	3 (3-0)
BBA-101	Entrepreneurship	Gen Edu	2 (2-0)
GC-101	Civics And Community Engagement	Gen Edu	2 (2-0)
LIS-241	Collection Development and Management	Major	3 (3-0)
	Teaching of the Holy Qur'an	Non- Credit Course	
LIS-242	Organization of Information	Major	3(3-0)

	Total	13
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Year 3

Fifth Semester

Course Code	Course Title	Domain	Cr Hrs
LIS-351	Archives and Record Management	Major	3 (3-0)
LIS-352	Applied Classification	Major	3 (3-0)
LIS-353	Library and information Services in Pakistan	Major	3 (3-0)
LIS-354	Information storage and Retrieval	Major	3 (3-0)
LIS-355	Knowledge Management	Major	3 (3-0)
LIS-356	Library Resource Sharing and Networking	Major	3 (3-0)
	Total		18

Sixth Semester

Course Code	Course Title	Domain	Cr Hrs
LIS-361	Effective Communication for Information Professionals	AC	3 (3-0)
LIS-362	Digital Library	Major	3 (3-0)
LIS-363	Use of Emerging Technologies in Library	Major	3 (3-0)
LIS-364	Basic Research Methods for Information Professionals	Major	3 (3-0)
LIS-365	Applied Cataloguing	Major	3 (3-0)
LIS-366	Indexing and Abstracting	Major	3 (3-0)
	Total		18

Year 4

Seventh Semester

Course Code	Course Title	Domain	Cr Hrs
LIS-471	Library Software Packages (Theory and Practices)	Major	3 (3-0)
LIS-472	Information Seeking behaviour	Major	3 (3-0)
LIS-473	Leadership Skills in LIS	Major	3 (3-0)
LIS-474	Electronic Resource Management	Major	3 (3-0)
LIS-475	Advance Research Methodology	Major	3 (3-0)
LIS-476	Internship/Field Study	Field Experience	3 (3-0)
	Total		18

Eight Semester

Course Code	Course Title	Domain	Cr Hrs
LIS-481	Professional Ethics	Major	3 (3-0)
LIS-482	Project Management	AC	3 (3-0)
LIS-483	Management of Information Systems	Major	3 (3-0)
LIS-484	Database design and web development for libraries	Major	3 (3-0)
LIS-485	Capstone/Research Project	Capstone Project	3 (3-0)
	Total		15

Table-6: The following table shows, how the program courses meet the program objectives

Courses/ Groups of Courses	Program Objectives												
	1	2	2a	2b	2c	2d	2e	2f	2g	2h	2i	2j	3
Compulsory Courses	√	√	√	√	√	√	√	√	√	√	√	√	√
Optional Courses	√	√	√	√	√	√	√	√	√	√	√	√	√
Practical			√	√	√	√	√	√	√	√	√		

Standard 2.2.

Theoretical backgrounds, problems analysis and solution design must be stressed within the program's core material:

The following table reveals the elements with respect to “Theoretical background” “Problem analysis” and “Solution design” as contained in compulsory and optional papers.

Table: 7

Elements	Courses
Theoretical background	Almost all the compulsory and optional courses cover /stress the required elements to create the good understanding in the courses taught.
Problem analysis	The compulsory, Foundations and Major courses, deal with the required element to great extent on the basis of generalizability while the optional courses provide the analysis for a specific environment.
Solution design	A number of manual and computer-based practical are conducted to meet the required element.

Standard 2.3

The curriculum must satisfy the core requirements for the program, as specified by respective accreditation body:

The Department of Library and Information Science executes the functions on the basis of HEC requirements for its Master's program.

The core requirements are mentioned at the end of curriculum designed by HEC. However, these requirements are not fully met by the department due to lack of some facilities in terms of equipment's and infancy stage of the department.

Standard 2.4

The curriculum must satisfy the major requirements for the program as specified by HEC, the respective accreditation body / councils

The department works under the major requirements laid down by the HEC. Such requirements are the part of the curriculum so far designed for the purpose.

Standard 2.5

The curriculum must satisfy general education, arts, and professional and other discipline requirements for the program, as specified by the respective accreditation body / council:

Table: 8

Program of Study	Math and Basic Science	Engineering topics	General Education	Other Disciplines
BS- Library and Information Science	Yes	Nil	Yes	Yes

The Department offers four years BS-LIS program comprising upon 9 compulsory, 7 general, 10 foundation, and 12 major and 04 optional courses. The curriculum satisfies the requirements of many disciplines to be taught as minor subject.

Standard 2.6 *Information technology component of the curriculum must be integrated throughout the program:*

Almost all the courses/papers of Library and Information Science cover the different components of Information Technology. Keeping in view some contemporary needs for library management, some more advanced techniques of Information Technology need to be incorporated in the curriculum. Hence, components of Information literacy, Software and Database designing needs to be incorporated in the curricula by conducting a survey about the competencies needed in different libraries and information settings.

Criterion - 3
Laboratory and Computing Facilities

CRITERION-3: LABORATORY AND COMPUTING FACILITIES

All the courses of Library and Information Science program are practical-based for that purpose the University has provided the facility of computers and Information technology with in Departmental library. Therefore the library acts as library as well as a computer lab. The computing facilities are available both for the teachers and students of the department.

The status of existing laboratory is as below:

- * Laboratory Title: Library cum Laboratory (Lib./Lab .).
- * Location Area: Department of Library and Information Science, Khushal Khan Khattak University, Karak
- * Objectives:
 1. To handle the Computer-based practical
 2. To train the students in Information technology applicable to library management.
 3. To develop practical skills for designing database, webpage, Library automation, and building library networking.
- Adequacy for Instruction
The computer lab comprised of 15 laptops which are utilized for conducting practical of all the courses but the existing facility is adequate to some extent that needs to be extended.
- * Courses taught
All the courses are taught in class rooms and sometimes in computer lab for the purpose of practical.
- * Software Available: The free of cost software are in use.
- * Major Apparatus
15 Laptops, 1 printers, one Multimedia, one Photocopier and one scanner are available.

Standard 3.1

Laboratory manuals / documentation / instructions experiments must be available and readily accessible to faculty and students:

All students and teachers have adequate access to manual / documentation and instructions while using the laboratory. The computer lab is not compatible in terms of proper number of computers, Library software availability and other practical tools for conducting the practical works in all the papers being taught. The following shortcomings are noted which are hurdles on the way to keep the best pace of working environment for achieving the targets rested with the academic uplifting:

Shortcomings:

- a. 1 Scanner
- b. 20 Pcs
- c. 3 Printers
- d. A. V. aids
- e. Digital camera
- f. Practical tools latest.
- g. Specialized training of information technology and SPSS.

- h. Faculty with certain specialization.
- i. Furniture and fixture.
- j. Space for class rooms for teaching specialized/optional papers.
- k. Course books
- l. Library Automation Software's
- m. 3 Multimedia Projectors

Justification of above listed items:

The scanner and digital cameras are required to teach the students about the scanning and preserving the archival records in the library.

The items listed above i.e., b, c, & d are necessary for extending and upgrading the computer lab and facilitating the teachers for improving the practical works.

Acquiring the practical tools will upgrade the departmental library for the purpose of accessing required information whereas, the training facilities will create the skills required for teaching the courses in more conducive environment

The faculty and space are also required to teach the specialized papers in future along with furniture and fixture.

Availability of course related books will help the students to get the relevant and latest information about the field.

The availability of library softwares will help to provide the necessary trainings to the students

Standard 3.2

There must be adequate support personnel for instruction and maintaining the laboratories:

The personnel support in shape of lab supervisor is not available; hence the maintenance of computer lab sometimes becomes a problem. The supervisor for computer lab is needed with the extended facilities in computer lab. At the moment, a non-professional employee is deputed to look after the matters of computer lab. Almost all the papers are computer-based-practical and hence a full time computer lab supervisor can maintain the computer lab in functional order at the time of practical work in computer lab.

Standard 3.3

The University computing infrastructure and facilities must be adequate to support program's objectives:

The Khushal Khan Khattak University Karak has adequate and smart computing facilities with all sorts of support through the Department of Computer Science as and when required specially at the time of troubleshooting of the computers. Each of the department (including Department of Library and Information Science) of the university is equipped with Multimedia

and a number of computers with internet connectivity. The internet connectivity is available in teacher's offices which facilitates the access to easy information at the time of urgency.

Criterion - 4
Student Support and Advising

CRITERION-4: STUDENT SUPPORT AND ADVISING

A time of four years is fixed to complete the program on the basis of time management policy for all the curricula and co-curricular activities. The vocal students avail the time for interaction with their teachers relating to their present and future matters on the way, however the passive students are motivated through other ways, the details of such motivation is ahead.

Standard 4.1

Courses must be offered with sufficient frequency and number for students to complete the program in a timely manner.

The required and elective courses are offered in a logical sequence that grooms the students to obtain the program's defined objectives and outcomes. The faculty members teach the courses according to time table, designed to run the classes smoothly.

Standard 4.2

Courses in the major area of study must be structured to ensure effective interaction between students, faculty and teaching assistants.

Students are encouraged to communicate with teachers and para-teaching staff for their academic and co-curricular activities. The faculty includes highly qualified staff on regular basis so as to achieve the departmental objectives effectively. Overall, the faculty members are responsible for major areas of study on the basis of their subject competence. Most of the papers are completely taught by the individual teachers.

Standard 4.3

Guidance on how to complete the program must be available to all students and access to academic advising must be available to make course decisions and career choices.

a. *Program requirements* as whole, students are informed through the Khushal Khan Khattak University Karak prospectus about the program requirements. The department-wise program requirements are updated annually at the start of current academic session to keep the matter in line with university policy in order to avoid any inconvenience. Moreover, a faculty member (being the student advisor) is available at departmental level to cope with all the program requirements and matters concerning to students problems and day to day needs of their academic achievements.

b. Advising and students counseling system

A faculty member is deputed as Coordinator of Guidance and Career Counseling. The advising system in the department is run by the coordinator, who arranges the orientation lectures for the student's guidance and career counseling. The guidance and counseling process is based on all such activities which the students and the department feel necessary for the required achievements for their (students) prosperous career development. The department arranges some activities in this regard:

- Displaying advertisements of vacant posts appearing in daily newspapers for the information of the students to get familiar with the avenues where the opportunities exist for their career.
- Students are free to meet with the coordinator for seeking the guidance and counseling relating to their problems/matters.
- Sometimes students avail the opportunity of exchanging their views with guest speakers invited by the department.
- The students have the opportunity of interacting with the library professionals who visit the department for some professional inputs and outputs. The students have also the opportunity to join the Pakistan Library Association (PLA) as a student member of this professional body of national repute.

c. In charge Students Affairs

To take care of certain academic and nonacademic matters of the students, the services of Incharge of Students Affairs are available for this purpose. The office of the Incharge Students Affairs deals with all the activities of scholarship, fellowships, workshops, and conferences, admissions for different categories, interdepartmental migration, re-admission and financial assistance for the student community. The office of students' affairs also makes plan for co-curricular activities, book fairs, Sports Gala/competitions and holding the annual convocation.

More or less, the students get a better opportunity of the services rendered by Students Advisor, Coordinator Students Guidance and Counseling and Director Students Affairs. However the co-curricular activities need to be extended at large scale to break the hesitant and non-confident behaviors of the students. The extended co-curricular programs will provide a wide range exposure to the students for facing, bearing and tackling the issues in a coherent way.

Criterion-5

Process Control

CRITERION-5: PROCESS CONTROL

The overall process is controlled and governed by the Khushal Khan Khattak University Karak policy and this process is somewhat similar almost in all the departments with some variations on the basis of subject nomenclature.

Standard- 5.1

The process by which students are admitted to the program must be based on quantitative and qualitative criteria and clearly documented. This process must be periodically evaluated to ensure that it is meeting its objectives.

The program has a well-defined admission criterion, which include evaluation of student's marks at different levels. The admission is done once a year, in fall semester. Students who have completed the 12 years of education are eligible for admission. Admission is granted strictly on the basis of academic record and interview. Students from accredited universities are eligible to transfer their credits to KKKUK. Students have to submit complete course curriculum and internal evaluation certificate of each subject from his/her previous institution duly signed by head of department. Students applications in this regard are dealt on case to case basis. Such applications are discussed in Board of Studies to evaluate them and make decision.

This admission criterion is evaluated every 2 years by the board of faculties and academic council in the light of instructions issued by HEC.

Standard 5.2

The process by which students are registered in the program and monitoring of students' progress to ensure timely completion to the program must be documented. This process must be periodically evaluated to ensure that it is meeting its objectives.

The student's name, after completion of the admission process, is forwarded to the Registrar office for registration in the specific program and the registration number is issued. Students are evaluated through assignments, sessional, mid-term tests and final examinations at the end of each semester. The laboratory work is done on regular basis as per schedule and contributes significantly towards the student's evaluation for relevant course. Only qualified students in each semester are allowed to join the next semester.

Standard 5.3

The process of recruiting and retaining highly qualified faculty members must be in place and clearly documented. Also processes and procedures for faculty evaluation, promotion must be consistent with institution mission statement. These processes must be periodically evaluated to ensure that it is meeting with its objectives.

The higher authorities in consultation with the department advertise and create the new posts time to time in order to recruit new faculty and retain the qualified faculty on the basis of eligibility criteria. The opportunities are available to recruit the highly qualified faculty on the basis of criteria given by HEC without any discrimination in terms of color, creed, race and so on.

Process and Procedure of Recruitment:

All the appointments of teaching cadre are made in the university on the basis of HEC criteria .The criteria are as follow:

a. Lecturer

Eligibility Criteria:

The candidates must have M.Phil or equivalent degree or equivalent awarded after 18 years of education in the relevant field from HEC recognized University/Institution. The candidates must not have third division in his/her academic career.

Note: However, the specific eligibility criteria (including the general criteria) for specific other academic disciplines are based on certain conditions.

b. Assistant Professor

Minimum Qualification

Ph. D. from an HEC recognized Institution in the relevant field. No experience required.

OR

Master's degree (foreign) or M. Phil. (Pakistan) or equivalent degrees awarded after 18 years of education as determined by the HEC in the relevant field from an HEC recognized University/Institution.

Experience:

4 years teaching/research experience in a recognized University or a Post-graduation Institution or professional experience in the relevant field in a National or International Organization.

Note: However, the specific eligibility criteria for specific other academic disciplines are based on certain conditions.

c. Associate Professor

Minimum Qualification

Ph. D. from an HEC recognized Institution in the relevant field.

Experience:

10-year teaching/research in HEC recognized University or a Post-graduate Institution or professional experience in the relevant field in a National or International Organization.

OR

5-Year post Ph. D. teaching/research experience in a recognized University or a post-graduate Institution or professional experience in the relevant field in a National or International Organization.

Minimum No. of Publications

10 research publications (with at least 4 publications in the last 5 years) in HEC recognized journals.

Note: However, the specific eligibility criteria (including the general criteria) for specific other academic disciplines are based on certain conditions.

d. Professor

Minimum Qualification

Ph. D. from an HEC recognized Institution in the relevant field.

Experience

15-years teaching /research in HEC recognized University or a Post-graduate Institution or professional experience in the relevant field in a National or International Organization.

OR

10-years post-Ph.D. teaching/research experience in recognized University or a post-graduate Institution or professional experience in the relevant field in a National or International Organization.

Minimum No of Publications:

15 research publications (with at least 5 publications in last 5 years) in HEC recognized journals.

Note: However, the specific eligibility criteria (including the general criteria) for specific other academic disciplines are based on certain conditions.

Standard 5.4

The process and procedures used to ensure that teaching and delivery of course material to the students emphasizes active learning and the course learning outcomes are met. The process must be periodically evaluated to ensure that it is meeting its objectives.

The faculty of library and information science plan the teaching and delivery of course material by observing the class time table in its real sense in order to avoid any inconvenience of missing the classes. Each of the faculty members prepares course plan on the basis of syllabi which followed thought-out the year. This helps the faculty for time-bound completion of the course. Every faculty member provides the detailed course outline to the students as a break up of topics to be taught. Teaching and course evaluation is carried out through DQA proformas at the end of academic session and the same is reported to the Director, Quality Enhancement Cell for reference

and record. The department also learns a lesson through this evaluation and tries to improve the situation on the basis of available resources.

Standard 5.5

The process that ensures that graduates have completed the requirements of the program must be based on standards, effective and clearly documented procedures. This process must be periodically evaluated to ensure that it is meeting its objectives.

The prospectus of the university enlists all the requirements which the students have to meet such as 75% attendance, code of conduct and other requirements. The students are penalized by individual departments if they do not fulfill the requirements under the University rules.

Criterion-6

Faculty

CRITERION-6: FACULTY

Standard-6.1

There must be enough full time faculties who are committed to the program to provide adequate coverage of the program areas/ courses with continuity and stability. The interests and qualifications of all faculty members must be sufficient to teach all courses, plan, modify and update courses and curricula. All faculty members must have a level of competence that would normally be obtained through graduate work in the discipline. The majority of the faculty must hold a Ph. D. in the discipline.

The curriculum of HEC “comprised of 131 credit hours having 42 courses for BS-LIS Program. The existing faculty is committed to run the program in a team work effort by letter and spirit. At the moment, two of faculty members hold Ph. D. in the discipline whereas the rest are MPhil degree holders.

The faculty should seek the opportunities of achieving the best level of competence by utilizing the time for conducting the researches and enhancing the qualification up to the level of Post Ph. D. The university should also motivate and facilitate the faculty to achieve the excellence in their subjects through certain opportunities of learning and upgrading the existing knowledge/competence.

Standard 6.2

All faculty members must remain current in the discipline and sufficient time must be provided for scholarly activities and professional development. Also, the effective programs for faculty development must be in place.

- The faculty members attend the seminars, workshops and conferences to keep them current in the discipline and browse the internet time to time for emerging trends in the discipline. Moreover, the faculty members exchange their professional views with their peers in order to avoid any misconception.
- All the courses in library and information science are practical-based and most of the faculty members teach three different papers, hence they rarely find time for writing their research papers. However, efforts are in pipeline to inculcate this trend.
- The facilities for participating in seminars and conferences are available for the faculty within the university and outside the university and the individual teacher avails this opportunity time to time.

Standard-6.3

All faculty members should be motivated and have job satisfaction to excel in their profession.

The faculty of the department is motivated as they can win the facility of scholarship, availing of tenure track status on the basis of their intellect and ability. The opportunity of promotion is also available in the department provided they fulfill the criteria in this connection. The university also provides financial assistance to the faculty for writing and attending the research papers for the journals and conferences. All such opportunities and facilities are effective for the motivation and job satisfaction for the faculty in any way.

Criterion-7
Institutional Facilities

CRITERION-7: INSTITUTIONAL FACILITIES

Standard 7.1

The institution must have the infrastructure to support new trends in learning such as e-learning.

Infrastructure: The existing infrastructure of the department is established by the Khushal Khan Khattak University, Karak in terms of space and other facilities. The existing facilities need to be upgraded specially in the field of E-learning because of speedily shifting of library and information science discipline from conventional to E-learning approaches. To cope with the situation, the above listed shortcomings should be removed by acquiring the requisite equipments and resources.

Standard 7.2

The library must possess an up-to-date technical collection relevant to the program and must be adequately staffed with professional personnel.

The collection of reading material in the departmental library is not worthwhile that may fully support the academic activities in the department. The collection development in the departmental library is somewhat slow which hinders some learning options both for the teachers and the students. The departmental library houses about 1000 documents in the forms of books and theses (both soft and hard form), whereas the central library houses a very small collection of books on Library and Information Science. Both the central and departmental libraries do not subscribe any journal relating to library science except those which are available on line through digital library of HEC. The departmental library is manual-ridden system managed by the non-professional staff. The hiring of professional staff is likely to be made shortly. The departmental library needs to be computerized being a model library. The central library of the university should acquire the demanded books through its acquisition process.

Standard 7.3

Class-rooms must be adequately equipped and offices must be adequate to enable faculty to carry out their responsibilities.

Class-rooms and faculty offices: The class rooms and the faculty offices are adequate to some extent to carry out the academic, administrative and other sorts of related activities. All the faculty members don't have their separate offices except the few. The class room facilities are up to the mark in terms of proper furniture and multimedia. The multimedia facility is available also in the class rooms for the purpose of some specialized lectures. The faculty members feel a dire need of modern and smart computers in their offices which should be provided to boost the academic and research activities.

Criterion-8
Institutional Support

CRITERION-8: INSTITUTIONAL SUPPORT

The institution's support and the financial resources for the program must be sufficient to provide an environment in which the program could achieve its objectives and retain the strength required.

Standard 8.1:

There must be sufficient support and financial resources to attract and retain high quality faculty and provide the means for them to maintain competence as teacher and scholars.

The financial resources of the Department of Library and Information Science are allocated in the annual budget of the Khushal Khan Khattak University Karak. The department has qualified faculty mostly with PhD degrees and each of them striving their best to maintain the competence by exchanging their professional views in professional gathering and attending seminars and workshops. The meager financial resources for the department are not compatible for the overall development of the department in terms of Lab expansion and the departmental library. The available secretarial support and office equipment are adequate to some extent to execute the daily functions of department.

Standard 8.2:

There must be an adequate number of high quality graduate students, research assistants and Ph. D. students

As the Department is in embryonic stage and has been established in 2015. That is why; the strength of the students in various programs is also minimal. The department currently offers BS-LIS, MPhil program in fall semester 2017.

The curriculum for the above programs has been duly approved by the Board of studies

The department has also launched Ph. D program in fall semester 2022.

The following table shows the number of students in each program along with student teacher ratio for the last three years.

Table-9

Program of Studies	Years									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
MLIS	16	16	27	30	35	12	Nil	Nil	Nil	Nil
BS-LIS	-----	15	24	50	51	53	45	52	40	16
M. Phil.	Nil	---	06	12	07	06	Nil	05	07	16
Ph. D.	Nil	Nil	Nil	Nil	Nil	Nil	Nil	03	08	02
Research Assistants	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Teacher/ Students Ratio	1:4	1:6	1:10	1:20	1:15	1:11	1:9	1:12	1:11	1.11

Standard 8.3

Financial resources must be provided to acquire and maintain Library holdings, laboratories and computing facilities

The meager resources for the Departmental library and the special LIS lab become the hurdle in accessing some specific information for academic achievements of the students and faculty, however reading material is acquired in the departmental library through acquisition of the central library of Khushal Khan Khattak University on a very small scale. Similarly the department lacks the resources and facilities in terms of establishing the laboratory for individual subject practical. The computing facilities in the department are available to run the functions of the department but that needs to be extended.

Annexures

Annexure-I Faculty Resumes

Resume No. 3

Name	Dr. Saeed Ullah Jan
Personal	Khushal Khan Khattak University Karak , Khyber Pakhunkhwa Pakistan Phone#: 0927211895 Cell#: 03339274808 E-mail: saadullahjan2011@gmail.com saadullahjan2002@yahoo.com
Experience	1- Demonstrated Experience in Leadership a- Serving as Head of Department at Khushal Khan Khattak University Karak from 2016 to date: Launched BS-LIS and MPhil program for the first time in the history of Khyber Pakhtunkhwa in 2015 and 2017 respectively. Launched PhD in Library and Information Science in 2022 for the first time in the history of KP. Initiated first HEC recognized Journal in the field of Library and Information Science in 2021 with the title” Journal of Information Management and Library Studies” in KP. Worked/working as Convener at various Committees at Khushal Khan Khattak University Karak including: Graduate Studies Committee, DLIS, KKKUK Inspection Committee for the affiliation of various degree programs in the jurisdiction of KKKUK University Semester Committee, KKKUK Fee Structure Committee, KKKUK University Discipline Committee University internship Committee Probation Committee Committee Constituted for drop out students Committee for framing rules for library use University Revenue Generation Policy Commercialization through skill development

Policy of post PhD Experience for BPS appointment

Promotion of research culture in the University

Scrutiny committee for appointment of university teachers.

Compliance Implementation Plan

Assessment of need of Mathematics Department

Fee Structure Committee

Committee constituted for integrating face to face teaching with MS Teams

Framing policy on No Objection Certificate

University opening/re-opening during COVID-19

Inclusion of Five new Departments

Launching of Journal of Library and Information Science

Committee to consider the appeals of the candidate applied for various positions at KKKUK

Committee constituted for Masjid Construction

Committee for evaluation and recommendations of positions of visiting lecturers.

University Workload Assessment Committee

Research proposal assessment committee constituted by ASRB

Served as Provost of the University for one year. The acquisition of students, Staff, faculty hostels and Guest houses were made during that one year. Various seminars, debate competitions and workshops were arranged for the grooming and awareness of the students.

Served as President Pakistan Library Association (Head Quarter) during 2018-2020. During my stay as President, the following goals were achieved:

Signed an MOU with Thai Library Association for the uplift of Library profession, capacity building of library professionals and promotion of research culture in both countries.

Arranged seminars. Workshops for the professional development of library practitioners in Pakistan.

Worked for the recruitment of 159 posts of librarians (BPS-17) at various Govt organizations including E&SE Department, HED and Directorate of Public Libraries Government of Khyber Pakhtunkhwa.

Organized an international conference in collaboration with Khushal Khan Khattak University Karak in 2020.

Currently serving as President Pakistan Library Association (Khyber Pakhtunkhwa) 2021-2023.

Worked as Pioneer Head of Department at Sarhad University of Science and Technology:

- Started Master program
- Launched first MS program in the history of Library and Information Science
- Produced 13 MS research scholars.
- Served as Convener of Board of Studies meetings
- Served as Member Board of Faculty meetings

Served as Master trainer/ Resource Person at various workshops/Trainings at:

- National Centre for Rural Development (NCRD) Islamabad
- Pakistan Academy for Rural Development (PARA) Peshawar.
- Pakistan Scientific and Technological Information Centre (PASTIC) Peshawar.
- Islamia College University Peshawar

Membership in Academic /Research Bodies

- Member, National Curriculum Revision Committee (NCRC), Library and Information Science, Higher Education Commission Islamabad.
- Editor-in-Chief, Journal of Information Management and Library Studies, HEC recognized "Y" category Journal.
- Member, Board of Faculty- Balochistan University, Quetta.
- Member, Board of Studies Pak- Austria Institute
- Member, Committee of Courses for Library and Information Science, Allama Iqbal Open University Islamabad.
- Member, Board of Studies- University of Peshawar, Peshawar.
- Member, Board of Faculty- Sarhad University of Science and IT, Peshawar.
- Member, Board of Studies- Sarhad University of Science and IT, Peshawar.
- Member, Advance Studies and Research Board, Khushal Khan Khattak University Karak.
- Member, Editorial Board, Pakistan Library Association Journal.
- Member, Selection Board Agriculture University Peshawar.
- Member, Review Committee, Text Book Board Peshawar.

	<p><i>Membership at statutory bodies</i></p> <ul style="list-style-type: none"> - Member, Curriculum Revision Committee, HED, Govt of KP - Member, Curriculum Revision Committee, HEC, Islamabad - Member, Board of Studies at Pak-Austria Institute HariPur - Member, Board of Studies, University of Peshawar. - Member, Board of Studies, University of Balochistan - Member, Board of Studies, Sarhad University of Science and IT Peshawar. - Member ASRB, KKKUK
<p>Professional Affiliations</p>	<ul style="list-style-type: none"> • Higher Education Commission Islamabad, National Committee for Curriculum Revision of Library and Information Science , Member • Sarhad University Peshawar, Board of Studies for Library and Information Science, Member • Bacha Khan University Charsadda. Board of Studies for Library and Information Science, Member • University of Peshawar, Board of Studies for Library and Information Science, Member • National Testing Services Pakistan, Subject committee in LIS, Developer.
<p>Publications</p>	<p><u>Research paper published or in the process of publication</u></p> <ol style="list-style-type: none"> 1- Jan, S. U., & Sheikh, R. A. (2011). Automation of university libraries: A comparative analysis of Islamabad and Khyber Pukhtoon Khwa, Pakistan. <i>Library Philosophy and Practice</i>, (1), 21. 2- Jan, Saeed Ullah, Rafia A Sheikh & Sajjad Ullah Jan (2013). Technological Library Practices in Pakistan: case study of public sector university libraries. <i>Internal Journal of Digital Library Services</i>,3(1)

	<p>3- Khan, I., Jan, S. U., & Khan, M. (2015). Determinant of Capital Structure: An Empirical Study of Cement Sector of Pakistan. <i>Asian Journal of Management Sciences & Education</i> Vol, 4(3).</p> <p>4- Ibrahim, M., & Jan, S. U. (2015). Bibliometric analysis of the Journal of Pakistan Medical Association form 2009 to 2013. <i>JPMA. The Journal of the Pakistan Medical Association</i>, 65(9), 978-983.</p> <p>5- Khattak, H., Mughal, A. W., SU Jan & Marwat, M. K. (2015). Perception of the Students of Sarhad University Regarding the Impact of Different Systems of Examination upon Their Academic Performance. <i>Asian journal of management sciences & education</i>, 4(2), 43-51.</p> <p>6- Rehman,H, Saeed Ullah Jan and Mukhtiar Ali (2015). Awareness & utilization of electronic information resources among medical students. 23(4), 238-241</p> <p>7- Jan, Saeed Ullah (2015). Use of Internet by the Teaching Faculty of Bacha Khan University,Charsadda Khyber Pakhtunkhwa. 3(8), 7-11</p> <p>8- Zakria, Jan, Saeed Ullah and Zeshan (2015). Arts and Letters ka Bibiliomteric Tajzia. 14(1), 336-341.</p> <p>9- Jalal-ud-din, a. r., ahmad, s. m., & Jan, S.(2015). Students' perceptions regarding library services in the Institute of Education & Research (ier), University of Peshawar.</p> <p>10- Jan, Saeed Ullah & Rafia A Sheikh (2014). Impact Of Emerging Technologies On University Libraries Of Pakistan.4(3), 56-69</p> <p>11- Jan, Saeed Ullah & Rafia A.S (2013)Status of library automation and digitization in the public sector universities of Balochistan: a case study, <i>Pakistan Library Associatiojn Journal</i>,49-70</p> <p>12- Jan, Saeed Ullah & Rafia A.S (2013). Modern Trends in university libraries of Pakistan <i>Sarhad University of Science & Information Technology Peshawar</i>, 1(1),478-485</p> <p>13- Jan, Saeed Ullah & Rafia A.S and Sajjad Ullah Jan(2013). Technological library practices in pakistan: a case study of public sector university libraries. <i>International Journal of Digital Library services</i>,3(1), 22-33</p>
<p>Theses & Books Published</p>	<p>1- Jan, Saeed Ullah (2012). <i>Modernization of University Libraries of Pakistan: case studies</i>. LAP LAMBERT Academic Publishing, Germany.</p> <p>2- Jan, Saeed Ullah (2012). Digital Technology and its impact on Library and Information services and resources in the Public sector universities of Pakistan. Doctoral Research Thesis.</p> <p>3- Jan, Saeed ullah (2002). <i>Role of library in teaching of science education at secondary school level. A thesis submitted for the partial fulfillment of the Master degree in education</i>. Submitted to Allam Iqbal Open University, Islamabad for partial fulfillment for Master of Education.</p>

	<p>4- Jan, Saeed Ullah & Zia khan (2004). Data base design. A thesis submitted to Gomal University D.I.Khan for partial fulfillment for the award of MIT degree.</p>
<p>Execution of Research Projects (Worth Rs: 3.1 million)</p>	<p>Approved Research Project grant worth Rs. 0.8610 million from HEC Vide letter No. 85/IPFP-II(Batch-1)/SRGP/NAHE/HEC/2020/321 Dated: August 18,2021.</p> <p>Approved Conference grant of Rs. 0.30 million to organize an international conference in October, 2024.</p> <p>Approved Research Conference Grant worth Rs. 0.280 million vide Notification No. 3125-33/Estt/KKKUK/21</p> <p>Approved Grant worth Rs.0.2664 million from HEC vide Grant letter No. 286.15/SC/R & D/HEC/2018 Dated February 12,2018 for organizing a National conference at the Department of Library and Information Science, Khushal Khan Khattak University Karak.</p> <p>Approved Grant worth Rs.0.296 million from HEC vide Grant letter No. 301.15/SC/R & D/HEC/2018 Dated December 16,2018 for organizing an international conference at the Department of Library and Information Science, Khushal Khan Khattak University Karak on 16-18 March, 2019</p> <p>Approved Travel Grant worth Rs.0.267 million from HEC vide Grant letter No. 322.44/TG/R & D/HEC/2018 Dated January 10,2019 for presenting a paper at an international conference at the international conference on library and information science at Italy.</p> <p>Approved Travel Grant worth Rs.0.227 million from HEC vide Grant letter No. 264.44/TG/R & D/HEC/2018 Dated February 17,2017 for presenting a paper at an international conference at the 4th national conference on library and information science at Greece.</p> <p>Approved Grant worth Rs.0.181 million from HEC vide Grant letter No. 210.15/SC/R & D/HEC/2016 Dated 03-04/06/2016 for organizing a National workshop at the Department of Library and Information Science, Khushal Khan Khattak University Karak.</p> <p>Approved Grant worth Rs.0.227 million from HEC vide Travel Grant letter No. 243.55.15/TG/R & D/HEC/2016 Dated March,2016 for organizing a International conference at the City University of London, U.K.</p> <p>Approved Grant worth Rs.0.241 million from HEC vide Travel Grant letter No. 158.73.15/TG/R & D/HEC/2015 Dated March,2016 for presenting a paper at an international conference at Greece.</p> <p>Approved Grant worth Rs.0.220 million from HEC vide Travel Grant letter No. 243.55.15/TG/R & D/HEC/2016 Dated March,2011 for presenting a paper at an international conference at Osaka, Japan.</p>

	Awarded HEC PhD Fellowship Batch-III worth amount Rs.2.10 million vide award letter No. HEC/2006/134 dated: June 19,2006
<p>CONFERENCES SEMINARS WORKSHOPS</p>	<p style="text-align: center;"><i>International Conferences as Principal organizer= 04 National Conferences as Principal organizer= 03 Workshops/Seminars as Principal organizer= 09</i></p> <p>February 12-13, 2025 Principal organizer, International conference “ Role of Library in research” at Khushal Khan Khattak University Karak” (Approved and will be organized In Sha Allah)</p> <p>June 28-30, 2024 Principal organizer, National conference “Exploring the nexus: AI and Libraries” at Sheringal BB University Upper Dir KP,</p> <p>April 23, 2024 Principal Organizer, workshop on “World Book and Copy Right day” at Khushal Khan Khattak University Karak</p> <p>March 15-17, 2022 Principal organizer, International Conference “Recent Trends in Academic Research” Organized by DLIS KKKUK & DLIS University of Peshawar with the financial assistance of HEC Islamabad.</p> <p>December 22,2021 Principal Organizer, One day workshop on “Smart PLS: A modern Data Analysis Tool” organized in collaboration with PASTIC Peshawar.</p> <p>June 11-13, 2021 Principal Organizer, National Conference at Baragali Campus University of Peshawar titled “Information services in virtual environment” with the financial assistance of HEC Islamabad.</p> <p>April 21,2021 Principal Organizer, workshop on “World Book and Copy Right day” at Khushal Khan Khattak University Karak</p> <p>March 05-06,2020 Principal organizer of an international conference at Khushal Khan Khattak University Karak titled “Information in Management Era” with the financial assistance of HEC Islamabad.</p> <p>April 23, 2020 Principal Organizer, workshop on “World Book and Copy Right day” at Khushal Khan Khattak University Karak</p> <p>March 16-18, 2019 Principal organizer of an international conference at Khushal Khan Khattak University Karak sponsored by HEC Islamabad.</p> <p>April 24,2019 Principal Organizer, workshop on “World Book and Copy Right day” at Khushal Khan Khattak University Karak</p>

	March 27-29 , 2018	Principal Organizer of National Conference on “Library and Research” organized by DLIS with the financial assistance of HEC Islamabad.
	April 24,2018	Principal Organizer, workshop on “World Book and Copy Right day” at Khushal Khan Khattak University Karak
	January 23,2018	Principal Organized Professional Workshop on “Library automation and digization” in collaboration of ORIC, KKKUK.
	April 23,2017	Principal Organizer, workshop on “World Book and Copy Right day” at Khushal Khan Khattak University Karak
	Nov 22-23, 2016	Principal Organizer of a national workshop titled “New Horizon of LIS profession” in collaboration with HEC Islamabad at the DLIS, Khushal Khan Khattak University Karak,
	June 03-06, 2014	Principal organizer of international conference on “Role of library in the promotion of Research” by DLIS, Sarhad University Peshawar and Peshawar Universities Campus Librarians Association, University of Peshawar.

Resume No.2

Name	Rahim Jan
Personal	<p>Khushal Khan Khattak University Karak , Khyber Khtunkhwa Pakistan</p> <p>Phone#: 0927211895</p> <p>Cell#: 03325556457</p> <p>E-mail: rahimjanrajjar@gmail.com</p> <p><u>Other Information:</u></p> <p>Father’s Name Sakhi Jan</p> <p>Date of Birth 01/08/1980</p> <p>Religion Islam</p> <p>Domicile Charsadda</p> <p>CNIC No. 17101-0404279-1</p> <p>Nationality Pakistani</p> <p>Marital Status Married (6 Dependents)</p> <p>Permanent Add: Village Rajjar Tehsil & Distt: Charsadda</p> <p>Postal Address: Village Rajjar Tehsil & Distt: Charsadda</p> <p>Language Known Pashto, English, Urdu</p>

Experience	<ul style="list-style-type: none"> • Assistant Professor in Library & Information Science, Khushal Khan Khattak University, Karak: Teaching Bachelors and Masters programs since Sept 2014 till date. <hr/> <ul style="list-style-type: none"> • Deputy Registrar (Estt) since Oct, 2012 till date, Khushal Khan Khattak University, Karak
Honors and Awards	Merit(distinction) certificates in M.Phil Library and Information science, University of Sargodha.
Memberships	<ul style="list-style-type: none"> • Pakistan Library Association (PLA) • Pakistan Library Automation Group (PakLAG) • Librarian Welfare • Archives and Libraries Peshawar
Service Activity	<ol style="list-style-type: none"> 1. Teaching 2. Member University Purchase Committee 3. Member Special Task Committee 4. Head of Department 5. Focal Person High Way Section 6. In-Charge Central Library 7. Secretary Draft Statutes Committee 8. Member Physical Infrastructure Committee 9. Founder Department of Library & Information Science 10. Establishment of Central Library
Brief Statement of Research Interest	I have received PhD degree from University of Sargodha. Areas of Interest are: <ul style="list-style-type: none"> • Public Libraries • Library Automation, • Emerging trends in librarianship • Academic Libraries
Publications	<ol style="list-style-type: none"> 1. Simulation based Study to Present the Performance of Ad-hoc Routing Protocols. <i>International Journal of Innovation & Applied studies</i> HEC recognized. 2. Managerial and Organizational Communication: A Strategic Approach. <i>International Journal: Research Journal of Social Sciences & Management</i>
Research Grants and Contracts	NIL
Other Research or Creative Accomplishments	Prepared PC-1 for Khushal Khan Khattak University, Karak, received a sum of Rs.1273 million.

Selected Professional Presentations	Nil
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Resume No. 3

Name	Dr. Ghalib Khan
Personal	ghalibkhan1@yahoo.com 03339277414
Experience	Assistant Professor Department of Library & Information Science Khushal Khan Khattak University, Karak
Honor and Awards	Honored with HEC indigenous PhD scholarship. Completed MPhil and PhD under the same scholarship
Memberships	List memberships in professional and learned Societies, indicating offices held, committees, or other specific assignments
Graduate Students Postdocs Undergraduate Students	
Service Activity	List University and public service activities
Brief Statement of Research Interest	Collection Development, Collection Management, Information Needs, Information Seeking Behavior, Law Librarianship, University Librarianship, Qualitative Research, Quantitative Research, Copyright Laws
Research Grants and Contracts	Entries should include: Date Title Agency / Organization Total Award Amount Segment the list under following headings: <input type="checkbox"/> Completed <input type="checkbox"/> Funded and in progress <input type="checkbox"/> In review

Resume No.4

Name	Izhar Muhammad
Personal	<p>Khushal Khan Khattak University Karak , Khyber Pakhtunkhwa Pakistan Phone#: 0927211895 Cell#: 03349173756 E-mail: izharmilis@yahoo.com <u>Other Information:</u> Father's Name Israr Mohammad Date of Birth 01/01/1984 Religion Islam Domicile Peshawar CNIC No. 17301-9352785-7 Nationality Pakistani Marital Status Single Permanent Add: Village Palosi Maghdarzai Tesh&Distt Peshawar Postal Address: C/O Israr Mohammad Superintendent Pension & G.P Section University of Peshawar Language Known Pashto, English, Urdu</p>
Experience	<ul style="list-style-type: none"> Lecturer (BPS-18) in Library & Information Science, Khushal Khan Khattak University, Karak: Teaching Bachelors and Masters programs since November 2015 till date. <hr/> <p>Select as a Librarian (BPS-17), through Public Service Commission Khyber Pakhtunkhwa and was post in GDC Latamber, Karak from 26th June 2015 to 26th November 2015</p> <ul style="list-style-type: none"> Worked as Computer Operator /Assistant Librarian (Contract) in the Institute of Chemical Sciences University of Peshawar from 11th January 2012 to 25th June 2015.
Honors and Awards	1 st position (Gold Medal) in Master of Library and Information Science from University of Peshawar
Memberships	<ul style="list-style-type: none"> Pakistan Library Automation Group (PakLAG)
Graduate Students Postdocs Undergraduate Students Honor Students	Nil
Service Activity	<ol style="list-style-type: none"> Teaching Member of Self-Assessment report for QEC Staff Proctor

	4. In charge or Focal Person of Co-Curricular Activities for Library and Information Science Department
Brief Statement of Research Interest	NIL
Publications	NIL
Research Grants and Contracts	NIL

Resume No. 5

Name	Dr. Mohammad Hussain
Personal	<p>Khushal Khan Khattak University Karak , Khyber Pakhtunkhwa Pakistan Phone#: 0927211895 Cell#: 03459148115 E-mail: mhustb@gmail.com Other Information: Father's Name Munawar Khan Date of Birth 07/03/1980 Religion Islam Domicile F R Peshawar (FATA) CNIC No. 22501-6257657-3 Nationality Pakistani Marital Status Married (4 Dependents) Permanent Add: Village Janakor Mohallah Kandow F R Peshawar Postal Address: Mohammad Hussain C/o Munawar Khan, Shop No. 18 Gunj Buss Stand P/O Gunj Peshawar City Language Known Pashto, English, Urdu</p>
Experience	<ul style="list-style-type: none"> Lecturer in Library & Information Science, Khushal Khan Khattak University, Karak: Teaching Bachelors and Masters programs since December 2015 till date. Assistant Librarian, Central Library From 11th November 2006 – till December, 2015 University of Science & Technology Bannu, Khyber Pakhtunkhwa Pakistan

	<ul style="list-style-type: none"> • Librarian, From 5th January 2006 – To 10th November 2006, Government Degree College Sadda Kurram Agency, Khyber Pakhtunkhwa Pakistan • Librarian , From 2nd June 2005 – To 4th January 2006 Hayatabad Science College Peshawar, Khyber Pakhtunkhwa Pakistan • Assistant Librarian , From January 2004 – To February 2005 Library National Centre of Excellence in Geology, University of Peshawar, Khyber Pakhtunkhwa Pakistan
Honors and Awards	Merit(distinction) certificates in Master and M.Phil Library and Information science
Memberships	<ul style="list-style-type: none"> • Pakistan Library Association (PLA) • Pakistan Library Automation Group (PakLAG) • Librarian Welfare • Archives and Libraries Peshawar
Graduate Students Postdocs Undergraduate Students Honor Students	Nil
Service Activity	1.Teaching 2. Member QEC
Brief Statement of Research Interest	<p>I have received PhD degree from University of Sargodha. I have received M.Phil degree from Minhaj University Lahore. My topic of research was <i>Resources and Services of Public Libraries of Khyber Pakhtunkhwa: An Exploratory Study</i>.</p> <p>Areas of Interest are:</p> <ul style="list-style-type: none"> • Public Libraries • Library Automation, • Emerging trends in librarianship • Academic Libraries
Publications	Muhammad, Hussain, et al. "The Concept of Humanity in Islam." <i>Science Journal of Sociology & Anthropology</i> 2013 (2013).
Research Grants and Contracts	NIL
Other Research or Creative Accomplishments	NIL
Selected Professional Presentations	Nil

**Annexure-II
Faculty Survey**

Table:1 Faculty Satisfaction

Statement	N	Mean	S.D
Whether the department is utilizing your experience and knowledge	9	4.6667	.51640
Job security and stability at the department.	9	4.6667	.51640
Your prospects for advancement and progress through ranks.	9	4.6667	.51640
Providing clarity about the faculty promotion process.	9	4.6667	.51640
Cooperation you receive from colleagues.	9	4.6667	.51640
Your mix of research, teaching and community service.	9	4.6667	.51640
The overall climate at the department.	9	4.5000	.83666
Salary and compensation package.	9	4.5000	.54772
Administrative support from the department.	9	4.5000	.54772
Your interaction with students.	9	4.5000	.54772
Type of teaching / research you currently do	9	4.1667	.40825
The intellectual stimulation of your work.	9	4.1667	.40825
The mentoring available to you.	9	4.0000	.00000
Amount of time you have for yourself and family.	9	3.8333	.40825

Table: 2 Faculty Academic Ranks

	Frequency	Percent	Valid Percent	Cumulative Percent
Assistant Professors	3	25.0	25.0	25.0
Lecturers	2	25.0	25.0	50.0
Other	4	12.5	12.5	100.0
Total	9	100.0	100.0	

Table: 3 Faculty Service Information

	Frequency	Percent	Valid Percent	Cumulative Percent
1-5 Year	3	62.5	62.5	62.5
6-10 Years	6	25.0	25.0	87.5
>20 years	1	12.5	12.5	100.0
Total	9	100.0	100.0	

Annexure-III Teacher Evaluation

Table: 1 **Functional English** (Mr Muhammad Ilyas)

Statement	N	Mean	S.D	Variance
The Instructor demonstrates knowledge of the subject	16	4.94	.250	.062
The Instructor is prepared for each class	16	4.94	.250	.062
The syllabus clearly states course objectives requirements, procedures	16	4.88	.342	.117
The Subject matter presented in the course has increased your knowledge of the subject	16	4.88	.342	.117
The Instructor was available during the specified office hours and for after class consultations	16	4.88	.342	.117
The assignments and exams covered the materials presented in the course	16	4.81	.403	.163
The Instructor maintains an environment that is conducive to learning	16	4.81	.544	.296
The assignments and exams covered the materials presented in the course	16	4.81	.403	.163
The Instructor provides additional material apart from the textbook	16	4.81	.544	.296
The course material is modern and updated	16	4.75	.775	.600
The Instructor returns the graded scripts etc. in a reasonable amount of time	16	4.75	.447	.200
The Instructor has completed the whole course	16	4.75	.447	.200
The course integrates theoretical course concepts with real-world applications	16	4.75	.577	.333
The Instructor arrives on time	16	4.75	1.000	1.000
The Instructor communicates the subject matter effectively	16	4.69	.793	.629
The Instructor is fair in examination	16	4.62	1.088	1.183
The Instructor gives citations regarding current situations with reference to Pak. context	16	4.56	1.094	1.196
The Instructor leaves on time	16	4.44	1.365	1.863
	16			

Table: Arts and Humanities (Muhammad Ilyas)

Statement	N	Mean	S.D	Variance
The Instructor leaves on time	16	4.94	.250	.063
The Instructor is prepared for each class	16	4.94	.250	.062
The course integrates theoretical course concepts with real-world applications	16	4.88	.342	.117
The Instructor was available during the specified office hours and for after class consultations	16	4.88	.342	.117
The Instructor maintains an environment that is conducive to learning	16	4.88	.342	.117
The syllabus clearly states course objectives requirements, procedures and grading criteria	16	4.81	.403	.163
The Instructor returns the graded scripts etc. in a reasonable amount of time	16	4.81	.403	.163
The assignments and exams covered the materials presented in the course	16	4.81	.544	.296
The assignments and exams covered the materials presented in the course	16	4.75	.577	.333
The Subject matter presented in the course has increased your knowledge of the subject	16	4.75	.577	.333
The Instructor arrives on time	16	4.75	.775	.600
The Instructor is fair in examination	16	4.75	.683	.467
The Instructor communicates the subject matter effectively	16	4.69	.479	.229
The Instructor demonstrates knowledge of the subject	16	4.69	.479	.229
The Instructor gives citations regarding current situations with reference to Pak.context	16	4.44	.964	.929
The Instructor has completed the whole course	16	4.38	1.204	1.450
The Instructor provides additional material apart from the textbook	16	4.25	1.390	1.933
The course material is modern and updated	16	4.25	1.438	2.067
	16			

Table: 3 User Services in Libraries (Dr. Izhar Muhammad)

Statement	N	Mean	S.D	Variance
The syllabus clearly states course objectives requirements, procedures and grading criteria	16	4.94	.250	.063
The Subject matter presented in the course has increased your knowledge of the subject	16	4.94	.250	.063
The Instructor was available during the specified office hours and for after class consultations	16	4.94	.250	.063
The course material is modern and updated	16	4.94	.250	.063
The assignments and exams covered the materials presented in the course	16	4.94	.250	.063
The Instructor leaves on time	16	4.94	.250	.063
The Instructor arrives on time	16	4.88	.342	.117
The Instructor maintains an environment that is conducive to learning	16	4.88	.342	.117
The Instructor provides additional material apart from the textbook	16	4.88	.342	.117
The Instructor returns the graded scripts etc. in a reasonable amount of time	16	4.94	.250	.063
The Instructor is fair in examination	16	4.94	.250	.063
The assignments and exams covered the materials presented in the course	16	4.94	.250	.063
The Instructor gives citations regarding current situations with reference to Pak. context	16	4.94	.250	.063
The Instructor demonstrates knowledge of the subject	16	4.94	.250	.063
The Instructor is prepared for each class	16	4.81	.403	.163
The course integrates theoretical course concepts with real-world applications	36	4.75	.447	.200
The Instructor communicates the subject matter effectively	36	4.63	.806	.650
The Instructor has completed the whole course	36	4.63	.806	.650
	36			

Table:4 Evolution of Libraries and Information Sources (Mr Izhar Muhammad)

Statement	N	Mean	S.D	Variance
The Instructor is fair in examination	16	4.94	.250	.063
The Instructor leaves on time	16	4.94	.250	.063
The course material is modern and updated	16	4.88	.342	.117
The course integrates theoretical course concepts with real-world applications	16	4.81	.403	.163
The Subject matter presented in the course has increased your knowledge of the subject	16	4.81	.403	.163
The Instructor has completed the whole course	16	4.75	.447	.200
The Instructor demonstrates knowledge of the subject	16	4.75	.447	.200
The Instructor arrives on time	16	4.75	.577	.333
The syllabus clearly states course objectives requirements, procedures and grading criteria	16	4.75	.447	.200
The Instructor was available during the specified office hours and for after class consultations	16	4.75	.447	.200
The Instructor maintains an environment that is conducive to learning	16	4.69	.602	.362
The Instructor communicates the subject matter effectively	16	4.69	.602	.363
The Instructor returns the graded scripts etc. in a reasonable amount of time	16	4.69	.479	.229
The Instructor provides additional material apart from the textbook	16	4.63	.806	.650
The Instructor is prepared for each class	16	4.63	.500	.250
The assignments and exams covered the materials presented in the course	16	4.56	.814	.662
The assignments and exams covered the materials presented in the course	16	4.44	1.263	1.596
The Instructor gives citations regarding current situations with reference to Pakistani context	16	4.37	1.025	1.050

Table:5 Islamic Studies (Mr. Shahana Tariq)

Statement	N	Mean	S.D	Variance
The Instructor is fair in examination	16	4.94	.250	.063
The Instructor leaves on time	16	4.94	.250	.063
The course material is modern and updated	16	4.88	.342	.117
The course integrates theoretical course concepts with real-world applications	16	4.81	.403	.163
The Subject matter presented in the course has increased your knowledge of the subject	16	4.81	.403	.163
The Instructor has completed the whole course	16	4.75	.447	.200
The Instructor demonstrates knowledge of the subject	16	4.75	.447	.200
The Instructor arrives on time	16	4.75	.577	.333
The syllabus clearly states course objectives requirements, procedures and grading criteria	16	4.75	.447	.200
The Instructor was available during the specified office hours and for after class consultations	16	4.75	.447	.200
The Instructor maintains an environment that is conducive to learning	16	4.69	.602	.362
The Instructor communicates the subject matter effectively	16	4.69	.602	.363
The Instructor returns the graded scripts etc. in a reasonable amount of time	16	4.69	.479	.229
The Instructor provides additional material apart from the textbook	16	4.63	.806	.650
The Instructor is prepared for each class	16	4.63	.500	.250
The assignments and exams covered the materials presented in the course	16	4.56	.814	.662
The assignments and exams covered the materials presented in the course	16	4.44	1.263	1.596
The Instructor gives citations regarding current situations with reference to Pakistani context	16	4.37	1.025	1.050

Appendix-IV
Student Course Evaluation Questionnaire

Department: Library Information Sciences
Class: BS Library & Information Science
Year of Study: 2022

Course Name: Information, Library and Society
Name: Ms. Izhar Muhammad
Semester/Term: 4th

Table : 1 Course Content and Organization

Statement	N	Mean	S.D	Variance
The course objectives were clear	16	4.88	.342	.117
The Course workload was manageable	16	4.94	.400	.063
The Course was well organized (e.g. timely)	16	4.94	.400	.063

Table: 2 Learning Environment and Teaching Methods

Statement	N	Mean	S.D	Variance
I think the Course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.)	16	4.75	.447	.200
The learning and teaching methods encouraged participation	16	4.88	.342	.117
The overall environment in the class was conducive to learning	16	4.88	.342	.117
Classrooms were satisfactory	16	4.63	.500	.400

Table: 3 Learning Resources

Statement	N	Mean	S.D	Variance
Learning materials (Lesson Plans, Course Notes etc.) were relevant and useful.	16	4.88	.342	.117
Recommended reading Books etc. were relevant and appropriate Instructor arrives on time	16	4.88	.342	.117
The provision of learning resources in the library was adequate and appropriate	16	4.50	.816	.667
The provision of learning resources on the Web was adequate and appropriate (if relevant)	16	4.88	.342	.117

Table: 4 Quality of Delivery

Statement	N	Mean	S.D	Variance
The Course stimulated my interest and thought on	16	4.69	.479	.229
The pace of the Course was appropriate	16	4.75	.447	.200
Ideas and concepts were presented clearly	16	4.94	.400	.063

Table: 5 Assessment

Statement	N	Mean	S.D	Variance
The method of assessment were reasonable	16	4.81	.403	.163
Feedback on assessment was timely	16	4.69	.793	.629
Feedback on assessment was helpful	16	4.75	.447	.200

Table : 6 Instructor / Teaching Assistant Evaluation

Statement	N	Mean	S.D	Variance
I understood the lectures	16	4.75	.447	.200
The material was well organized and presented	16	4.69	.479	.229
The instructor was responsive to student needs and problems	16	4.81	.403	.163
Had the instructor been regular throughout the course?	16	4.69	.602	.362

Table: 7 Tutorial

Statement	N	Mean	S.D	Variance
The material in the tutorials was useful	16	4.38	.885	.783
I was happy with the amount of work needed for tutorials	16	4.44	.814	.662
The tutor dealt effectively with my problems	16	4.38	.885	.783

Table: 8 Practical

Statement	N	Mean	S.D	Variance
the material in the practical was useful	16	4.44	.814	.663
the demonstration dealt effectively with my problem	16	4.56	.814	.662

Appendix-V

Curriculum

FUNCTIONAL ENGLISH

UGE Policy V 1.1 : General Education Course

Credits:	03
Pre-Requisite:	Nil
Offering:	Undergraduate Degrees (including Associate Degrees)
Placement:	1 - 3 Semesters
Type:	General Education
Fields:	All

DESCRIPTION

This course is designed to equip students with essential language skills for effective communication in diverse real-world scenarios. It focuses on developing proficiency in English language usage: word choices, grammar and sentence structure. In addition, the course will enable students to grasp nuanced messages and tailor their communication effectively through application of comprehension and analytical skills in listening and reading. Moreover, the course encompasses a range of practical communication aspects including professional writing, public speaking, and everyday conversation, ensuring that students are equipped for both academic and professional spheres. An integral part of the course is fostering a deeper understanding of the impact of language on diverse audiences. Students will learn to communicate inclusively and display a strong commitment to cultural awareness in their language use. Additionally, the course will enable them to navigate the globalized world with ease and efficacy, making a positive impact in their functional interactions.

COURSE LEARNING OUTCOMES

By the end of this course, students will be able to:

1. Apply enhanced English communication skills through effective use of word choices, grammar and sentence structure.
2. Comprehend a variety of literary / non-literary written and spoken texts in English.
3. Effectively express information, ideas and opinions in written and spoken English.
4. Recognize inter-cultural variations in the use of English language and to effectively adapt their communication style and content based on diverse cultural and social contexts.

SYLLABUS

1. Foundations of Functional English:

- Vocabulary building (contextual usage, synonyms, antonyms and idiomatic expressions)
- Communicative grammar (subject-verb-agreement, verb tenses, fragments, run-ons, modifiers, articles, word classes, etc.)
- Word formation (affixation, compounding, clipping, back formation, etc.) □ Sentence structure (simple, compound, complex and compound-complex) □ Sound production and pronunciation

2. Comprehension and Analysis:

- Understanding purpose, audience and context
- Contextual interpretation (tones, biases, stereotypes, assumptions, inferences, etc.)
- Reading strategies (skimming, scanning, SQ4R, critical reading, etc.) □ Active listening (overcoming listening barriers, focused listening, etc.)

3. Effective Communication:

- Principles of communication (clarity, coherence, conciseness, courteousness, correctness, etc.)
- Structuring documents (introduction, body, conclusion and formatting)

- Inclusivity in communication (gender-neutral language, stereotypes, cross-cultural communication, etc.)
- Public speaking (overcoming stage fright, voice modulation and body language)
- Presentation skills (organization content, visual aids and engaging the audience)
- Informal communication (small talk, networking and conversational skills)
- Professional writing (business e-mails, memos, reports, formal letters, etc.)

PRACTICAL REQUIREMENT

As part of the overall learning requirements, students will also be exposed to relevant simulations, roleplays and real-life scenarios and will be required to apply skills acquired throughout the course in the form of a final project.

SUGGESTED INSTRUCTIONAL / READING MATERIALS

1. "Understanding and Using English Grammar" by Betty Schramper Azar.
2. "English Grammar in Use" by Raymond Murphy.
3. "The Blue Book of Grammar and Punctuation" by Jane Straus.
4. "English for Specific Purposes: A Learning-Centered Approach" by Tom Hutchinson and Alan Waters.
5. "Cambridge English for Job-hunting" by Colm Downes.
6. "Practical English Usage" by Michael Swan.
7. "Reading Literature and Writing Argument" by Missy James and Alan P. Merickel.
8. "Improving Reading: Strategies, Resources, and Common Core Connections" by Jerry Johns and Susan Lenski.
9. "Comprehension: A Paradigm for Cognition" by Walter Kintsch.
10. "Communication Skills for Business Professionals" by J.P. Verma and Meenakshi Raman.

ISLAMIC STUDIES

UGE Policy V 1.1 : General Education Course

Credits: 02

Pre-Requisite: Nil

Offering: Undergraduate Degrees (including Associate Degrees)

Placement: I - 4 Semesters

Type: General Education

Fields: All

DESCRIPTION

This course is designed to provide students with a comprehensive overview of the fundamental aspects of Islam, its beliefs, practices, history and influence on society. It will further familiarize the students with a solid foundation in understanding Islam from an academic and cultural perspective. Through this course, students will have an enhanced understanding of Islam's multifaceted dimensions which will enable them to navigate complex discussions about Islam's historical and contemporary role, fostering empathy, respect, and informed dialogue.

COURSE

LEARNING OUTCOMES

By the end of this course, students will be able to:

1. Demonstrate enhanced knowledge of Islamic foundational beliefs, practices, historical development, spiritual values and ethical principles.
2. Describe basic sources of Islamic law and their application in daily life.
3. Identify and discuss contemporary issues being faced by the Muslim world including social challenges, gender roles and interfaith interactions.

SYLLABUS

1. Introduction to Islam:
 - Definition of Islam and its core beliefs.
 - The Holy Quran (introduction, revelation and compilation).
 - Hadith and Sunnah (compilation, classification, and significance).
 - Key theological concepts and themes (Tawhid, Prophethood, Akhirah etc.).
2. Sirah of the Holy Prophet (Peace Be Upon Him) as Uswa-i-Hasana: Life and legacy of the Holy Prophet PBUH.
 - Diverse roles of the Holy Prophet PBUH (as an individual, educator, peace maker, leader etc.).
3. Islamic History and Civilization:
 - World before Islam.
 - The Rashidun Caliphate and expansion of Islamic rule.
 - Contribution of Muslim scientists and philosophers in shaping world civilization.
4. Islamic Jurisprudence (Fiqh):
 - Fundamental sources of Islamic jurisprudence.
 - Pillars of Islam and their significance.
 - Major schools of Islamic jurisprudence.
 - Significance and principles of Ijtihad.
5. Family and Society in Islam:
 - Status and rights of women in Islamic teachings.
 - Marriage, family, and gender roles in Muslim society.
 - Family structure and values in Muslim society.
6. Islam and the Modern World:

Relevance of Islam in the modern world (globalization, challenges and prospects).



Islamophobia, interfaith dialogue, and multiculturalism.

Islamic viewpoint towards socio-cultural and technological changes.

SUGGESTED INSTRUCTIONAL / READING MATERIALS

1. "The Five Pillars of Islam: A Journey Through the Divine Acts of Worship" by Muhammad Mustafa Al-Azami.
2. "The Five Pillars of Islam: A Framework for Islamic Values and Character Building" by Musharraf Hussain.
3. "Towards Understanding Islam" by Abul A' la Mawdudi.
4. "Islami Nazria e Hayat" by Khurshid Ahmad.
5. "An Introduction to Islamic Theology" by John Renard.
6. "Islamic Civilization Foundations Belief & Principles" by Abul A' la Mawdudi.
7. "Women and Social Justice: An Islamic Paradigm" by Dr. Anis Ahmad.
8. "Islam: Its Meaning and Message" by Khurshid Ahmad.

Note: This course is compulsory for Muslim and optional for non-Muslim undergraduate students. Non-Muslim students can opt for any course of at least the same or more credits in subjects such as religious studies, ethics, theology, comparative

EXPOSITORY WRITING

UGE Policy V 1.1 : General Education Course

Credits: 03
Pre-Requisite: Functional English
Offering: Undergraduate Degrees (including Associate Degrees)
Placement: 2 - 4 Semesters
Type: General Education
Fields: All

DESCRIPTION

Expository Writing is a sequential undergraduate course aimed at refining writing skills in various contexts. Building upon the foundation of the pre-requisite course, Functional English, this course will enhance students' abilities of producing clear, concise and coherent written texts in English. The course will also enable students to dissect intricate ideas, to amalgamate information and to express their views and opinions through well-organized essays. The students will further be able to refine their analytical skills to substantiate their viewpoints using credible sources while adhering to established ethical writing norms. Additionally, the course will highlight the significance of critical thinking enabling students to produce original and engaging written texts.

COURSE LEARNING OUTCOMES

By the end of this course, students will be able to:

1. Understand the essentials of the writing process integrating pre-writing, drafting, editing and proof reading to produce well-structured essays.
2. Demonstrate mastery of diverse expository types to address different purposes and audiences.
3. Uphold ethical practices to maintain originality in expository writing.

SYLLABUS

1. "The St. Martin's Guide to Writing" by Rise B. Axelrod and Charles R. Cooper.
2. "They Say / I Say: The Moves That Matter in Academic Writing" by Gerald Graff and Cathy Birkenstein.
3. "Writing Analytically" by David Rosenwasser and Jill Stephen.
4. "Style: Lessons in Clarity and Grace" by Joseph M. Williams and Joseph Bizup.
5. "The Elements of Style" by William Strunk Jr. and E.B. White.
6. "Good Reasons with Contemporary Arguments" by Lester Faigley and Jack Selzer.
7. "Writing to Learn: How to Write - and Think - Clearly About Any Subject at All" by William Zinsser.
8. "The Norton Field Guide to Writing" by Richard Bullock, Maureen Daly Goggin, and Francine Weinberg.
9. "The Art of Styling Sentences" by Ann Longknife and K.D. Sullivan.
10. "Writing Today" by Richard Johnson-Sheehan and Charles Paine.

IDEOLOGY AND CONSTITUTION OF PAKISTAN

UGE Policy V 1.1 : General Education Course

Credits: 02
Pre-Requisite: Nil
Offering: Undergraduate Degrees (including Associate Degrees)
Placement: I -4 Semesters
Type: General Education
Fields: All



DESCRIPTION

This course is designed to provide students with a fundamental exploration of the ideology and the constitution of Pakistan. The course focuses on the underlying principles, beliefs, and aspirations that have been instrumental in shaping the creation and development of Pakistan as a sovereign state. Moreover, the course will enable students to understand the core provisions of the Constitution of the Islamic Republic of Pakistan concerning the fundamental rights and responsibilities of Pakistani citizens to enable them function in a socially responsible manner.

COURSE LEARNING OUTCOMES

By the end of this course, students will be able to:

1. Demonstrate enhanced knowledge of the basis of the ideology of Pakistan with special reference to the contributions of the founding fathers of Pakistan.
2. Demonstrate fundamental knowledge about the Constitution of Pakistan 1973 and its evolution with special reference to state structure.
3. Explain about the guiding principles on rights and responsibilities of Pakistani citizens as enshrined in the Constitution of Pakistan 1973.

SYLLABUS

1. Introduction to the Ideology of Pakistan:
 - Definition and significance of ideology.
 - Historical context of the creation of Pakistan (with emphasis on socio-political, religious, and cultural dynamics of British India between 1857 till 1947).
 - Contributions of founding fathers of Pakistan in the freedom movement including but not limited to Allama Muhammad Iqbal, Muhammad Ali Jinnah., etc.
 - Contributions of women and students in the freedom movement for separate homeland for Muslims of British India.
2. Two-Nation Theory:
 - Evolution of the Two-Nation Theory (Urdu-Hindi controversy, Partition of Bengal, Simla Deputation 1906, Allama Iqbal's Presidential Address 1930, Congress Ministries 1937 Lahore Resolution 1940).
 - Role of communalism and religious differences.
3. Introduction to the Constitution of Pakistan:
 - Definition and importance of a constitution.
 - Ideological factors that shaped the Constitution(s) of Pakistan (Objectives Resolution 1949).
 - Overview of constitutional developments in Pakistan.
4. Constitution and State Structure:
 - Structure of Government (executive, legislature, and judiciary).
 - Distribution of powers between federal and provincial governments. 18th Amendment and its impact on federalism.

5. Fundamental Rights, Principles of Policy and Responsibilities:
 - Overview of fundamental rights guaranteed to citizens by the Constitution of Pakistan 1973 (Articles 8-28).
 - Overview of Principles of Policy (Articles 29-40).
 - Responsibilities of the Pakistani citizens (Article 5).
6. Constitutional Amendments:
 - Procedures for amending the Constitution.
 - Notable constitutional amendments and their implications.

SUGGESTED INSTRUCTIONAL / READING MATERIALS

1. "The Idea of Pakistan" by Stephen P. Cohen.
2. "Ideology of Pakistan" by Javed Iqbal. D. ...
3. "The Struggle for Pakistan" by I.H. Qureshi.
4. "Pakistan the Formative Phase" by Khalid Bin Sayeed.
5. "Pakistan: Political Roots and Development" by Safdar Mahmood.
6. "Ideology of Pakistan" by Sharif-ul-Mujahid.
7. "The Struggle for Pakistan: A Muslim Homeland and Global Politics" by Ayesha Jalal.
8. "Jinnah, Pakistan and Islamic Identity: The Search for Saladin" by Akbar S. Ahmed.
9. "The Making of Pakistan: A Study in Nationalism" by K.K. Aziz.
10. "Pakistan: A New History" by Ian Talbot.
11. "Pakistan in the Twentieth Century: A Political History" by Lawrence Ziring.
12. "The Constitution of Pakistan 1973". Original.
13. "Constitutional and Political Development of Pakistan" by Hamid Khan.
14. "The Parliament of Pakistan" by Mahboob Hussain.
15. "Constitutional Development in Pakistan" by G. W. Choudhury.
16. "Constitution-Making in Pakistan: The Dynamics of Political Order" by G. W. Choudhury.

Degree Program:	BS/AD	Course Code:	PHY-100
Course Title:	Everyday Science	Credit Hours:	3(2+1)
Course Domain:	GC-NS	Sub Domain:	Natural Science
Pre-Requisites	Nil		

Course Description:

The course is aimed to provide profound baseline knowledge regarding the discipline of sciences to the students seeking their degrees in diverse fields. Objectives of this course is to provide students with a clear sense of how science works and an understanding of various concepts related to diverse fields of science

Course Learning Outcomes (CLOs):

After completing this course, student will be able to:

- identify, adapt, and modify investigations that lead to conceptual understanding
- provide students with exciting science experiences that extend their natural fascination with the world and help them learn the science skills and concepts

Detailed Course Contents/Weekly Breakup:

Week	Description/Lectures		Week	Description/Lectures	
1.	1,2,3	Introduction Science in personal and social perspective. The nature of science and scientific investigation (Scientific Method) Contributions of Muslim Scientists	2.	1,2,3	Cell Structures of Plants and Animals and their Functions Mendelian Inheritance Patterns Cell division
3.	1.	Basis of heredity (chromosomes, DNA, and genes in plant and animal cells).	4.	1.	Evolutionary Oneness and Diversity of Life
	2.	A brief survey of plant and animal kingdom to pinpoint similarities and diversities in nature.		2.	Its process, significance, and factors.
	3.	Darwin's Theory of Natural Selection.		3.	Pollination and types of pollination.
5.	1,2,3	Types of reproduction in Plants & Animals (Sexual, Asexual) Proteins, Lipids	6.	1,2,3	Carbohydrates and Enzymes. Vitamins, Carbohydrates, Protein, Fats and oil, Minerals, Fiber.
7.	1,2,3	A Brief Account of Different organ systems (Digestive, Respiratory, Reproductive, Endocrine) Polio, Diarrhea, Malaria, Hepatitis, Dengue their Causes and Prevention.	8.	1,2,3	Activities, Presentations, Quiz
9.	Mid-Semester Examination				
10.	1,2,3	Physical quantities (length, volume, mass, time). System International units (meter, liter, kilogram, second). Measurements in daily life Instruments for measurement (meter, rule, measuring cylinder, flasks, pipettes)	11.	1,2,3	Relationship among force, mass, and motion of an object. Interaction of objects as it relates to force and linear, constant motion. Graphing of motion and basic calculations of speed and average speed.

					Laws of motion
12.	1,2,3	Sources of Energy (Renewable i.e. LED Energy, Solar Energy, Wind Energy and Non-Renewable). Energy conservation and its sustainable use.	13.	1,2,3	Physical and chemical properties/changes, atom, element, compound, mixture, separation of mixtures, states of matter. The nuclear atom, properties of protons, electrons and neutrons, isotopes, atomic mass.
14.	1,2,3	Metals, non-metals, metalloids, introduction to periodic table 1. Introduction to ionic bond, covalent bond, acids, bases	15.	1,2,3	Greenhouse gases and gases responsible for acid rain, their sources and impact on the environment
16.	1,2,3	Noble Laureates, Important inventions, function of UNESCO for science promotion, science popularization	17.	1,2,3	Activities, case study, presentations, quiz
18.	Final Semester Examinations				

Prescribe/Compulsory Readings:

1.	Asimov's New Guide to Science 1993 Isaac Asimov
2.	Science Restated: Physics and Chemistry for the Non-Scientist 1970 Harold Gomes Cassidy
3.	Exploring Physical Science 1977 Walter A. Thurber, Robert E. Kilburn, Peter S. Howell
4.	Everyday Science (Latest issue)

Supplementary/Recommended Readings:

S.No.	Books with Author, Publisher and Edition etc.
1.	The Impact of Science on Society 2005 Isaac Asimov, A. S. a. N. A. S. a
2.	Asimov's New Guide to Science 1993 Isaac Asimov

Degree Program:	BS/ADA/ADS	Course Code:	MATH-100
Course Title:	Basic Mathematics	Credit Hours:	3(3+0)
Course Domain:	General	Sub Domain:	Quantitative Reasoning-II
Pre-Requisites	None		

Course Learning Outcomes (CLOs):

This course will enable students to acquire the basic knowledge of Mathematics used in daily life with special reference to Algebra and basic Arithmetics.

Detailed Course Contents/Weekly Breakup:

Week	Description/Lectures		Week	Description/Lectures		
1.	Real Numbers		2.	Properties of Real Numbers		
	1.	Examples of Real Numbers		1.	Properties of Real Numbers with respect to addition	
	2.	Addition and subtraction of Real Numbers		2.	Properties of Real Numbers with respect to Multiplication	
	3.	Multiplication and division of Real Numbers	3.	Examples and related exercise		
3.	Complex Numbers		4.	Properties of Complex Number		
	1.	Definition and Examples of Complex Numbers, Conjugate of Complex number		1.	Properties of Complex Number with respect to addition	
	2.	Addition and subtraction of Complex Numbers		2.	Properties of Complex Number with respect to multiplication	
	3.	Multiplication and division of Complex Numbers	3.	Examples and related exercise		
5.	Linear equations		6.	Quadratic equations		
	1.	Definition, Formula and Graph of Linear Equations		1.	Solution of Quadratic equations by factorization method	
	2.	Solution of Linear equations in one variable		2.	Solution of Quadratic equations by completing square method	
	3.	Solution of Linear equations in two variables	3.	Solution of Quadratic equations by Quadratic formula		
7.	Quadratic equations		8.	Cube Roots of Unity		
	1.	Finding discriminant of given Quadratic equations		1.	Cube root of Unity and their Properties	
	2.	Nature of roots of Quadratic equations		2.	Properties of Cube roots of Unity to solve appropriate problems	
	3.	Equations reducible to Quadratic equations	3.	Examples related to cubic roots of unity		
9.	Mid-Semester Examination					
10.	Matrices		11.	Matrices		
	1.	Types of Matrices		1.	Inverse of Matrix	
	2.	Addition and subtraction of Matrices		2.	Determinant of Matrix	
	3.	Multiplication and division of Matrices	3.	Related question of Determinant and Inverse of Matrix		
12.	Matrices		13.	Progressions (Sequences)		
	1.	Solution of system of linear equation		1.	Arithmetic progressions	

	2.	Solution of system of linear equation by using Matrix Inversion Method		2.	Geometric progressions.	
	3.	Solution of system of linear equation by using Cramer's Rule		3.	Harmonic progressions.	
14.	Series		15.	Binomial theorem.		
	1.	Arithmetic Series		1.	Binomial theorem with rational indices	
	2.	Geometric Series		2.	Binomial theorem with irrational indices	
	3.	Harmonic Series	3.	Related exercise questions of Binomial theorem with rational and irrational indices		
16.	Trigonometry		17.	Trigonometry		
	1.	Trigonometric ratios and identities		1.	The addition and subtraction formulas	
	2.	Verifying Trigonometric Identities		2.	Multiple Angle Formulas	
	3.	Trigonometric Equations	3.	Product-to-Sum and Sum-to-Product Formulas		
18.	Final Semester Examinations					

Recommended Books:

S.No.	Books with Author, Publisher and Edition etc.
1.	Kaufmann, J. (1992). <i>Algebra with trigonometry for college students</i> . Publisher: Brooks..
2.	Swokowski, E. W & Cole, J. A., (2011). <i>Algebra and Trigonometry with Analytic Geometry</i> . 13 th edi. Cengage Learning.
3.	Habib M., Ali. A., Khan A. R., & Moeen M., (2017). <i>Mathematics</i> . Ilmi Kitab Khana, Lahore.
4.	<i>A text book of Mathematic for Grade IX</i> . Khyber Pakhtunkhwa Textbook Board Peshawer.

CIVICS AND COMMUNITY ENGAGEMENT

UGE Policy V 1.1 : General Education Course

Credits: 02

Pre-Reqmslte: Nil

Offering: Undergraduate Degrees (including Associate Degrees)

Placement: I - 4 Semesters

Type: General Education

Fields: All

DESCRIPTION

This course is designed to provide students with fundamental knowledge about civics, citizenship, and community engagement. In this course, the students will learn about the essentials of civil society, government, civic responsibilities, inclusivity, and effective ways to participate in shaping the society which will help them apply theoretical knowledge to the real-world situations to make a positive impact on their communities.

COURSE LEARNING OUTCOMES

By the end of this course, students will be able to:

1. Demonstrate fundamental understanding of civics, government, citizenship and civil society.
2. Understand the concept of community and recognize the significance of community engagement for individuals and groups.
3. Recognize the importance of diversity and inclusivity for societal harmony and peaceful coexistence.

SYLLABUS

1. Civics and Citizenship:
 - Concepts of civics, citizenship, and civic engagement.
 - Foundations of modern society and citizenship.
 - Types of citizenship: active, participatory, digital, etc.
2. State, Government and Civil Society:
 - Structure and functions of government in Pakistan.
 - The relationship between democracy and civil society.
 - Right to vote and importance of political participation and representation.
3. Rights and Responsibilities:
 - Overview of fundamental rights and liberties of citizens under Constitution of Pakistan 1973.
 - Civic responsibilities and duties.
 - Ethical considerations in civic engagement (accountability, non-violence, peaceful dialogue, civility, etc.)
4. Community Engagement:
 - Concept, nature and characteristics of community.
 - Community development and social cohesion.
 - Approaches to effective community engagement.
 - Case studies of successful community driven initiatives.
5. Advocacy and Activism:
 - Public discourse and public opinion.
 - Role of advocacy in addressing social issues.
 - Social action movements.

6. Digital Citizenship and Technology:

- The use of digital platforms for civic engagement.
- Cyber ethics and responsible use of social media.

Digital divides and disparities (access, usage, socioeconomic, geographic, etc.) and their impacts on citizenship.

7. Diversity, Inclusion and Social Justice:

- Understanding diversity in society (ethnic, cultural, economic, political etc.). Youth, women and minorities' engagement in social development.
- Addressing social inequalities and injustices in Pakistan.
- Promoting inclusive citizenship and equal rights for societal harmony and peaceful coexistence.

SUGGESTED PRACTICAL ACTIVITIES (OPTIONAL)

As part of the overall learning requirements, the course may have one or a combination of the following practical activities:

1. **Community Storytelling:** Students can collect and share stories from community members. This could be done through oral histories, interviews, or multimedia presentations that capture the lived experiences and perspectives of diverse individuals.
2. **Community Event Planning:** Students can organize a community event or workshop that addresses a specific issue or fosters community interaction. This could be a health fair, environmental cleanup, cultural festival, or educational workshop.
3. **Service-Learning:** Students can collaborate with a local nonprofit organization or community group. They can actively contribute by volunteering their time and skills to address a particular community need, such as tutoring, mentoring, or supporting vulnerable populations.
4. **Cultural Exchange Activities:** Students can organize a cultural exchange event that celebrates the diversity within the community. This could include food tastings, performances, and presentations that promote cross-cultural understanding.

SUGGESTED INSTRUCTIONAL / READING MATERIALS

1. "Civics Today: Citizenship, Economics, & You" by McGraw-Hill Education.
2. "Citizenship in Diverse Societies" by Will Kymlicka and Wayne Norman.
3. "Engaging Youth in Civic Life" by James Youniss and Peter Levine.
4. "Digital Citizenship in Action: Empowering Students to Engage in Online Communities" by Kristen Mattson.
5. "Globalization and Citizenship: In the Pursuit of a Cosmopolitan Education" by Graham Pike and David Selby.
6. "Community Engagement: Principles, Strategies, and Practices" by Becky J. Feldpausch and Susan M. Omilian.
7. "Creating Social Change: A Blueprint for a Better World" by Matthew Clarke and MarieMonique Steckel.

ENTREPRENEURSHIP

UGE Policy V 1.1 : General Education Course

Credits: 02
Offering: Undergraduate Degrees (including Associate Degrees)
Placement: 1 - 4 Semesters
Type: Mandatory
Fields: All

DESCRIPTION

This course is designed to promote entrepreneurial spirit and outlook among students, encouraging them to think critically, identify opportunities, and transform their ideas into successful ventures. It aims at imparting them with the requisite knowledge, skills, abilities, enabling them to seize the identified opportunities for initiating ventures and successfully navigating the challenges that come with starting a business and managing it. The course covers topics relevant to entrepreneurship including setting up and initiation of business, market research, opportunity identification, business planning, financial literacy for managing finances and securing funding, marketing and sales, team building and innovation.

COURSE LEARNING OUTCOMES

By the end of this course, students shall have:

1. Knowledge of fundamental entrepreneurial concepts, skills and process.
2. Understanding on different personal, social and financial aspects associated with entrepreneurial activities.
3. Basic understanding of regulatory requirements to set up an enterprise in Pakistan, with special emphasis on export businesses;
4. Ability to apply knowledge, skills and competencies acquired in the course to develop a feasible business plan.

SYLLABUS

1. Introduction to Entrepreneurship:
 - Definition and concept of entrepreneurship.
 - Why to become an entrepreneur?
Entrepreneurial process.
 - Role of entrepreneurship in economic development.
2. Entrepreneurial Skills:
 - Characteristics and qualities of successful entrepreneurs (including stories of successes and failures).
Areas of essential entrepreneurial skill and ability such as creative and critical thinking, innovation and risk taking abilities etc.
3. Opportunity Recognition and Idea Generation:
 - Opportunity identification, evaluation and exploitation;
 - Innovative idea generation techniques for entrepreneurial ventures.
4. Marketing and Sales
 - Target market identification and segmentation;
 - Four P 's of Marketing.
 - Developing a marketing strategy. ● Branding.

5. Financial Literacy:

- Basic concepts of income, savings and investments.
- Basic concepts of assets, liabilities and equity. Basic concepts of revenue and expenses. e Overview of cash-flows.
- e Overview of banking products including Islamic modes of financing.
Sources of funding for startups (angel financing, debt financing, equity financing etc.).

6. Team Building for Startups:

Characteristics and features of effective teams.

- Team building and effective leadership for startups.

7. Regulatory Requirements to Establish Enterprises in Pakistan:

Types of enterprises (e.g., sole proprietorship; partnership; private limited companies etc.).

' Intellectual property rights and protection.

° Regulatory requirements to register an enterprise in Pakistan, with special emphasis on export firms.

- Taxation and financial reporting obligation.

SUGGESTED PRACTICAL ACTIVITIES (OPTIONAL)

As part of the overall learning requirements, students shall be tasked with creating and presenting a comprehensive business plan at the end of the course for a hypothetical or real business idea. This practical exercise shall allow them to apply the knowledge, skills and competencies acquired in the course to develop a feasible business plan.

SUGGESTED INSTRUCTIONAL / READING MATERIALS

1. "Entrepreneurship: Successfully Launching New Ventures" by Bruce R. Barringer and R. Duane Ireland.
2. "Entrepreneurship: Theory, Process, and Practice" by Donald F. Kuratko.
3. "New Venture Creation: Entrepreneurship for the 21st Century" by Jeffry A. Timmons, Stephen Spinelli Jr., and Rob Adams.
4. "Entrepreneurship: A Real-World Approach" by Rhonda Abrams.
5. "The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses" by Eric Ries.
6. "Effectual Entrepreneurship" by Stuart Read, Saras Sarasvathy, Nick Dew, Robert Wiltbank, and Anne-Valérie Ohlsson.

FOUNDATION COURSES

Degree Program	BS- LIS	Course Code	LIS 112
Course Title	Evolution of Libraries & Information Sources	Credit Hours	03

Course Objectives

- To give an overview of the evolution of libraries
- To give an overview of different formats of information and knowledge from ancient to present times
- To develop basic understanding regarding these formats

Course Learning Outcomes

- Students should be able to trace the historical development of libraries and information sources from ancient times to the present day.
- Understand the key milestones and transitions in the evolution of libraries and information systems.
- Explore the changing roles of librarians and information professionals throughout history.
- Understand how the profession has adapted to technological changes and evolving information needs.

Detailed Course Contents/Weekly Breakup

Week	Description/Lectures	Week	Description/Lectures		
1.	Ancient records of knowledge.		2.	History of Libraries	
	I	Pre-History		i	Assurbanipal Library
	Ii	Pale Alithic Age		ii	Pergamum Library
	Iii	New Alithic Age		iii	Alexandria Library
3.	History of Libraries. Continue		4.	Evolution of Alphabets	
	I	Bait ul hikmat Library		i	Contributions of different civilization
	Ii	Mustansiriya Library		ii	Types of writing
	Iii	Nizamiya Library		iii	Pictographic, ideographic, Phonographic
5.	Evolution of Alphabets. Continue		6.	Evolution of Alphabets. Continue	
	I	Clay tablets		i	Hieroglyphic Style of writing
	Ii	Papyrus		ii	Cuneiform Style of writing
	Iii	Parchment		iii	Codex

7.	Invention of printing		8.	Invention of printing. Continue	
	i	Early process		i	Books, Characteristics of books
	ii	The printing press		ii	Serials
	iii	The influence of printing press		iii	Newspapers
9.	Invention of printing. Continue		10.	Audio-Visual Material	
	i	Journals		i	Types of AV Aids material
	ii	Magazine		ii	Microforms
	iii	Continue		iii	Types of microform
11.	Transition to Parchment and Papyrus		12.	Invention of Printing and Emergence of Books	
	i	Codex format and its significance in early manuscripts		i	Johannes Gutenberg and the invention of the printing press
	ii	Comparative study of parchment and papyrus		ii	Impact of the printing press on the dissemination of knowledge
	iii	Advancements from clay tablets to parchment		iii	Development of books as a primary medium of information
13.	Expansion of Written Formats		14.	Integration of Audio Media	
	i	Introduction to serial publications		i	Introduction to audio formats for recording knowledge
	ii	Evolution of journals as academic publications		ii	Impact of audio recordings on accessibility to information
	iii	Emergence of magazines as a popular form of media		iii	Evolution of audio media from tapes to digital formats
15.	Evolution of Visual Media		16.	Emergence of Multimedia Platforms	
	i	Introduction to visual media and its role in knowledge dissemination		i	Introduction to multimedia and its components
	ii	Development of visual storytelling techniques		ii	Impact of multimedia on education and entertainment
	iii	Impact of photography and illustration on media		iii	Development of interactive multimedia platforms

Recommended Readings:

1. Bopp, R. E., & Smith, L. C. (2011). *Reference and Information Services: An Introduction: An Introduction: ABC-CLIO.*
2. Chappel, W. (1980). *A short history of the printed word.* New York: Arno Pr.
3. Foot, P. W. R. (1967). *The story of communications.* Oxford; New York: Pergamon Press.

4. Goker, A., & Davies, J. (2009). *Information retrieval: Searching in the 21st century*: John Wiley & Sons.
5. Harris, M. H. (1995). *History of libraries in the western world*. Metuchen, N.J.: Scarecrow Press.
6. Kilgour, F. G. (1998). The evolution of the book, from <http://site.ebrary.com/id/10358318>
7. Liu, Z. (2008). *Paper to digital : documents in the information age*. Westport, Conn.: Libraries Unlimited.
8. Staikos, K. (2012). *History of the library in western civilization : from petrarch to michelangelo*. [Place of publication not identified]: Hes & De Graaf Publ.
9. Wilkie, C., Aslib, & Information Management, I. (1999). *Managing film and video collections*. London: Aslib/Imi.

Degree Program	BS- LIS	Course Code	LIS 111
Course Title	User Services in Libraries	Credit Hours	03

Course Objectives

- To understand the types and terminology of user services in libraries.
- To develop skills for Planning, designing, implementing and evaluating effective user services.

Course Learning Outcomes

- Identify and analyze the diverse information needs of library users.
 - Understand the factors influencing user expectations in the context of library services.
 - Provide effective reference and research assistance to library users.
 - Offer guidance on the use of library technologies and electronic resources.
- Develop effective communication skills for interacting with library users of diverse backgrounds.

Detailed Course Contents/Weekly Breakup

Week	Description/Lectures	Week	Description/Lectures
1.	Introduction to user services.	2.	Circulation service
	I Nature of Users		i Definition of Circulation services
	Ii Types of Users		ii Types of Circulation services
	Iii Concept Definition and Services		iii Rules of Check-in and Check-out
3.	Information services	4.	Referral Service
	I Types of Information Services		i Introduction to Referral Service
	Ii Anticipatory Services		ii Assistance services

	iii	Responsive Services		iii	Instruction services
5.	Current awareness service		6.	Selective Dissemination of Information	
	I	Definition of CAS		i	Definition of SDI
	ii	Functions of CAS		ii	Characteristics of SDI
	iii	Need/Purpose of CAS		iii	Objectives of SDI
7.	Documentation services		8.	Translation services	
	i	Introduction/Definition of Documentation Services		i	Definition of Translation Services
	ii	Need of Documentation Services		ii	Needs and Objectives of Translation Services
	iii	Types of Documentation Services		iii	Types of Translation Services
9.	Inter Library Loan		10.	Document Delivery	
	i	Introduction to Inter library Loan		i	Introduction to Document delivery service
	ii	Inter library loan in academic library		ii	Document delivery services in public libraries
	iii	Continue		iii	Continue
11.	Reprographic services		12.	Reprographic services. Continue	
	i	Introduction of Reprographic services		i	Continue
	ii	Continue		ii	Application of Reprographic services
	iii	Process of Reprographic services		iii	Continue
13.	User education		14.	User education. Continue	
	i	Introduction to User Education		i	Practices of User Education
	ii	Methods of User Education		ii	Continue
	iii	Continue		iii	User's Study
15.	User education. Continue		16.	User Services in Libraries with special reference to Pakistan	
	i	User Education in academic libraries		i	Different User Services offered in Pakistani Libraries

ii	Continue	ii	Continue
iii	Continue	iii	Continue

Recommended Readings:

1. Bopp, R. E., & Smith, L. C. (2001). *Reference and information services: an introduction*. Englewood, Colo.: Libraries Unlimited.
2. Bopp, R. E., & Smith, L. C. (2011). *Reference and Information Services: An Introduction: An Introduction: ABC-CLIO*.
3. Evans, G. E., Amodeo, A. J., & Carter, T. L. (1999). Introduction to library public services, from <http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=18400>
4. Goker, A., & Davies, J. (2009). *Information retrieval: Searching in the 21st century*: John Wiley & Sons.
5. Janes, J. (2003). *Introduction to reference work in the digital age*: Neal Schuman Pub.
6. Katz, W. A. (1974). *Introduction to reference work. Vol. 1. 2nd ed.* New York.
7. Katz, W. A. (1978). *Introduction to reference work. Vol. 2. 3rd ed.* New York.

Degree Program	BS- LIS	Course Code	LIS 113
Course Title	Information, Library and Society	Credit Hours	03

Course Objectives

- To explore the environment in which library and information professionals work.
- To understand social, political and economic context in which libraries and other information agencies operate.
- To understand the nature of library and information.
- To understand the role of libraries in society.
- To identify library services and availability of resources in libraries.
- To understand the use of information ethically.
- To understand the role of libraries in providing access to information irrespective of their form, format and location.

Course Learning Outcomes

- Understand the role of libraries in promoting knowledge.
- Understand how to use the information in an ethical manner.
- Understand the role of skillful librarians in the society for spreading of information.
- Understand the purposes and functions of different types of libraries.

- Understand different library terminology.
- Understand the profession of Library and Information Science.
- Understand the policy for information and information management.

Detailed Course Contents/Weekly Breakup

Week		Description/Lectures	Week		Description/Lectures
1.	Introduction		2.	Information	
	I	Introduction to libraries		i	Origin, definition, Meaning
	ii	Types of Libraries		ii	Types of Information
	iii	Importance and Purpose of Libraries		iii	Information VS Knowledge
3.	Information Continue.....		4.	Society	
	I	Characteristics of Information		i	Characteristics of Society
	ii	Principles of Information		ii	Purpose of Society and its importance
	iii	Continue		iii	Types of Society
5.	Introduction to LIS		6.	Library and its role in Society	
	I	LIS as a Profession		i	Role of Libraries in our society
	ii	LIS Professionalization History		ii	Continue
	iii	LIS as a Discipline		iii	Continue
7.	Information Society		8.	Communication	
	i	Concept , meaning and definition Information Society		i	Origin, meaning, definition of Communication
	ii	Characteristics of Information Society		ii	Process of Communication

	iii	Functions of Information Society		iii	Types of Communication
9.	Information Policy		10.	Information Privacy	
	i	Introduction to Information Policy		i	Concept and Definition of Information Privacy
	ii	Levels of Information Policy		ii	Information Privacy Principles
	iii	Continue		iii	Information Privacy Laws
11.	Intellectual property		12.	Information Ethics	
	i	Introduction to Intellectual Property		i	Introduction to Information Ethics
	ii	Types of Intellectual Property		ii	Used of Information in Ethical Manner
	iii	World Intellectual Property Organization (WIPO)		iii	Factors effecting information in ethical manner
13.	Information Management		14.	Freedom of Information	
	i	Components of Information Management		i	Freedom of Information
	ii	Goals of Information Management		ii	Freedom of Access of Information in Pakistan
	iii	Challenges for Information Management		iii	Continue
15.	Economic aspects of information		16.	Information Sources	
	i	Introduction to the Concept of Economic aspects of Information		i	Introduction, meaning, definitions
	ii	Economic role of Information		ii	Kinds of Information Sources
	iii	continue		iii	Continue

Recommended Readings:

1. Bukland, M. (2017). *Information and Society*. United States of America: Massachusetts Institute Technology (MIT) Press.
2. Baker, D., & Evans, W. (2011). *Libraries and society: role, responsibility and future in an age of change*.
3. Chowdhury, G. G. (2007). *Librarianship: the complete introduction*. London: Facet.
4. Crawford, W., Gorman, M., & Association, A. L. (1995). *Future libraries: dreams, madness & reality*: SciELO Brasil.
5. Feather, J. (2004). *The information society: a study of continuity and change*. London:

Facet Pub.

6. Gerard, D. E. (1978). *Libraries in society: a reader*. London; New York: Bingley; K.G. Saur.
7. Gerard, D. E., & Welsh Arts, C. (1975). *Libraries and leisure: a symposium on the relationship between libraries and recreation in contemporary society*, London.
8. Himma, K. E. (2007). Information ethics, from <http://public.ebilib.com/choice/publicfullrecord.aspx?p=291574>
9. Lester, J., & Koehler, W. C. (2003). *Fundamentals of information studies: understanding information and its environment*. New York: Neal-Schuman Publishers.
10. McCabe, G. B., & Dowell, D. R. (2006). *It's all about student learning: managing community and other college libraries in the 21st century*. Westport, Conn.: Libraries Unlimited.
11. Rubin, R. E. (1998). *Foundations of Library and Information Science*: ERIC.
12. Torr, J. D. (2003). *The information age*. San Diego: Greenhaven Press.

Degree Program	BS- LIS	Course Code	LIS- 122
Course Title	Basic Reference and Information Services	Credit Hours	03

Course Objectives

- The primary intent is to acquaint students with basic reference sources and learn about a few standard titles in each of the basic categories.
- Enable them to retrieve information efficiently using these information sources
- Students will demonstrate knowledge of the history and philosophy of reference service.
- Students will explore the research that has been done on reference services.
- Students will gain familiarity with information sources, their typical features, and their utility in the provision of information services.
- Students will study and practice search strategy and the evaluation of information sources
- Formulate different Bibliographical and Geographical sources for using reference and information sources

Course Learning Outcomes

- Demonstrate awareness and close knowledge of the contents of reference sources
- Examine, compare, contrast, and evaluate reference sources
- Understand the history and role of reference services in information settings
- Articulate the role of library instruction in reference services and develop basic training skills
- Understand ethical guidelines supporting reference services
- Demonstrate awareness of the role of professional associations.

Detailed Course Contents/Weekly Breakup

Week	Description/Lectures	Week	Description/Lectures		
1.	Introduction to Information Sources		2.	Evolution of Information Sources	
	I	Introduction to Information Sources		i	General Evolution Criteria
	ii	Objectives of Information Sources		ii	Elements for evaluating information Sources
	iii	Importance of Information Sources		iii	Continue
3.	Reference Sources		4.	Reference Sources Continue	
	i	Introduction to the Concept of Reference Sources		i	Difference between Reference Sources, References books and Reference Materials
	ii	Kinds of Reference Sources		ii	Continue
	iii	Characteristics of Reference Sources		iii	Continue
5.	Introduction to Bibliographies		6.	Introduction to Catalogues of Libraries	
	I	Concept, meaning, definition of Bibliographies		i	Introduction to catalogues of libraries
	ii	Forms of Bibliographies		ii	Kinds of Library Catalogues
	iii	Kinds of Bibliographies		iii	Continue
7.	Abstract and Abstracting		8.	Index and Indexing	
	i	Introduction to the process of Abstracting		i	Introduction to the process of Indexing
	ii	Importance of Abstracting		ii	Characteristics of Good Index
	iii	Types of Abstracting		iii	Types of Indexing
9.	HEC Digital Library		10.	Encyclopedia	

	i	Introduction to HEC Digital Library		i	Uses and importance of Encyclopedia
	ii	Various types Digital Libraries		ii	Types of Encyclopedia
	iii	Searching in different types of Data Base in HEC Digital library		iii	Continue
11.	Directories		12.	Bibliographical Sources	
	i	Introduction to Directories		i	Introduction to Bibliographical Sources
	ii	Types of Directories		ii	Different types of Bibliographical Sources
	iii	Continue		iii	Continue
13.	Geographical Sources		14.	Internet Public Library	
	i	Introduction to Geographical Sources		i	Introduction to Internet Public Library
	ii	Different types of Geographical Sources		ii	Characteristics of Internet Public Library
	iii	Continue		iii	Types of Internet Public Library
15.	Reference Websites		16.	Reference and Information Sources in Pakistan	
	i	Introduction to Reference Websites		i	Introduction Reference and Information Sources in Pakistan
	ii	role of Reference Websites in libraries		ii	Various Kinds of Reference and Information Sources in Pakistan
	iii	continue		iii	Continue

Recommended Readings:

1. Singh, G. (2015). *Information sources, Services and Systems. (2nd ed.)* India; New Delhi: PHI Learning Private Limited.
2. *Basic reference sources.* <http://www.lili.org/forlibs/ce/able/course11/welcome-2.htm>
3. Bopp, R. E., & Smith, L. C. (2011). *Reference and information services : an introduction.* Santa Barbara, Calif.: Libraries Unlimited.
4. Goker, A., & Davies, J. (2009). *Information retrieval: Searching in the 21st century:* John Wiley & Sons.

5. Harper, M. (2011). *Reference sources and services for youth*. New York, NY: Neal-Schuman Publishers.
6. Jadhav, U. S., & Jange, S. (2012). *Library and information sources and services*. New Delhi: Regency Publications.
7. Janes, J. (2003). *Introduction to reference work in the digital age*: Neal Schuman Pub.
8. Katz, W. A. (2002). *Introduction to reference work: Vol. 1, Basic information services*. Boston: McGraw-Hill
9. Loyd, S., Building Services, R., & Information, A. (1993). *Information sources for building services professionals*: BSRIA.
10. Singh, G. (2013). *Information sources, Services and Systems*. India; New Delhi: PHI Learning Private Limited

Degree Program	BS-LIS	Course Code	LIS- 121
Course Title	Information Literacy	Credit Hour	3
Course Domain	GEN-SS	Sub Domain	

Course Objectives
<ul style="list-style-type: none"> • To equip students with the foundational information literacy skills necessary to locate, evaluate, and use information effectively in various academic and real-world contexts. • To encourage critical thinking and analytical skills by teaching students how to assess the credibility and relevance of information sources and make informed decisions. • To instill ethical and responsible information use practices, including proper citation and avoidance of plagiarism, while respecting intellectual property rights. • To empower students with the ability to adapt to changing information environments, promoting a lifelong learning mindset that extends beyond the classroom.

Week	Description/Lecturers	Week	Description/Lecturers
1	Introduction to Information Literacy	2	Information Sources
	1. What is Information Literacy?		1. Identifying Different Information Sources
	2. The Evolution of Information Literacy		2. Traditional vs. Digital Information Sources
	3. Importance of Information Literacy in Modern Life		3. Primary, Secondary, and Tertiary Sources

3.	Information Seeking Process		4	Searching Strategies	
	1.	The Information Seeking Process: Steps and Strategies		1.	Effective Search Techniques
	2.	Formulating Research Questions		2.	Boolean Operators and Advanced Search Operators
	3.	Problem Definition and Information Needs Assessment	3.	Using Filters and Advanced Search Features	
5.	Evaluating Information		6	Citation and referencing	
	1.	Criteria for Evaluating Information Sources		1.	Introduction to Citation Styles (APA, MLA, Chicago, etc.)
	2.	Distinguishing Reliable from Unreliable Sources		2.	Proper Citation and Avoiding Plagiarism
	3.	Evaluating Websites for Credibility	3.	Creating Bibliographies and References	
7.	Database Searching		8	Web Literacy	
	1.	Navigating Academic Databases		1.	Evaluating Web Content for Credibility
	2.	Advanced Database Search Strategies		2.	Identifying and Avoiding Fake News
	3.	Managing and Saving Database Searches	3.	Responsible Online Information Consumption	
Mid Semester Examination					
9	Information Ethics		10	Information Organization	
	1.	Copyright and Fair Use Guidelines		1.	Effective Notetaking and Summarizing
	2.	Ethical Use of Information: Attribution and Permissions		2.	Managing and Organizing Research Materials
	3.	Digital Rights and Privacy	3.	Reference Management Tools	
11	Critical Thinking and Information Literacy		12	Information Literacy in Research	
	1.	Developing Critical Thinking Skills in Information Evaluation		1.	Integrating Information Literacy into Research Projects
	2.	Analyzing Data and Information		2.	Literature Review and Information Synthesis
	3.	Recognizing Bias and Assumptions	3.	Research Proposal Development	
13	Information Literacy Assessment		14	Information Literacy in Education	
	1.	Responsible Online Behavior and Digital Citizenship		1.	Integrating Information Literacy into Curriculum
	2.	Cybersecurity and Protecting Personal Information		2.	Teaching Information Literacy Skills to Students
	3.	Avoiding Cyberbullying and Online Scams	3.	Collaborative Teaching Strategies	
15.	Calibre (Repository Software)		16	Future Trends in Information Literacy	
	1.	Methods for Assessing Information Literacy Skills		1.	Emerging Technologies and Information Literacy
	2.	Creating Effective Information Literacy Assessments		2.	Lifelong Learning in the Information Age
	3.	Continuous Improvement in Information Literacy Education	3.	The Role of Libraries and Educational Institutions in Information Literacy	

Final Semester Examination

Reference Readings

1. Breivik, P. S., & Gee, E. G. (Eds.). (2021). Information Literacy: Research and Collaboration Across Disciplines. Libraries Unlimited.
2. Grassian, E. S., & Kaplowitz, J. R. (2020). Information Literacy Instruction: Theory and Practice (3rd ed.). Rowman & Littlefield Publishers.
3. Herring, J. E. (Ed.). (2022). Teaching Information Literacy: An International Review. Facet Publishing.
4. Johnston, J. E. (Ed.). (2021). The Information Literacy Cookbook: Ingredients, Recipes, and Tips for Success. ACRL.

Degree Program	BS-LIS	Course Code	LIS -124
Course Title	Introduction to Technical Operations in Libraries	Credit Hour	03
Course Domain	Major	Sub Domain	

Course Objectives

- Understand the structure of books, including their parts, such as binding, preliminary pages, main text, and auxiliaries, and identify different types of books based on their sizes.
- Gain proficiency in subject analysis by learning the principles of selecting subject headings and becoming familiar with various subject heading tools, including Sears List, Library of Congress List, and others.
- Develop a foundational understanding of classification systems, including the historical development and major classification schemes of the 19th and 20th centuries, focusing on the Dewey Decimal Classification (DDC) and its basic concepts and structure.
- Explore cataloging concepts and practices, from the history of cataloging codes to descriptive cataloging techniques, including rules for monographic publications and the notational system and features of DDC, with a focus on practical cataloging exercises.

Week		Description/Lecturers	Week		Description/Lecturers
1	Parts of Book		2	Subject Analysis/Subject Heading	
	1.	Definitions, 1. Binding 2. Preliminary Pages		1.	Meaning and Definition , indicators of the subject
	2.	3. Main Text 4 Auxiliaries (End Matters)		2.	Principles of Selecting Subject Heading

	3.	Types of Books (Books sizes)		3.	Introduction of Tools of subject heading
3.	Subject Headings Tools		4	Introduction to Classification	
	1.	Sears List of Subject Heading		1.	Concept and Definition of Classification
	2.	Library of Congress List of Subject Heading		2.	Historical Development of Classification
	3.	Other Subject headings Lists		3.	Major Classification Schemes of 19th and 20th Centuries
5.	Dewey Decimal Classification (DDC)		6	Basic concepts of Classification	
	1.	Introduction of DDC		1.	Close Classification VS Broad Classification
	2.	Structure of Dewey Decimal Classification		2.	Knowledge VS Library Classification
	3.	Current Status and Usage		3.	Basics of DDC Tables
7.	Introduction to Cataloguing		8	History of Cataloguing Codes	
	1.	Concept, Origin and Definition of Cataloguing		1.	Beginning, Pinakas, Anthony Pannizi to AA Code
	2.	Objectives of Cataloguing		2.	Vatican Code to Paris Principles
	3.	Functions of Cataloguing		3.	ISBD, International Conference on Cataloguing Principles

Mid Semester Examination

9	Anglo-American Cataloguing Rules (AACR)		10	Form of Catalogues	
	1.	AACR-I 1967		1.	Card Form (definition, merits, demerits)
	2.	AACR-II 1978, AACR-II Revision 1988		2.	Book Form (definition, merits, demerits)
	3.	AACR-II Revision 1998, 2002/05		3.	Sheaf Form (definition, merits, demerits)
11	Form of Catalogue		12	Descriptive Cataloguing (DC)	
	1.	Computerized or Automated Form (definition, merits, demerits)		1.	Definition and objectives of DC
	2.	characteristics of Online Public Access Catalogue		2.	Level of Description,
	3.	Qualities of Good Catalogue		3.	Areas of Organization
13	Rules for Monographic publications		14	Notational System and Features of DDC	
	1.	General Rules for Describing Monographic Publications		1.	Notation and its Types
	2.	Rules for Punctuation and Capitalization		2.	Qualities of Notation
	3.	Practice of Cataloguing of Monographic and serial publications		3.	Features of DDC
15.	Relative Index of DDC		16	Publications of DDC	
	1.	Introduction, Relative Index, Need and Importance		1.	Print Edition of DDC
	2.	Scope of the RI		2.	Online Editions and e-DDC
	3.	Features of RI		3.	Web Dewey

Final Semester Examination

Recommended Readings

1. Chan, L. M. (Ed.). (2020). Cataloging and Classification: Trends, Transformations, Teaching, and Training (Vol. 1). Walter de Gruyter GmbH & Co KG.
2. Intner, S. S., Weihs, J., & Polger, M. A. (2021). Cataloging Correctly for Kids: An Introduction to the Tools (7th ed.). Libraries Unlimited.
3. Taylor, A. G., & Joudrey, D. N. (2018). The Organization of Information (4th ed.). Libraries Unlimited.
4. Tsai, C. C. (Ed.). (2020). Library Cataloging and Metadata Services. IGI Global.

Degree Program	BS- LIS	Course Code	LIS- 123
Course Title	Management of Library & Information Services	Credit Hours	03

Course Objectives

- To understand functions of management and their underlying theoretical concepts.
- To understand how these functions can be applied to provide effective library and information services.

Course Learning Outcomes

1. Understand the fundamental principles and theories of library and information science, including the historical development and evolution of libraries and information services.
2. Demonstrate proficiency in the management and organization of library resources, including cataloging, classification, and metadata standards, to facilitate efficient access to information for users.
3. Develop skills in collection development and management, including the ability to assess user needs, evaluate resources, and make informed decisions regarding the acquisition, retention, and deselection of materials.

Detailed Course Contents/Weekly Breakup

Week	Description/Lectures	Week	Description/Lectures
1.	Principles of Library Administration	2.	Management of Libraries
	I Overview of library administration principles		i Introduction to Academic library
	ii Applications of principles		ii Resources and Services of Academic library
	iii Importance of effective management in libraries		iii HRM in Academic library
3.	Management of Libraries. Continue	4.	Management of Libraries. Continue

	I	Introduction to Public library		i	Introduction to National library
	Ii	Management of Resources and Services of Public library		ii	Management of Resources and Services of National library
	Iii	HRM in Public library		iii	HRM in National library
5.	Management of Libraries. Continue		6.	POSDCORB	
	I	Introduction to Special library		i	POSDCORB in context of Library
	Ii	Management of Resources and Services of Special library		ii	Application of POSDCORB
	Iii	HRM in Special library		iii	Significance of POSDCORB
7.	Planning and Organizing		8.	Staffing and Human Resource Management	
	i	Principles of planning in library administration		i	Recruitment and selection in library staffing
	ii	Organizational structures in libraries		ii	Training and development of library personnel
	Iii	Continue		iii	Continue
9.	Directing and Coordinating		10.	Reporting and Budgeting	
	i	Leadership styles in library management		i	Financial management in libraries
	ii	Coordination and communication strategies		ii	Reporting mechanisms and accountability
	iii	Continue		iii	Continue
11.	Administrative Aspects of Technical Services		12.	Facilities Management and Change Management	
	i	Technical service workflows and procedures		i	Space planning and utilization in libraries
	ii	Collection development and management		ii	Change management principles and practices
	iii	Continue		iii	Continue
13.	Rules and Regulations		14.	Evaluation and Quality Assurance	
	i	Legal considerations in library administration		i	Methods of evaluating library services and programs
	ii	Developing and enforcing library policies		ii	Quality assurance and continuous improvement

	iii	Continue		iii	Continue
15.	Public Relations and Inter-Agency Cooperation		16.	Time Management	
	i	Building community partnerships and collaborations		i	Time management techniques for library administrators
	ii	Public relations strategies for libraries		ii	Prioritization and delegation in library management
	iii	Strategies for optimizing library space and facilities		iii	Continue

Recommended Readings:

1. Balakrishnan, S., & Paliwal, P. K. (2001). *Management of library information services*. New Delhi: Anmol Publications.
2. Evans, G. E., Layzell Ward, P., Rugaas, B., & Evans, G. E. (2007). *Management basics for information professionals*. New York: Neal-Schuman.
3. Massis, B. E. (2003). *The practical library manager*. New York: Haworth Press.
4. Poynton, C. (2008). *Managing the evolution of library and information services*. London, UK; Peoria, IL: Ark Group.
5. Stueart, R. D. & Moran, B. B. (2007). *Library and information center management*. Greenwood Village, CO: Libraries Unlimited.
6. Sajjad-ur-Rehman(1993). *Elm-e-Intezamyat: Taaruf aur kutub khano par etlaq*. University of the Punjab Lahore. PULSAA.

Degree Program	BS- LIS	Course Code	LIS 231
Course Title	Bibliographic Control	Credit Hours	03

Course Objectives

- Describe the basic nature and characteristics of documents
- Describe the basic purposes and processes of authority control
- Explain core issues in the selection, arrangement, and formation of metadata elements in surrogates
- Analyze and classify subjects on a conceptual level
- Compare different types of classification schemes and controlled vocabularies
- Describe the purposes of bibliographic control and resource discovery
- Describe the general role of resource description and access in the information transfer process, and its particular role in information systems design and operation

Course Learning Outcomes

- Students should gain a comprehensive understanding of the principles and concepts underlying bibliographical control, including its importance in organizing and managing information resources.
- Students should be familiar with various bibliographic tools and systems used for organizing and accessing information resources, such as library catalogs, databases, classification systems, and metadata standards.
- Students should develop critical thinking skills to evaluate the quality, relevance, and reliability of bibliographic resources for different purposes, such as research, reference, and collection development.
- Students should be able to apply their knowledge and skills in bibliographic control to practical scenarios, such as cataloging projects, metadata creation, and information organization tasks in library and information settings.

Detailed Course Contents/Weekly Breakup

Week	Description/Lectures	Week	Description/Lectures
1.	Introduction to Bibliographical Control	2.	Introduction to Bibliographical Control
			Continue
	I Introduction to concept of Bibliographical Control		i Historical Developments of Bibliographies
	ii Origin, meaning and Definition of Bibliographical Control		ii Development in early Europeans era
iii Needs and Importance of Bibliographical Control	iii Development in Muslims era		
3.	Types of Bibliographies	4.	Form of Bibliographies
	i Introduction to Bibliographies		i Various Forms of Bibliographies
	ii Types of Bibliographies		ii Continue
	iii Continue		iii Continue
5.	Bibliographical Control at National Level	6.	Bibliographical Control in Pakistan
	I Purpose of Bibliographical Control		i Various Bibliographical Control organization in Pakistan

	ii	Reasons of Bibliographical Control		ii	Continue
	iii	Strategies for Bibliographical Control		iii	Continue
7.	Bibliographical Control at International Level		8.	Preparation of Bibliographies	
	i	Introduction to Universal Bibliographical Control		i	Steps in Preparing of Bibliographies
	ii	Various Bibliographical Control organization in world		ii	Continue
	iii	Continue		iii	Continue
9.	Automated bibliographical control		10.	Bibliographic Data Bases	
	i	Introduction to Automated bibliographical control		i	Introduction to Data Bases
	ii	Continue		ii	Properties of Data Bases
	iii	Continue		iii	Various Kinds of Bibliographic Data Bases
11.	Bibliometrics		12.	Depository laws	
	i	Introduction to Bibliometrics		i	Introduction to Depository laws
	ii	Types of Bibliometrics		ii	Depository laws in Pakistan
	iii	How to do Bibliometrics study of Journal etc		iii	Continue
13.	Principles of Bibliographical Control		14.	Bibliographical Control in Digital Environment	
	i	Fundamental Principles of Bibliographic Description		i	Concept of Bibliographical control in digital environment
	ii	Standards and Guidelines in Bibliographical Control (e.g., ISBD, AACR2, RDA)		ii	Challenges and Opportunities of Digital Bibliography
	iii	Continue		iii	Continue
15.	Ethical and Legal issues in Bibliographical Control		16.	Advanced topics in Bibliographical Control	
	i	Intellectual Property Rights and Copyright Issues		i	Metadata Standards for Digital Resources (e.g., Dublin Core etc)

ii	Ethical Considerations in Bibliographical Control	ii	Current Trends and Emerging Technologies in Bibliographical Control
iii	continue	iii	Continue

Recommended Readings:

11. Davinson, D. (1981). *Bibliographic control*. London: Clive Bingley.
12. Hawkins, A. R. (2006). *Teaching bibliography, textual criticism, and book history*. London: Pickering & Chatto.
13. Library of Congress. (2008) on the record; Report of the Library of Congress Working, D.C; Library of Congress.
14. Pakistan (1962) *The Pakistan national bibliography*. Islamabad; Govt: of Pakistan, Department of Libraries, and National Bibliographical Unit.
15. Raju, A. A. N., Ramaiah, L. S., & Dasgupta, A. K. (2003). *National bibliographical control: problems and perspectives: essays for A.K. Dasgupta*. New Delhi: Allied Publishers.
16. Loyd, S., Building Services, R., & Information, A. (1993). *Information sources for building services professionals*: BSRIA.
17. Singh, G. (2013). *Information sources, Services and Systems*. India; New Delhi: PHI Learning Private Limited

Introduction to Publishing and Book Trade

Course Title: Introduction to Publishing and Book Trade

Course Code: LIS 232

Credit Hours: 03

Learning Objectives:

By the end of this course students are expected;

1. To develop an understanding of the information industry dynamics
2. To develop learning about dealing with commercial and non-commercial publishers in libraries context
3. To develop and understanding of local and foreign acquisitions

Learning Outcomes:

Students will gain an idea of

1. Publishing and its brief history in Pakistan
2. Publishers and job.
3. Dynamics of the foreign and local book trade in Pakistan
4. Acquisition of foreign books, journals, and databases in libraries of Pakistan:
5. Procedure and problems.
6. Vendors, book-sellers, and distributors.

Course Contents

Week 1-2:

1. **Lecture 1-3:** Publishing and its importance
2. **Lecture 4-6:** History of Publishing in Pakistan
3. **Lecture 7-8:** Publishers, their job and types

Week 3-4:

4. **Lecture 9-11:** Types of Book publishing
5. **Lecture 12-15:** Scholarly publishing
6. **Lecture 15-18:** Journal publishing

Week 5-6:

7. **Lecture 19-21:** Electronic publishing
8. **Lecture 22-25:** Dynamics of the foreign and local book trade in Pakistan
9. **Lecture 26-28:** Acquisition of foreign books, journals, and databases in libraries of Pakistan: Procedure and problems

Week 7-8:

10. **Lecture 29-31:** Major Problems in the acquisition of foreign books and other reading materials
11. **Lecture 32-35:** International Standard Book Number (ISBN)

Week 9-10:

12. **Lecture 36-38:** Copyright
14. **Lecture 39-40:** Infringement

Week 11-12:

- 15- **Lecture 41:** Piracy
16. **Lecture 42:** Causes of book piracy in Pakistan
17. **Lecture 43:** Plagiarism

Week 13-14:

18. **Lecture 44:** Censorship
19. **Lecture 45-46:** The role of censorship in modern society

Week 15-16:

20. **Lecture 47:** New Trends in Publishing in the digital era
21. **Lecture 48:** Impact of digital publishing on the traditional libraries of Pakistan

Recommended Readings

- Moahi, K.H. (2007). Copyright in the digital era and some implications for indigenous knowledge. In: Information Literacy Education for Tertiary Institutions (Arua, U., Uzuegbu, C.P. and Ugah, A.D. eds.) .Zeh Communications, Umuahia. P.236.
- Obiyan, G.A. (2014). Legal Issues in the Use of Information. In: Information Literacy Education for Tertiary Institutions (Arua, U., Uzuegbu, C.P. and Ugah, A.D. eds.) .Zeh Communications, Umuahia. Pp. 167-180.

Okpoko, J. (2012). Understanding Book Publishing. Ahmadu Bello University press, Zaria.p.168.
 Stevens, R. (2008).TCP/IP Illustrated, p.95.
 Taylor, A. (2012). What to know about publishing laws. Seqlegal. UK.

Degree Program	BS-LIS	Course Code	LIS 233
Course Title	Library Automation Systems	Credit Hour	04 (3+1)
Course Domain	Major	Sub Domain	

Course Objectives
<ul style="list-style-type: none"> • Understand the fundamental concepts of Library Automation (LA), including its definition, objectives, and the advantages it offers to library operations. • Learn about Systems Analysis for Library Automation, covering basic requirements, relevant technical standards, and the features of Library Management Systems (LMS). • Explore the Integrated Library System (ILS), including its components, modules, and features, to comprehend its role in automating library services. • Gain insights into the implementation, maintenance, and evaluation of library automation systems, including strategies for implementation, maintenance practices, and evaluation methods for assessing effectiveness.

Week	Description/Lecturers	Week	Description/Lecturers
1	Concepts of Library Automation (LA)	2	Systems Analysis for Library Automation
	1. Introduction, meaning and Definition		1. Basic Requirements of LA
	2. Needs and Objectives		2. Relevant technical standards
	3. Advantages of Library Automation		3. Features of LMS
3.	Integrated Library System (ILS)	4	Areas and Services of Library Automation
	1. Components of ILS		1. Areas of Library Automation
	2. Modules of ILS		2. Automated Library Services
	3. Features of various Modules		3. OPAC, Introduction and Features
5.	Library Automation	6	Implementation, Maintenance, and Evaluation
	1. Planning of Library Automation		1. Strategies for implementing library automation systems

	2.	Implementation, maintenance, and evaluation of ILS		2.	Maintenance practices for ensuring system efficiency
	3.	Structure of the library automation industry		3.	Evaluation methods for assessing the effectiveness of library automation systems
7.	Industry Structure of the Library Automation		8	Library Automation in Pakistan	
	1.	Overview of the major players in the library automation industry		1.	Library software used in Pakistani Libraries
	2.	Trends and developments in the library automation market		2.	Role of various organization and bodies in developing automated library culture in Pakistan
	3.	Impact of industry structure on library automation initiatives		3.	Library Automation Problems in Pakistan
Mid Semester Examination					
9	Implementation, Maintenance, and Evaluation		10	Planning and Acquisition of Library Automation Systems	
	1.	Strategies for implementing library automation systems		1.	Request for proposals (RFP) process in library automation
	2.	Maintenance practices for ensuring system efficiency		2.	Contract negotiation and vendor selection
	3.	Evaluation methods for assessing the effectiveness of library automation systems		3.	Budgeting and funding for library automation projects
11	Acquisitions Module		12	Cataloguing Module	
	1.	Overview of the acquisitions module in library automation systems		1.	Functions and features of cataloging modules
	2.	Functions and features of acquisitions modules		2.	Metadata standards and cataloging rules in library automation
	3.	Best practices for managing acquisitions processes		3.	Enhancing cataloging efficiency and accuracy
13	OPAC Services		14	Circulation Module	
	1.	Introduction to Online Public Access Catalog (OPAC) services		1.	Functions and features of circulation modules
	2.	User interface design and customization for OPACs		2.	Patron management and circulation policies
	3.	Advanced search capabilities and features in OPACs		3.	Automation of circulation processes for efficiency and user satisfaction
15.	Role of Library Staff and Management		16	Implementation Case Studies and Future Trends	
	1.	Responsibilities of library staff in managing automation systems		1.	Case studies of successful library automation implementations
	2.	Leadership and decision-making roles of senior management		2.	Emerging trends in library automation technology

	3.	Collaboration between library systems personnel, librarians, vendors, and consultants		3.	Discussion on the future of library automation and potential innovation
Final Semester Examination					

Recommended Readings
1. Marshall, M. (2018). Library Automation in Transitional Societies: Lessons from Eastern Europe and the Former Soviet Union. Chandos Publishing.
2. Chowdhury, G. G. (2017). Introduction to Modern Information Retrieval (3rd ed.). Facet Publishing.
3. Cullen, R. (2016). Introduction to Knowledge Management: Principles and Practice (2nd ed.). Facet Publishing.
4. Koehler, W. (2018). Practical Library Automation: An Introduction for Library Professionals. Libraries Unlimited.
5. Davis, R. C. (2016). Library Automation: Core Concepts and Practical Systems Analysis (3rd ed.). Libraries Unlimited.

Collection Development and Management

Course Title: Collection Development and Management

Course Code: LIS 241

Credit Hours: 03

Learning Objectives:

After studying this course the students will be able to:

1. Explain the concept of collection development and management in libraries
2. Describe the importance of collection development in libraries
3. Discuss the role collection management in delivery of right information to right user
4. Explain the collection development policy, planning, and budgeting
5. Discuss the importance of collection development and management in electronic era
6. Explain the role of collection analysis in collection development in libraries

Learning Outcomes:

Students will gain an idea of

7. How collections are developed in libraries
8. How selection and acquisition is made
9. How reading materials are technically processed
10. How collection is assessed
11. How the needs of the community is determined

Course Contents

Week 1-2:

4. **Lecture 1-3:** Mechanism of Collection Development and Management

5. **Lecture 4-6:** Assessing Users' Needs
6. **Lecture 7-8:** Problems in the assessment of users' needs assessment

Week 3-4:

7. **Lecture 9-11:** Collection development policy
8. **Lecture 12-15:** Basic purposes of collection development policy
9. **Lecture 15-18:** Basic elements of collection development policy

Week 5-6:

7. **Lecture 19-21:** Selection sources and processes
10. **Lecture 22-25:** Selection criteria, tools and problems
11. **Lecture 26-28:** Selection of electronic resources

Week 7-8:

10. **Lecture 29-31:** The principal goal of library acquisitions
11. **Lecture 32-35:** Major Problems in the acquisition of foreign books and other reading materials

Week 9-10:

12. **Lecture 36-38:** Technical processing of library materials
15. **Lecture 39-40:** Preservation and conservation of library materials

Week 11-12:

- 15- **Lecture 41:** Gifts, Exchange and donations
16. **Lecture 42:** Weeding library collection
17. **Lecture 43:** Weeding policy

Week 13-14:

18. **Lecture 44:** Evaluation of Collection
19. **Lecture 45-46:** Legal issues in collection development

Week 15-16:

20. **Lecture 47:** Professional ethics and intellectual freedom
21. **Lecture 48:** The future of collection development and management

Recommended Readings

- Johnson, P. (2014). Fundamentals of collection development and management. American Library Association, Chicago, USA. Available at:
<http://gen.lib.rus.ec/book/index.php?md5=C1210225644D894C9E7A149743B23EFE>
- Adams, K. E., & Cassner, M. E. (2001). Marketing Library Resources and Services to Distance Faculty. *Journal of Library Administration*, 31(3/4), 5-22
- Alabaster, C. (2002). *Developing an Outstanding Core Collection: A Guide for Libraries*. Chicago: American Library Association.
- Albitz, B., Avery, C., & Zabel, D. (2014). *Rethinking collection development and management*. Santa Barbara, CA: Libraries Unlimited.
- Barreau, D. (2001). Information Systems and Collection Development in Public Libraries. *Library Collections, Acquisitions, and Technical Services*, 25(3), 263-79.

Biery, S. S. (2001). Team Management of Collection Development from a Team Member's Perspective. *Collection Management*, 25(3), 11-22.

Branin, J., Groen, F., & Thorin, S. (2000). The Changing Nature of Collection Management in Research Libraries. *Library Resources and Technical Services*, 44(1), 23-32.

Evans, G. E., Ward, P. L. & Rugaas, B. (2000). The Planning Process. In *Management Basics for Information Professionals*, 161–90. New York: Neal-Schuman.

Farmer, L. S. J. (2001). Collection Development in Partnership with Youth: Uncovering Best Practices. *Collection Management*, 26(2), 67-78.

Flowers, J. L. (2001). Standing Orders: Considerations for Acquisitions Method. *Library Collections, Acquisitions, and Technical Services*, 25(3), 323-28.

Gillespie, J. T. (1998). *Guides to Collection Development for Children and Young Adults*. Englewood, Colo.: Libraries Unlimited.

Handman, G. (ed) (2002). *Video Collection Development in Multi-Type Libraries: A Handbook*. 2d ed. Westport, Conn.: Greenwood.

Jaguszewski, J. M., & Probst, L. K. (2000). The Impact of Electronic Resources on Serial Cancellations and Remote Storage Decisions in Academic Research Libraries. *Library Trends*, 48(4), 799-820.

Gessesse, K. (2000). Collection development and management in the twenty-first century with special reference to academic libraries: an overview. *Library Management*, 21(7), 365-372.

Wicks, D. A., Bairdiella, L., & Swords, D. (2001). Four Birds with One Stone: Collaboration in Collection Development. *Library Collections, Acquisitions, and Technical Services* 25, 473-83.

Wu, C., et al. (1994). Effective Liaison Relationships in an Academic Library. *College and Research Libraries News*, 55(5), 254-303.

Degree Program	BS-LIS	Course Code	LIS 242
Course Title	Organization of Information	Credit Hour	3
Course Domain	Compulsory	Sub Domain	

Course Objectives	
<ul style="list-style-type: none"> • Understand the historical development and evolution of information organization, including key milestones, figures, and technological advancements. • Gain knowledge of the various systems, tools, and standards used for organizing information, including cataloging codes, metadata standards, and encoding formats. • Develop skills in the practical aspects of information organization processes, such as creating surrogate/metadata records, implementing authority control, and facilitating subject access. 	

- Explore the challenges and issues related to information organization, both globally and within the context of Pakistan, and develop strategies to address these challenges effectively.

Week	Description/Lecturers	Week	Description/Lecturers
1	Historical Development of Organization of Information	2	Systems for Organization of Information
	1. Overview of the historical development of information organization		1. Environments for information organization: libraries, archives, museums
	2. Milestones and key figures in the evolution of information organization		2. Storage and retrieval tools: card catalogs, online catalogs, databases
	3. Impact of technological advancements on information organization		3. Encoding standards for information organization: MARC, Dublin Core
3.	Cataloging Codes and Modern Aspects (RDA)	4	Information Organization Process
	1. Overview of cataloging codes: AACR2, RDA		1. Surrogate/metadata records: Description and access
	2. Principles and practices of Resource Description and Access (RDA)		2. Authority control in information organization
	3. Implementation and challenges of RDA in modern cataloging practices		3. Importance and functions of metadata in information organization
5.	Subject Access	6	Introduction to JavaScript
	1. Analysis in subject access: Subject analysis, controlled vocabularies		1. Organization and Administration
	2. Verbal subject approaches: Subject headings, keyword indexing		2. Management issues in information organization: Budgeting, staffing
	3. Classification systems for subject access: Dewey Decimal Classification, Library of Congress Classification		3. Challenges and strategies for effective organization and administration
7.	Problems of Information Organization in Pakistan	8	Metadata Standards
	1. Overview of information organization landscape in Pakistan		1. Importance of metadata standards in information organization
	2. Challenges and barriers to effective information organization in Pakistan		2. Qualities of good metadata standards: Interoperability, granularity,
	3. Strategies and initiatives to address information organization issues		3. Elements of metadata standards: Descriptive, structural, administrative
Mid Semester Examination			
9	Metadata Encoding and Formats	10	Controlled Vocabularies and Thesauri

	1.	Encoding standards for metadata: XML, RDF, JSON		1.	Role of controlled vocabularies in information organization
	2.	Metadata formats and schemas: MODS, METS, Dublin Core		2.	Principles and construction of thesauri
	3.	Implementation and application of metadata encoding and formats		3.	Application and management of controlled vocabularies in information
11	Semantic Web and Linked Data		12	Taxonomies and Ontologies	
	1.	Overview of the Semantic Web and Linked Data concepts		1.	Introduction to taxonomies and ontologies
	2.	RDF triples and linked data principles		2.	Differences between taxonomies and ontologies
	3.	Implementing linked data in information organization systems		3.	Designing and using taxonomies and ontologies in information organization
13	Folksonomies and Social Tagging		14	Information Retrieval Techniques	
	1.	Definition and characteristics of folksonomies		1.	Overview of information retrieval (IR) techniques
	2.	Role of social tagging in information organization		2.	Retrieval models: Boolean, Vector Space Model, Probabilistic Model
	3.	Challenges and benefits of incorporating folksonomies in information		3.	Evaluation of information retrieval systems
15.	Natural Language Processing in Information Retrieval		16	Future Trends in Information Organization	
	1.	Introduction to natural language processing (NLP) techniques		1.	Emerging trends and technologies in information organization
	2.	Applications of NLP in information retrieval		2.	Impact of artificial intelligence and machine learning on information
	3.	Challenges and advancements in NLP for information retrieval		3.	Ethical considerations in information organization
Final Semester Examination					

Recommended Readings

Recommended Readings
1. Taylor, A. G., & Joudrey, D. N. (2009). The Organization of Information (3rd ed.). Libraries Unlimited.
2. Dahlberg, I., & Nilsson, N. (2018). Metadata and Organizing Educational Resources on the Internet: Principles, Methods and Applications. Chandos Publishing.
3. Baca, M. (Ed.). (2016). Introduction to Metadata (3rd ed.). Getty Publications.

4. Lancaster, F. W. (2003). Indexing and Abstracting in Theory and Practice (3rd ed.). Libraries Unlimited.

5. Salton, G., Wong, A., & Yang, C. S. (1975). A Vector Space Model for Automatic Indexing. Communications of the ACM, 18(11), 613-620.

Degree Program	BS-LIS	Course Code	LIS 352
Course Title	Applied Classification	Credit Hour	04 (3+1)
Course Domain	Compulsory	Sub Domain	

Course Objectives

- Understand the functions and types of notes in Dewey Decimal Classification (DDC), including bracketed numbers and their use.
- Gain proficiency in using Standard Subdivisions (SS) and tables in DDC for classifying materials effectively.
- Explore various classification systems like Colon Classification (CC), Library of Congress Classification System (LCC), and Universal Decimal Classification (UDC), understanding their main classes, features, and notational systems.
- Compare and contrast different library classification systems, including DDC, LCC, and UDC, to understand their strengths, weaknesses, and applications.

Week		Description/Lecturers	Week		Description/Lecturers
1.	Notes/Instructions in DDC		2.	Bracketed Numbers	
	1.	Functions of Notes, Types of Notes		1.	Numbers in Squared Brackets
	2.	Notes that Describe what is Found in a Class		2.	Types of Squared Brackets Numbers
	3.	Notes that Describe what is Found in a Class	3.	Number in Parenthesis and Centered Entries	
3.	Table 2 (Geographic Areas, Historical Periods, Biography)		4.	Table 1: Standard Subdivisions (SS)	
	1.	Introduction, Definition		1.	Introduction of SS and Summary
	2.	Types of Number Building		2.	Features/characteristics of SS

	3.	Number Building in Schedules		3.	Use of SS with main classes, divisions, and sections Numbers
5.	Table 2 (Geographic Areas, Historical Periods, Biography)		6.	Table 4 (Subdivisions of Individual Languages and Language Families)	
	1.	Introduction, summary of table 2		1.	Introduction,
	2.	Use of Table 2		2.	Summary of Table
	3.	Introduction of Table 3 (Subdivisions for Individual Literatures)		3.	Use of Table 4
7.	Table 5 (Ethnic and National Groups)		8.	Table 6 (Languages)	
	1.	Introduction of Table 5		1.	Introduction and Summar of Table 6
	2.	Summary of Table 5		2.	General Use of Table 6
	3.	Use of Table 5		3.	Use of Table 4 with Table 6 (Bilingual Dictionary)
Mid Semester Examination					
9.	Colon Classification (CC)		10.	Colon Classification (CC)	
	1.	Introduction, Main Classis		1.	Biography of S R Ranganathan
	2.	Feature of CC		2.	Biography of S R Ranganathan (Continued)
	3.	Basic, Compound and Complex Subjects		3.	Phase Relation
11.	Colon Classification (CC)		12.	Library of Congress Classification System (LSS)	
	1.	Postulates of Fundamental Categories		1.	Introduction, History, Main Classis
	2.	Three Plan of Work		2.	Features of LCC
	3.	Eight Step Method		3.	Library of Congress
13.	Universal Decimal Classification (UDC)		14.	Online version of Classification System	
	1.	Historical Perspective of UDC		1.	Web Dewey, Introduction
	2.	Version of UDC		2.	Dewey Browser and Practice
	3.	Main Classis and Features		3.	UDC Master Reference File
15.	Notations system of Classification systems		16.	Comparison of Various Library Classification	
	1.	Notational System of UDC		1.	DDC VS LCC
	2.	Notational System of CC		2.	DDC VS UDC
	3.	Notational System of LCC		3.	UDC VS LCC
Final Semester Examination					

Recommended Readings

1. Dahlberg, I., & Jansson, A. (Eds.). (2021). *Library Classification Systems Revisited: Beyond the Foundations of the Dewey Decimal and Library of Congress Classifications*. Berlin: Springer.
2. Ranganathan, S.R. (2019). *Colon Classification* (8th ed.). New Delhi: Ess Ess Publications.
3. Begum, Z., & Islam, M.S. (2020). *Library Classification and Cataloguing: Theory and Practice*. Dhaka: University Press Limited.
4. Smiraglia, R.P. (Ed.). (2022). *Introduction to Library Classification: Theories, Practices, and Trends*. Chicago: ALA Editions.

Degree Program	BS- LIS	Course Code	LIS 351
Course Title	Archives and Record Management	Credit Hours	03

Course Objectives

- Understand the principles and concepts of archives and record management, including the importance of preserving and managing records for organizational accountability, transparency, and historical significance.
- Develop practical skills in organizing, classifying, and indexing records to ensure efficient retrieval and use, utilizing both traditional and digital methods.
- Explore various archival standards and best practices, such as the principles outlined by the International Council on Archives (ICA), to ensure compliance and consistency in record management processes.

Course Learning Outcomes

- Understand the principles and practices of archives and records management, including the role and importance of preserving and maintaining records within organizations and society.
- Identify and apply various methods and techniques for organizing, classifying, and describing records, including archival arrangement and description standards such as DACS (Describing Archives: A Content Standard).
- Evaluate different types of records systems and technologies used in contemporary archives and records management, including electronic records management systems (ERMS) and digital preservation strategies.
- Demonstrate proficiency in creating and implementing records retention schedules, disposal procedures, and policies in compliance with legal and regulatory requirements, as well as ethical considerations.

Detailed Course Contents/Weekly Breakup

Week	Description/Lectures	Week	Description/Lectures
1.	Introduction to Archives and Public Records	2.	Introduction to Archives and Public Records. Continue

	I	Introduction to archives		i	Archival institutions
	Ii	history, importance, and role of public records		ii	legal frameworks
	Iii	Types of archives		iii	Continue
3.	Theory and Concepts of Archives and Record Management		4.	Strategies, Control, Accessibility, Disposal, and Storage	
	I	Basic theories and principles of archives and records management		i	Strategies for managing records
	Ii	Lifecycle of records		ii	Access controls
	Iii	Appraisal, arrangement, and description		iii	Security measures
5.	Strategies, Control, Accessibility, Disposal, and Storage. Continue		6.	Electronic Records	
	I	Disposal methods		i	Challenges in managing electronic archives
	Ii	Storage options		ii	Opportunities in managing electronic archives
	Iii	Preservation planning		iii	Digital preservation techniques
7.	Electronic Records		8.	Archival Centers in Pakistan	
	i	Metadata standards		i	Overview of archival centers in Pakistan, their roles, and contributions
	ii	Continue		ii	National Archives of Pakistan
	Iii	Continue		iii	Khyber Pakhtunkhwa Archives
9.	Archival Centers in Pakistan. Continue		10.	Preservation and Conservation of Archival Materials	
	i	Punjab Archives		i	Preservation methods
	ii	Sindh Archives		ii	Environmental control, handling guidelines
	iii	Baluchistan Archives		iii	Conservation techniques

11.	Preservation and Conservation of Archival Materials		12.	Perspective of Electronic Preservation	
	i	Restoration		i	Future trends in electronic preservation
	ii	Disaster recovery		ii	Challenges in electronic preservation
	iii	Continue	iii	Solutions in electronic preservation	
13.	International council on Archives		14.	International council on Archives. Continue	
	i	Introduction		i	Aims and Objectives of ICA
	ii	Organization of ICA		ii	Advocacy of ICA
	iii	Vision, mission of ICA	iii	Continue	
15.	Weeding/Write off		16.	Listing & Cataloguing/Storage	
	i	Introduction to weeding		i	Advantages of cataloguing and listing
	ii	Concept of write off		ii	General guidelines for archival storage
	iii	Continue	iii	Continue	

Recommended Readings:

1. Boles, F. (2005). *Selecting and appraising archives and manuscripts*. Chicago: Society of American Archivists.
2. Dearstyne, B. W. (2008). *Leading and managing archives and records programs*. New York: Neal-Schuman.
3. Hughes, C. (2005). *Modern records management: Key skills and core competencies*. Oxford: Chandos.
4. Hunter, G. S. (2003). *Developing and maintaining practical archives*. New York: Neal-Schuman.
5. Hunter, G. S. (2009). *Records management: A how-to-do-it manual*. New York: Neal Schuman.
6. Read, J., Ginn, M. L., Jones, V. A., & Rankin, D. S. (2007). *Records management*. Cincinnati, Oh: South-Western Publishing.
7. Roe, K. D. (2005). *Arranging and describing archives and manuscripts*. Chicago: Society of American Archivists.
8. Smith, K. (2007). *Planning and implementing electronic records management*. London: Facet.
9. Smith, K. (2007). *Public sector records management: A practical guide*. Aldershot, Hants, England: Ashgate

Information Storage and Retrieval

Course Title: Information Storage and Retrieval

Course Code: LIS 354

Credit Hours: 03

Learning Objectives:

After studying this course the students will be able to:

- To identify the various components of an information storage and retrieval system
- To become familiar with different models and structures an IR system may take.
- To understand the theoretical foundations of various IR methods
- To be able to design and implement IR systems using off-the-shelf software packages.
- To examine the factors that influences the performance of an IR system.
- To be aware of the current research in the field and on the Web

Learning Outcomes:

Students will gain an idea of

- The fundamentals of information storage and retrieval (ISR) systems, including components, models, structures, information representation, vocabulary control, search strategies (query language/operation, indexing and search), User interface and visualization and User dimension and evaluation.

Course Contents

Week 1-2:

1. **Lecture 1-3:** What is information
2. **Lecture 4-6:** What is information explosion and overload
3. **Lecture 7-8:** Pioneers and milestones in ISR

Week 3-4:

4. **Lecture 9-11:** Basics of Information Storage and Retrieval
5. **Lecture 12-15:** Key concepts of ISR
6. **Lecture 15-18:** Components of an ISR system, Types of ISR systems

Week 5-6:

7. **Lecture 19-21:** ISR representation,
8. **Lecture 22-25:** What is information representation?
9. **Lecture 26-28:** What are information representation attributes and values?

Week 7-8:

10. **Lecture 29-31:** Language in ISR, Natural language vs. controlled vocabulary
11. **Lecture 32-35:** Types of controlled vocabulary, Thesauri, Subject heading, Classification schemes

Week 9-10:

12. **Lecture 36-38:** Retrieval Techniques and Query representation Search techniques
13. **Lecture 39-40:** Search techniques

Week 11-12:

- 14- **Lecture 41:** Retrieval Approaches
15. **Lecture 42:** Retrieval by searching, Retrieval by browsing

16. **Lecture 43:** The hybrid approach, the integrated approach

Week 13-14:

18. **Lecture 44:** Information Retrieval Models, Boolean logic. Vector space, Probabilistic, Extensions of major ISR models, Web Search engine models IR Systems

19. **Lecture 45-46:** Library systems, Computer systems, CD-ROM systems, and Web and Internet systems

Week 15-16:

20. **Lecture 47:** Trends in ISR, Artificial Intelligence, Natural language processing, Expert Systems, Semantic Web

21. **Lecture 48:** The future of information retrieval

Recommended Readings

Baeza-Yates, Ricardo, and Ribeiro-Neto, Berthier. (1999). Modern information retrieval. New York: ACM Book Press.

Begum, Suraiya and Ahmed, Zayed (2001). Development of Web-based IR Systems: A Review. Information Society Today. URL:<http://www.infosciencetoday.org/ir.htm>

Chowdhury, Gobinda G. (2004). Introduction to modern information retrieval. London: Facet.

Date, J. C. 1986. An introduction to database systems: vol. I (4th ed.), Addison-Wesley Longman Publishing Co., Inc., Boston, MA

Harter, Stephen P. (1985). Online information retrieval: Concepts, principles, and techniques. New York: Academic Press.

Ingwersen, Peter, and Järvelin, Kalervo. (2005). The turn: Integration of information seeking and retrieval in context. Dordrecht: Springer.

Lancaster, F.W., and Warner, Amy J. (1993). Information retrieval today. Arlington, VA: Information Resources Press

Karen Sparck Jones. (1999). The role of artificial intelligence in information retrieval. Journal of the American Society for Information Science. Volume 42 Issue 8, Pages 558 565

Marchionini, Gary. (1995). Information seeking in electronic environments. New York: Cambridge University Press. (Cambridge Series on Human-Computer Interaction 9).

Meadow, Charles T., Boyce, Bert R., and Kraft, Donald H. (1999). Text information retrieval systems. Orlando, FL: Academic Press.

Degree Program	BS-LIS	Course Code	LIS 355
Course Title	Knowledge Management	Credit Hour	3
Course Domain	Compulsory	Sub Domain	

Course Objectives	
1. Understand the dynamics of knowledge, including the distinctions between data, information, and knowledge, and analyze the characteristics and dimensions of knowledge.	
2. Define Knowledge Management (KM), explore its historical perspective, and recognize the importance of KM along with the role of LIS professionals.	
3. Examine prominent KM models like SECI, DIKW, and the 7-S Model, and grasp the knowledge management process along with its stages.	
4. Gain insights into the implementation of Knowledge Management System Life Cycle (KMSLC), its challenges, emerging trends in KM, and strategies for overcoming future challenges.	

Week	Description/Lecturers	Week	Description/Lecturers
1	Data, Information & Knowledge	2	Assets of the Organization
	1. Definitions of data, information, and knowledge with example		1. Technical terms relating to knowledge
	2. Characteristics of Information		2. How knowledge is different from other sources
	3. Information VS Knowledge		3. Features/Qualities of Knowledge
3.	Dimension of Knowledge	4	Dimension of Knowledge
	1. Tacit and Explicit Knowledge		1. Dimension of Knowledge by Zaik
	2. Shallow and Deep Knowledge		2. Dimension of Knowledge by DeLong and Fahay
	3. Procedural to Episodic Knowledge		3. Dimension of Knowledge by DeLong and Fahay (continued)
5.	Knowledge Management	6	Knowledge Management
	1. Introduction, definition of KM		1. Information Management VS KM
	2. Historical Perspective of KM		2. Role of LIS professionals in KM environment
	3. Importance of KM		3. Challenges to LIS Professionals in KM environment
7.	Knowledge Management Models	8	Capturing Tacit Knowledge
	1. SECI Model (Nonaka and Takeuchi)		1. Definition, Knowledge Capturing Steps
	2. DIKW Model		2. Indicator of Expertise, Level of Experts, tools for acquiring tacit knowledge
	3. 7-S Model		3. Qualities of Expert
Mid Semester Examination			
9	Knowledge Management Process	10	System development Life Cycle (SDLC)
	1. Bries Introduction of the concepts		1. Introduction, Concept

	2.	KM Process		2.	Steps in SDLC
	3.	KM process (Continued)		3.	Implementation Methodologies of SDLC
11	Knowledge Management System Life Cycle (KMSLC)		12	Impacts of Knowledge Management	
	1.	Challenges in Building KM Systems		1.	Impact on People
	2.	Stages of KMSLC		2.	Impacts on Process
	3.	Comparison of SDLC VS KMSLC		3.	Impacts on Product and Organization
13	Knowledge Management Tools and Knowledge Portals		14	Future Challenges for KM	
	1.	Importance of Knowledge Portals in Knowledge Management	1.	1.	Emerging Trends in Knowledge Management
	2.	Design and Implementation of Knowledge Portals	2.	2.	Challenges in Implementing Knowledge Management Strategies
	3.	Case Studies on Successful Knowledge Portals	3.	3.	Strategies for Overcoming Future Challenges in KM
15.	Knowledge Sharing and Collaboration		16	Advanced Knowledge Management Techniques	
	1.	Importance of Knowledge Sharing Culture		1.	Artificial Intelligence and Machine Learning in Knowledge Management
	2.	Tools and Platforms for Facilitating Knowledge Sharing		2.	Semantic Web and Ontology Development
	3.	Strategies for Encouraging Collaboration and Knowledge Exchange		3.	Natural Language Processing for Knowledge Extraction

Final Semester Examination

<p>Recommended Readings</p> <p>1. Alavi, M., & Leidner, D. E. (2001). Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues. <i>MIS Quarterly</i>, 25(1), 107–136. [DOI: 10.2307/3250961](https://doi.org/10.2307/3250961)</p> <p>2. Dalkir, K. (2013). <i>Knowledge Management in Theory and Practice</i> (3rd ed.). The MIT Press.</p> <p>3. Nonaka, I., & Takeuchi, H. (1995). <i>The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation</i>. Oxford University Press.</p> <p>4. Wiig, K. M. (1997). Knowledge Management: An Introduction and Perspective. <i>Journal of Knowledge Management</i>, 1(1), 6–14. [DOI: 10.1108/13673279710800589](https://doi.org/10.1108/13673279710800589)</p>

Degree Program	BS- LIS	Course Code	LIS 353
Course Title	Library and Information Services in Pakistan	Credit Hours	03

Course Objectives
<ul style="list-style-type: none"> • To introduce students with basics of librarianship in Pakistan • To develop broad-based understanding of the major aspects of librarianship in Pakistan • Students should be able to trace the historical development of libraries and information services in Pakistan, including key milestones, influential figures, and significant events. • Students should gain knowledge of the different types of libraries operating in Pakistan, such as academic libraries, public libraries, special libraries, and national libraries, and understand their organizational structures and functions.

Course Learning Outcomes
<ul style="list-style-type: none"> • Students will assess information needs within Pakistani communities and design user-centric library services and programs to meet those needs effectively, considering diverse user populations and information preferences. • Students will be able to differentiate between various types of libraries operating in Pakistan, such as academic libraries, public libraries, special libraries, and national libraries, and describe their respective functions and roles. • Students will analyze the organizational structures and management practices of libraries in Pakistan, including governance models, administrative policies, and staffing arrangements. • Students will critically evaluate library policies, legislation, and regulatory frameworks relevant to Pakistan, including copyright laws, library regulations, and national library policies, and assess their impact on library operations and services.

Detailed Course Contents/Weekly Breakup

Week	Description/Lectures	Week	Description/Lectures
1.	Introduction to Library Structures	2.	Introduction to Library Structures Continue
	i Overview of Library types (National, Academic, Public, Special)		i Continue

	ii	Continue		ii	Characteristics and Functions of National Libraries Academic Libraries
	iii	Characteristics and Functions of National Libraries		iii	Continue
3.	Special Libraries and School Libraries		4.	Special Libraries and School Libraries	
				Continue	
	i	Characteristics and Functions of Special Libraries		i	Continue
	ii	Continue		ii	Challenges and Opportunities in school library Services
	iii	Resources and Services in School Libraries		iii	Continue
5.	Use of ICTs in Libraries		6.	Use of ICTs in Libraries Continue	
	i	Introduction to ICTs in Libraries		i	Continue
	ii	Continue		ii	Use of ICTs in Public and Special Libraries
	iii	Application of ICTs in National and Academic Libraries		iii	Continue
7.	Challenges Faced by Librarians and Libraries		8.	Challenges Faced by Librarians and Libraries Continue	
	i	Identifying Challenges in National and Academic Libraries		i	Continue
	ii	Continue		ii	Strategies to overcome common challenges
	iii	Addressing Challenges in Public and Special Libraries		iii	Continue
9.	Legislation, Standards, Policies		10.	Legislation, Standards, Policies Continue	
	i	Overview of Library Legislation and Standards		i	Continue
	ii	Continue		ii	Under standing PARA Rules and Procurement Guidelines
	iii	Analysis of Library Policies and Regulations		iii	Continue

11.	Services Structure and Future Prospects		12.	Services Structure and Future Prospects	
	Continue			Continue	
	i	Service Structure in different libraries		i	Continue
	ii	Continue		ii	Future Prospects and Challenges For Libraries
iii	Emerging Trends and Innovations in library Services	iii	Continue		
13.	Library Education and Training		14.	Library Education and Training Continue	
	Continue			Continue	
	i	Overview of Library Education Program in Pakistan		i	Continue
	ii	Continue		ii	Professional Development and opportunities for Librarians
iii	Training needs and continuing Education	iii	Continue		
15.	Job opportunities and Library Associations		16.	Job opportunities and Library Associations Continue	
	Continue			Continue	
	i	Job opportunities and Career Paths for LIS Professional		i	Continue
	ii	Continue		ii	Resource and Networking opportunities provided by library Associations
iii	Role of Library Associations in Professional Development	iii	Continue		

Recommended Readings:

1. Ameen, K., Ali, R. A., & Tahami, M. A. (2008). *Emerging paradigm in librarianship: A call for innovation. Proceeding of the PLA Golden Jubilee International Conference 2007.* Lahore: PLA (Punjab)
2. Hallmarks of Library and Information services in Pakistan. Mohammad Asghar ,Afzal Haq qurshi and Syed Jamil Rizvi. Lahore. PULSAA.
3. Mahmood, K. (1998). *Information technology in libraries.* Lahore: Pak Book Corporation.
4. National Library of Pakistan. <http://www.nlp.gov.pk/>
5. Sajjad-Ur-Rehman(1992) Library Education in Pakistan: Past present & future. Lahore. PULSAA
6. Waheed, Abdul . (2011) The evolution of education in LIS in Pakistan and United Kingdom: a comparative study. Saarbrucken (Germany) VDM Verlag

Degree Program	BS- LIS	Course Code	LIS 356
Course Title	Library Resource Sharing and Networking	Credit Hours	03

Course Objectives
<ul style="list-style-type: none"> To introduce the concepts and practices of resource sharing in libraries. To introduce the concepts and practices of library and information networking.

Course Learning Outcomes
<ul style="list-style-type: none"> Students will gain a comprehensive understanding of the principles and concepts underlying resource sharing, including its importance, benefits, and various models and mechanisms. Students will explore different types of resource sharing networks, such as interlibrary loan systems, consortia, cooperative cataloging efforts, and digital repositories, and understand their roles in facilitating access to information resources. Students will analyze legal and ethical considerations in resource sharing, including copyright issues, intellectual property rights, licensing agreements, privacy concerns, and fair use policies. Students will learn to develop resource sharing policies and procedures for libraries, consortia, and other information organizations, addressing issues such as eligibility criteria, borrowing privileges, lending practices, and dispute resolution mechanisms.

Detailed Course Contents/Weekly Breakup

Week		Description/Lectures	Week		Description/Lectures
1.		Introduction Resource Sharing and Networking	2.		Introduction Resource Sharing and Networking Continue
	i	Concept, Meaning, Definitions of Resource sharing		i	Aims and Objectives of Resource sharing
	ii	Types of Resource Sharing		ii	Basic Functions of Resource Sharing
	iii	Continue		iii	Continue
3.		Why Resource Sharing	4.		Why Resource Sharing Continue
	i	Needs/Importance of Resource Sharing		i	Continue
	ii	Continue		ii	Basic Necessities for Resource Sharing
	iii	Methods and Techniques for Resource Sharing		iii	Continue

5.	Resource Sharing in Various types of Resource Sharing		6.	Resource Sharing in Various types of Resource Sharing Continue	
	i	Resource Sharing in Academic Libraries		i	Continue
	ii	Continue		ii	Resource Sharing in Special Libraries
	iii	Resource Sharing in Public Libraries		iii	Continue
7.	Pre-requisites of Resource Sharing		8.	Problems associated with resource sharing in libraries	
	i	Pre-requisites for Resource Sharing		i	Problems associated with resource sharing in libraries
	ii	Continue		ii	Continue
	iii	Continue		iii	Continue
9.	Problems of Resource Sharing in Pakistani Libraries		10.	Suggestion and Recommendations for Resource Sharing	
	i	Basic Concepts of Problems of Resource Sharing in Pakistani Libraries		i	Suggestion and Recommendations to rectify Problems of Resource Sharing in Pakistani Libraries
	ii	Different Problems of Resource Sharing in Pakistani Libraries		ii	Continue
	iii	Continue		iii	Continue
11.	Introduction to Networking		12.	Introduction to Networking Continue	
	i	Fundamental Concepts of Networking		i	Continue
	ii	Continue		ii	Internet VS Intranet
	iii	Network and its types		iii	Continue
13.	Networking and the Libraries		14.	Networking and the Libraries Continue	
	i	Library Networks		i	Continue
	ii	Continue		ii	Overview of Resource Sharing and Networking in Pakistan
	iii	History of Library Networks in Pakistan		iii	Continue
15.	Introduction to Topologies		16.	Basic data communication concept	
	i	Topology and its types		i	Fiber optic cable, twisted pair cable, and coaxial cable

ii	Continue	ii	Network protocols
iii	Different Networking Devices (Switches, Routers, Hubs etc)	iii	OSI Model

Recommended Readings:

1. Alberta, Department of Municipal, A., & Public Library Services, B. (2012). Resource Sharing Operational Policy for Public Libraries. December 2012
2. Kurose, J. F., & Ross, K. W. (2007). *Computer networking: A top-down approach featuring the Internet*. Boston: Pearson/Addison Wesley.
3. Lee, S. H. (2003). *Impact of digital technology on library collections and resource sharing*. Binghamton, N.Y.: Haworth.
4. Sampath Kumar, G. K. (2012). *Resource sharing and networking in digital libraries*. New Delhi: Akhand Pub. House.
5. Tanenbaum, A. S. (2003). *Computer networks*. Upper Saddle River, N.J.: Prentice Hall.
6. Tomsho, G. (2006). *Guide to networking essentials*. Cambridge, Mass: Course Technology.
7. Webster, P. (2006). *Library resource sharing networks*. Baltimore, MD: The Johns Hopkins University Press.

Degree Program	BS-LIS	Course Code	LIS -365
Course Title	Applied Cataloguing	Credit Hour	04 (3+1)
Course Domain	Major	Sub Domain	

Course Objectives
<ul style="list-style-type: none"> • Understanding Cataloguing Principles: Gain insight into cataloguing concepts, historical development, and objectives. • Practical Cataloguing Skills: Acquire hands-on experience in descriptive cataloguing for various resource formats. • MARC 21 Proficiency: Develop proficiency in working with MARC 21 bibliographic records and understanding their structure and components. • Introduction to Modern Cataloguing Initiatives: Explore modern cataloguing initiatives like RDA and BIBFRAME, understanding their features, objectives, and differences from traditional

Week		Description/Lecturers	Week		Description/Lecturers
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1	History of Cataloguing Codes		2	Non-Book Materials	
	1.	Ango American Cataloguing Rule-I		1.	Definitions, Types of Non-Book Periodicals
	2.	Ango American Cataloguing Rule-II		2.	Natural & Scope of Non-Book Material
3.	Non-Book Materials		4	Continuing Resources (Serials and Integrating resources)	
	1.	Description of Non-Book Material		1.	Definition and types of Continuing resources, types of Serials based on frequencies
	2.	Problems in the Cataloguing of Non-Book Material		2.	Problems of serial publication during cataloguing
5.	Cartographic Materials		6	Sound and Video Recording	
	1.	Definition and Types of Cartographic material, General Rules		1.	Definition of the related term, motion pictures, music, audio, and video recordings
	2.	Definition and Types of Maps, and Rules for the Description of Map		2.	Rules for the cataloguing of sound recording
7.	Non-Book Materials		8	Three Dimensional Objects	
	1.	Rules for the cataloguing of manuscripts		1.	Dimensional Artefacts and Realia, sources of Information
	2.	Rules for the cataloguing of Microforms,		2.	General rules for the description of three-dimensional objects
	3.	Rules for the cataloguing of electronic resources	3.	Lecture 2 continue	
Mid Semester Examination					
9	Cataloguing of Pakistani Names		10	Standardization in Cataloguing	
	1.	Structure of Pakistani Names		1.	ISBN, Structure, and Importance
	2.	Problems of Pakistani Names		2.	ISBD latest consolidated edition
	3.	Rules for Cataloguing of Pakistani names	3.	Lecture 2 continue (ISBD latest consolidated edition)	
11	Understanding MARC 21 Bibliographic Records		12	Understanding MARC 21 Bibliographic Records	
	1.	(Introduction, Parts of Marc Record, Types of MARC filed, components of MACR field)		1.	5XX Note fields
	2.	2XX fields, Title and title-related fields and Edition fields		2.	Subject headings, 6XX and Series, 4XX and 8XX)
	3.	260=Imprint field and 3XX=Physical description	3.	Main entries: 1XX, Added entries: 7XX, 240, Subject headings: 600, 610, 611,630. Linking entries: 780, 785	

13	Understanding MARC 21 Bibliographic Records	14	Resources Description and Access (RDA)
	1. 0XX fields, 01X-09X, Fixed fields 008, Local holdings, Local systems		1. Functional Requirements for Bibliographic Records (FRBR)
	2. Rules for Assigning Subject heading		2. RDA Introduction, why is RDA created,
	3. Rules for the cataloguing of Pakistani names		3. Goals of RDA, Structure of RDA, Goa
15.	Resources Description and Access (RDA)	16	Bibliographic Framework Initiative
	1. FRBR and FRAD Terminologies		1. Introduction, Features
	2. Features of RDA		2. BIBFRAME model
	3. RDA Core Elements		3. BIBFRAME VS MARC
Final Semester Examination			

Recommended Readings
<ol style="list-style-type: none"> 1. Maxwell, R.L. (2019). Maxwell's Handbook for AACR2: Explaining and Illustrating the Anglo-American Cataloguing Rules through the 2003 Update. Chicago: ALA Editions. 2. Intner, S.S., Weihs, J., & Polutta, D. (2020). Cataloging Correctly for Kids: An Introduction to the Tools (6th ed.). Chicago: ALA Editions. 3. Coyle, K. (2018). Understanding the Semantic Web: Bibliographic Data and Metadata. Santa Barbara, CA: Libraries Unlimited. 4. Taylor, A.G. (Ed.). (2021). Resource Description and Access (RDA): Cataloging Rules for the 20th Century. New York: Neal-Schuman Publishers.

Basic Research Methods for Information Professionals

Course title: *Basic Research Methods for Information Professionals*

Course Code: 364

Credit Hours: 03

Learning objectives:

1. *By the end of the course, students should be able to articulate the key principles and concepts that underpin research methods, including the scientific method, hypothesis formulation, and the importance of literature reviews.*
2. *Students should be able to design a basic research study, selecting appropriate methodologies and research designs. This includes understanding the difference between qualitative and quantitative research, as well as the strengths and limitations of various research methods.*
3. *Gain proficiency in sourcing and evaluating relevant literature, data, and information. Students should be able to demonstrate effective information literacy skills, including the*

ability to critically appraise sources, use databases, and manage bibliographic information.

Learning Outcomes

1. *Students will be able to develop a research study, including formulating research questions, selecting appropriate methodologies, and designing a research plan.*
2. *Learners will demonstrate the ability to effectively search for, evaluate, and synthesize relevant literature, data, and information using appropriate databases and resources.*
3. *Upon completion of the course, students will understand and apply ethical principles in the context of information research, including considerations for participant consent, confidentiality, and data handling.*
4. *Students will be able to apply basic statistical and qualitative analysis methods to interpret research findings, draw conclusions, and present results in a clear and meaningful manner.*

Course Contents

Week 1-2: Introduction to Research and Research Ethics (Lectures 1-6)

1. **Lecture 1-:** Research: Definition and Origin with Characteristics of Research
2. Lecture 2: Types of Research
3. **Lecture 3-4:** Research Problem: Definition, Characteristics
4. **Lecture 5-6-:** Sources of Research problem

Week 3-4: Research Design and Methodologies (Lectures 7-12)

- 5- **Lecture 7-8:** Types of Research Designs (Quantitative vs. Qualitative)
5. **Lecture 9-10:** Sampling Techniques and Sample Size Determination
6. **Lecture 11-12:** Data Collection Methods and Instruments

Week 5-6: Literature Review and Information Literacy (Lectures 13-18) 7.

- 7- **Lecture 13-14:** Importance and Structure of Literature Reviews
8. **Lecture 15-16:** Developing Information Literacy Skills
9. **Lecture 17-18:** Utilizing Databases and Resources for Literature Review

Week 7-8: Basic Statistical Analysis (Lectures 19-24)

10. **Lecture 19-20:** Descriptive Statistics: Measures of Central Tendency and Dispersion
11. **Lecture 21-22:** Inferential Statistics: Introduction to Hypothesis Testing
12. **Lecture 23-24:** Interpreting Statistical Results and Data Visualization

Week 9-10: Qualitative Research Methods (Lectures 25-30)

13. **Lecture 25-26:** Introduction to Qualitative Research
14. **Lecture 27-28:** Qualitative Data Collection Techniques
15. **Lecture 29-30:** Qualitative Data Analysis and Interpretation

Week 11-12: Advanced Research Techniques (Lectures 31-36)

16. **Lecture 31-32:** Mixed-Methods Research
17. **Lecture 33-34:** Longitudinal Studies and Case Studies
18. **Lecture 35-36:** Experimental and Observational Research

Week 13-14: Research Communication (Lectures 37-42)

19. **Lecture 37-38:** Writing Research Proposals
20. **Lecture 39-40:** Effective Research Communication - Writing Reports and Papers
21. **Lecture 41-42:** Presenting Research Findings: Oral and Poster Presentations

Week 15-16: Review, Applications, and Future Trends (Lectures 43-46)

22. **Lecture 43-44:** Review of Key Concepts and Methodologies

23. **Lecture 45-46:** Applications of Research Methods in Information Professions

Recommended Readings

- Gay, L. R. (2016). Educational Research: Competencies for Analysis and Applications (11th ed.). Pearson.
- APA Citation: Pickard, A. J. (2013). *Research Methods in Information*. Facet Publishing.
- APA Citation: Williams, G. J. (2016). *The Essentials of Data Science: Knowledge Discovery Using R*. CRC Press.
- APA Citation: Creswell, J. W. (2017). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. SAGE Publications.
- Creswell, J. W., & Creswell, J. D. (2017). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. SAGE Publications.
- APA Citation: Machi, L. A., & McEvoy, B. T. (2016). *The Literature Review: Six Steps to Success*. Corwin.

Degree Program	BS-LIS	Course Code	LIS -362
Course Title	Digital Libraries	Credit Hour	3
Course Domain	Major	Sub Domain	

Course Objectives
1. Understand Digital Libraries: Grasp the core concepts, evolution, and advantages of digital libraries.
2. Acquire Technical Skills: Gain hands-on knowledge of file formats, digitization, metadata, and content management.
3. **Explore Access and Security: Learn about access control, DRM, and preservation strategies for digital library resources.
4. Evaluate Emerging Trends: Examine AI, blockchain, and AR/VR for their potential in digital libraries.

Week	Description/Lecturers	Week	Description/Lecturers
1	Introduction to Digital Libraries	2	DL Communities and Advantages
1.	Definition & scope of digital libraries	1.	DL communities

	2.	Concepts and issues of Digital Libraries (DL)		2.	Advantages of Digital Libraries
	3.	Evolution of Digital Libraries		3.	Content creation in Digital Libraries
3.	File Formats, Digitization, and DL Architecture		4	Elements of a Digital Library	
	1.	Different file formats		1.	Key elements of a Digital Library
	2.	Digitization processes		2.	DOI, Open URL, CrossRef, and other aspects
	3.	Digital Library architecture		3.	Content management issues in Digital Libraries
5.	Metadata and Resource Discovery		6	Security and Preservation Issues	
	1.	Metadata in Digital Libraries		1.	Security issues in Digital Libraries
	2.	Resource discovery issues		2.	Preservation strategies
	3.	Access control and DRM		3.	Digital Library software: DSpace, Greenstone
7.	HEC Digital Library		8	Subject Strengths and Searching in Various Databases	
	1.	Introduction, objectives,		1.	Searching in Taylor and Francis database
	2.	Basic and Premium databases in HEC DL		2.	Searching in Blackwell Journals database
	3.	Subscription Process of HEC DL		3.	Searching in ScienceDirect database
Mid Semester Examination					
9	Searching in Various Databases (Continued)		10	Content Creation and Management	
	1.	Searching in Emerald database		1.	Techniques for content creation
	2.	Searching in Sage Open SCUPS database		2.	Challenges in content management
	3.	Jstor, WorldCat, library genesis etc.		3.	Strategies for effective content management
11	Access Control and DRM		12	Metadata Standards and Resource Discovery	
	1.	Access control mechanisms		1.	Metadata standards in Digital Libraries
	2.	Digital Rights Management (DRM)		2.	Resource discovery techniques
	3.	Legal and ethical issues in DRM		3.	Enhancing metadata quality and completeness
13	Preservation Strategies		14	DL Software: DSpace and Greenstone	
	1.	Long-term preservation formats		1.	Overview of DSpace software
	2.	Preservation metadata		2.	Overview of Greenstone software
	3.	Digital preservation best practices		3.	Comparison of DSpace and Greenstone features
15.	Emerging Trends in Digital Libraries		16	Final Project Presentations and Wrap-up	
	1.	Augmented reality and virtual reality applications		1.	Presentations

	2.	Blockchain technology for digital asset management		2.	Course review and discussion
	3.	Artificial intelligence and machine learning in Digital Libraries		3.	Course review and discussion
Final Semester Examination					

Reading Materials
1. Arms, W.Y., & Lyon, L.W. (2001). Digital Library Education. D-Lib Magazine, 7(9). DOI: [10.1045/september2001-arms](https://doi.org/10.1045/september2001-arms)
2. Chowdhury, G. G., & Chowdhury, S. (2010). Introduction to Digital Libraries. Facet Publishing.
3. Gilliland-Swetland, A. J. (Ed.). (2008). Introduction to Metadata (2nd ed.). Getty Publications.
4. Kovacs, D. M. (2016). Digital Libraries: Challenges and Opportunities for Libraries and Publishers. Chandos Publishing.

Degree Program	BS- LIS	Course Code	LIS 361
Course Title	Effective communication for information professionals	Credit Hours	03

Course Objectives
<ul style="list-style-type: none"> • Understand the principles of effective communication to convey information clearly and accurately. • Develop skills in active listening to enhance comprehension and rapport with colleagues and clients. • Learn techniques for adapting communication styles to diverse audiences and contexts. • Cultivate proficiency in written communication for creating concise and compelling messages. • Explore strategies for managing conflicts and navigating difficult conversations constructively.

Course Learning Outcomes
<ul style="list-style-type: none"> • Develop and demonstrate proficiency in utilizing verbal and non-verbal communication techniques to convey information effectively in professional settings. • Analyze and adapt communication strategies to suit diverse audiences, including stakeholders, colleagues, and clients within the field of information management. • Evaluate and employ appropriate technologies and platforms to facilitate efficient communication and collaboration in information-related contexts

Detailed Course Contents/Weekly Breakup

Week	Description/Lectures	Week	Description/Lectures
1.	Introduction to Effective Communication	2.	Verbal Communication Skills

	I	Understanding the importance of effective communication in information professions.		i	Developing clarity and conciseness in verbal communication.
	Ii	Types and models of communication.		ii	Active listening skills and techniques.
	Iii	Barriers to effective communication and strategies to overcome them.		iii	Assertiveness and confidence in communication.
3.	Written Communication Skills		4.	Nonverbal Communication	
	I	Principles of effective written communication.		i	Understanding nonverbal cues and body language.
	Ii	Crafting professional emails and memos.		ii	Using visual aids and presentations effectively.
	Iii	Writing reports, summaries, and documentation		iii	Cultural differences in nonverbal communication.
5.	Interpersonal Communication		6.	Interpersonal Communication. Continue	
	I	Building and maintaining professional relationships.		i	Conflict resolution and negotiation skills.
	Ii	Continue		ii	Collaborative communication in teams and groups.
	Iii	Continue		iii	Continue
7.	Communicating with Diverse Audiences		8.	Communication Technologies	
	i	Tailoring communication for different stakeholders (e.g., clients, colleagues, management).		i	Utilizing communication tools and platforms (e.g., email, video conferencing, social media).
	ii	Communicating with diverse cultural and demographic groups.		ii	Digital etiquette and professionalism
	Iii	Accessibility and inclusive communication practices.		iii	Managing information overload and digital distractions.
9.	Communication Strategy and Reflection		10.	Communication Strategy and Reflection. Continue	

	i	Developing a personal communication strategy.		i	Case studies and real-world applications of effective communication in information professions.
	ii	Continue		ii	Reflecting on communication strengths and areas for improvement.
	iii	Continue		iii	Continue
11.	Crisis Communication and Risk Management		12.	Ethical Communication Practices	
	i	Strategies for effective crisis communication.		i	Understanding ethical considerations in communication.
	ii	Identifying and mitigating communication-related risks.		ii	Ethical implications of information sharing and confidentiality.
	iii	Case studies on handling communication crises in information settings.		iii	Promoting transparency and integrity in communication practices
13.	Leadership Communication		14.	Communication in Information Technology	
	i	Communicating vision, goals, and expectations as a leader.		i	Communicating technical information to non-technical stakeholders.
	ii	Strategies for motivating and inspiring teams through communication.		ii	Bridging the communication gap between IT professionals and end-users
	iii	Effective delegation and feedback mechanisms in leadership communication.		iii	Addressing challenges in remote and virtual communication in IT settings.
15.	Strategic Communication Planning		16.	Communication in Academic and Research Settings	
	i	Developing communication plans for projects and initiatives.		i	Writing scholarly articles and research papers effectively
	ii	Identifying communication goals, objectives, and key messages.		ii	Communicating research findings to diverse audiences.
	iii	Evaluating and adapting communication strategies based on feedback and outcomes.		iii	Collaborative communication in interdisciplinary research teams.

Recommended Readings:

1. **"Crucial Conversations: Tools for Talking When Stakes Are High" by Kerry Patterson, Joseph Grenny, Ron McMillan, and Al Switzler:** This book provides strategies for handling high-stakes conversations effectively, which is essential for professionals in various fields.
2. **"How to Win Friends and Influence People" by Dale Carnegie:** A classic in the realm of communication and interpersonal skills, this book offers timeless advice on building relationships, influencing others, and communicating effectively.

3. **"Difficult Conversations: How to Discuss What Matters Most" by Douglas Stone, Bruce Patton, and Sheila Heen:** This book provides practical guidance on navigating tough conversations in professional and personal contexts, helping professionals address conflicts and sensitive topics with skill and empathy.
4. **"Talk Like TED: The 9 Public-Speaking Secrets of the World's Top Minds" by Carmine Gallo:** For professionals who need to communicate effectively in public speaking or presentations, this book offers insights from TED Talks and practical tips for delivering engaging and impactful presentations.
5. **"The Art of Communicating" by Thich Nhat Hanh:** While not specifically focused on professional communication, this book offers valuable insights into mindful communication and active listening, which are essential skills for effective communication in any context.
6. **"Made to Stick: Why Some Ideas Survive and Others Die" by Chip Heath and Dan Heath:** Understanding how to craft messages that are memorable and impactful is essential for effective communication in a professional setting. This book explores the characteristics of ideas that "stick" and provides practical strategies for crafting compelling messages.
7. **"The Charisma Myth: How Anyone Can Master the Art and Science of Personal Magnetism" by Olivia Fox Cabane:** Charisma and presence can significantly enhance one's communication skills in professional settings. This book explores the science behind charisma and offers practical techniques for developing it.
8. **"Just Listen: Discover the Secret to Getting Through to Absolutely Anyone" by Mark Goulston:** Effective communication often starts with active listening. This book provides insights into the art of listening and offers practical techniques for building rapport and understanding others better.

Indexing and Abstracting

Course Title: Indexing and Abstracting

Course Code: LIS 366

Credit Hours: 03

Learning Objectives:

After studying this course the students will be able to:

- define the term index
- list and explain the purpose of the index as a retrieval device or system
- list and explain the forms and types of index
- discuss the functions of an index
- define the term abstract
- list and explain the purpose of abstract in information retrieval
- list and explain the forms and types of abstract
- discuss the functions of abstract as a retrieval device
- explain the concept of bibliographic control
- acquire necessary skills for thesaurus construction and use, including the use of subject headings
- list and explain indexing languages
- evaluate indexes and abstracts

- carry out the processes involved in indexing and abstracting
- identify the use of computers in indexing and abstracting
- describe the database and networks of index and abstract
- demonstrate practical experience in indexing and abstracting.

Learning Outcomes:

Students will gain an idea of

About the various concepts; purpose, forms and types of index and abstracts; functions of index and abstract in information retrieval; bibliographic control and types of computerized indexes and abstracts; list of subject headings and thesaurus and uses; indexing languages; evaluation of indexes and abstracts; technical and practical indexing and abstracting processes; the use of computers in indexing and abstracting, databases and networks of index and abstract; practicum on indexing and abstracting.

Knowledge and understanding of these concepts and the functions of indexing and abstracting will enable them to understand the work and duties of library and information professionals.

Course Contents

Week 1-2:

4. **Lecture 1-3:** Meaning of Indexing
5. **Lecture 4-6:** Nature and Purpose of Indexing
6. **Lecture 7-8:** Functions of Index

Week 3-4:

7. **Lecture 9-11:** Forms of Indexes
8. **Lecture 12-15:** Indexing Techniques
9. **Lecture 15-18:** Indexing Languages

Week 5-6:

7. **Lecture 19-21:** Manual indexing
8. **Lecture 22-25:** Pre coordinated indexing
9. **Lecture 26-28:** Post coordinated indexing

Week 7-8:

10. **Lecture 29-31:** Types of Abstract
11. **Lecture 32-35:** Qualities of abstracts

Week 9-10:

12. **Lecture 36-38:** Subject analysis
14. **Lecture 39-40:** Subject indexing

Week 11-12:

- 15- **Lecture 41:** Abstract and its uses, form and types
16. **Lecture 42:** Automatic Abstracting
17. **Lecture 43:** Qualities of a good abstract

Week 13-14:

18. **Lecture 44:** The art of abstracting

19. Lecture 45-46: Computerized abstracting

Week 15-16:

20. **Lecture 47:** Exhaustively and Specificity

21. **Lecture 48:** The future of indexing and abstracting

Recommended Readings

Australian and New Zealand Society of Indexers (2021). Types of indexing accessed retrieved from <https://www.anzsi.org/aboutindexing/types-indexing/> on 25/5/2021.

Cleveland, D. B & Cleveland, A. D (2001). *Introduction to Indexing and Abstracting*. Colorado: Libraries Unlimited.

Lancaster, F. W (1991). *Indexing and Abstracting: Theory and Practice*. London: Library Association.

Musa, A. U., Musa, A. M. & Musa, S. (2014). "An Assessment of Indexing and Abstracting Services In Nuhu Bamalli Polytechnic Osarome, O. (2017). History and Types of Indexes retrieved from <https://osarome.blogspot.com/>

Reitz, J, M (2004) *Dictionary of Library and Information Science*, London: Libraries Unlimited.
Rowley, J. E. (1988). *Indexing and Abstracting*, London: Clive Bingley.

World Heritage Encyclopedia (2021). *Bibliographic Control*. World Heritage Encyclop

Use of Emerging Technologies in Libraries

Course Title: Use of Emerging Technologies in Libraries

Course Code: 363

Credit Hours: 03

Learning Objectives:

1. *By the end of the course, students should be able to identify and describe key emerging technologies relevant to library services, including digital libraries, data analytics, and augmented reality, among others.*
2. *Students should be able to assess the potential impact of emerging technologies on traditional library services and articulate how these technologies can enhance access, engagement, and overall user experience.*
3. *Gain hands-on experience in implementing emerging technologies within library settings. Students should be able to demonstrate practical skills in deploying and managing technologies such as mobile apps, augmented reality, or data analytics tools.*

Learning Outcomes:

1. *Students will be able to identify, describe, and explain the fundamental concepts and functionalities of key emerging technologies relevant to library services, including but not limited to digital libraries, data analytics, and augmented reality.*

2. *Outcome: Evaluate the Impact of Emerging Technologies on Library Services: Upon completion of the course, learners should be able to assess the potential impact of emerging technologies on traditional library services and articulate how these technologies can enhance access, engagement, and user experience.*
3. *Outcome: Implement Emerging Technologies in Library Settings: Students will gain practical experience in deploying and managing emerging technologies within library settings. They should be able to demonstrate the ability to implement technologies such as mobile apps, augmented reality, or data analytics tools.*

Course Contents

Week 1-2: Introduction to Emerging Technologies in Libraries (Lectures 1-6)

7. **Lecture 1-2:** Overview of Library Technologies
8. **Lecture 3-4:** Importance of Adopting Emerging Technologies
9. **Lecture 5-6:** Impact of Technology on Library Services and Users
10. **Lecture 7-8:** Concept and Evolution of Digital Libraries
11. **Lecture 9-10:** Building and Managing Institutional Repositories
12. **Lecture 11-12:** Web Technologies and its applications in Libraries

Week 5-6: Library Automation and Integrated Systems (Lectures 13-18)

7. **Lecture 13-14:** Library Management Systems
12. **Lecture 15-16:** RFID Technology in Libraries
13. **Lecture 17-18:** Barcoding, Self-Checkout Systems, and Security Technologies

Week 7-8: Mobile Technologies and Libraries (Lectures 19-22)

10. **Lecture 19-20:** Mobile Apps for Library Services
11. **Lecture 21-22:** Location-Based Services and Geotagging

Week 9-10: Big Data Analytics in Libraries (Lectures 23-26)

12. **Lecture 23-24:** What is Big Data and Libraries?
16. **Lecture 25-26:** Big Data and Libraries

Week 11-12: Artificial Intelligence and Libraries (Lectures 27-29)

- 15- **Lecture 27:** Artificial Intelligence (AI)?
- Lecture 28-29:** AI and Library Services and operations and its current status in Pakistan

Week 13: Internet of Things (IoT) in Libraries (Lectures 30-31)

19. **Lecture 30:** IoT Concepts and Applications
20. **Lecture 31:** IoT and Libraries and its current status in Pakistan

Week 14: Cloud Computing and Libraries (32-34)

- 21- Cloud Computing?
- 22- Cloud Computing and Libraries
- 23- Status of Cloud Computing in libraries of Pakistan

Week 14-16: Future Trends and Continuous Learning (Lectures 35-36) 22.

24- Lecture 35: Emerging Technologies on the Horizon

25- Lecture 36: Ethical Considerations and Responsible Innovation

Recommended Readings

- Leonhardt, T. (2019). *Library Technology and Digital Resources: An Introduction for Support Staff*. Rowman & Littlefield.
- Iglesias, E. (2018). *Emerging Library Technologies: It's Not Just for Geeks*. Chandos Publishing.
- Showers, B. (2015). *Library Analytics and Metrics: Using Data to Drive Decisions and Services*. Facet Publishing.
- Chowdhry, B. S. (2019). *Augmented Reality for the Industrial Internet of Things*. CRC Press.
- McClure, R., Purdy, J. P., & DeVoss, D. N. (2013). *The New Digital Scholar: Exploring and Enriching the Research and Writing Practices of NextGen Students*. Information Today, Inc.

Course Title: Advance Research Methodology

Course Code: LIS-475

Credit hours: 03(3-0)

Learning Objectives:

- 1. Understand the fundamental principles and concepts of quantitative and qualitative research methodologies.**
- 2. Differentiate between quantitative and qualitative research approaches, including their respective strengths, weaknesses, and applications.**
- 3. Identify and articulate research questions suitable for quantitative and qualitative investigation.**
- 4. Demonstrate proficiency in designing research studies using quantitative and qualitative methods, including sampling techniques, data collection instruments, and data analysis procedures.**
- 5. Critically evaluate research literature and identify examples of quantitative and qualitative research designs.**
- 6. Develop skills in collecting, organizing, and analyzing quantitative data using appropriate statistical techniques**

Learning Outcomes:

By the end of this course, students will be able to:

1. Understand the fundamental principles and concepts underlying both quantitative and qualitative research methodologies.
2. Differentiate between quantitative and qualitative research designs, data collection methods, and analysis techniques.
3. Critically evaluate research literature employing both quantitative and qualitative approaches.
4. Design research studies using appropriate quantitative or qualitative methodologies based on research questions and objectives.
5. Demonstrate proficiency in quantitative data analysis techniques, including statistical tests, regression analysis, and data visualization.
6. Demonstrate proficiency in qualitative data analysis techniques, including thematic analysis, content analysis, and grounded theory.
7. Ethically conduct research involving human participants, considering issues such as informed consent, confidentiality, and research integrity.
8. Effectively communicate research findings through written reports, presentations, and visualizations tailored to diverse audiences.
9. Apply knowledge gained from the course to real-world research problems across various disciplines.
10. Collaborate effectively with peers in conducting research projects and providing constructive feedback on research designs and findings

BREAKUP OF COURSE CONTENTS

Week 1-2: Introduction to Research Methods

- Lecture 1: Overview of research methods
- Lecture 2: Importance of research in various fields
- Lecture 3: Types of research methodologies
- Lecture 4: Understanding quantitative vs. qualitative research
- Lecture 5: Ethical considerations in research

Week 3-4: Quantitative Research Design

- Lecture 6: Basics of quantitative research design
- Lecture 7: Formulating research questions and hypotheses
- Lecture 8: Sampling techniques in quantitative research

- Lecture 9: Data collection methods in quantitative research
- Lecture 10: Data analysis techniques in quantitative research

Week 5-6: Qualitative Research Design

- Lecture 11: Basics of qualitative research design
- Lecture 12: Formulating research questions in qualitative research
- Lecture 13: Sampling techniques in qualitative research
- Lecture 14: Data collection methods in qualitative research
- Lecture 15: Data analysis techniques in qualitative research

Week 7-8: Mixed Methods Research

- Lecture 16: Introduction to mixed methods research
- Lecture 17: Combining quantitative and qualitative approaches
- Lecture 18: Designing mixed methods research studies
- Lecture 19: Data collection and analysis in mixed methods research
- Lecture 20: Advantages and challenges of mixed methods research

Week 9-10: Experimental Design

- Lecture 21: Basics of experimental design
- Lecture 22: Randomization and control in experiments
- Lecture 23: Types of experimental designs
- Lecture 24: Conducting experiments ethically
- Lecture 25: Analyzing experimental data

Week 11-12: Survey and Case study Research

- Lecture 26: Introduction to survey research
- Lecture 27: Designing effective survey instruments
- Lecture 28: Sampling techniques in survey research
- Lecture 29: Administering surveys and data collection
- Lecture 30: Analyzing survey data
- Lecture 31: Understanding case study research
- Lecture 32: Types of case studies

- Lecture 33: Data collection methods in case study research
- Lecture 34: Analyzing case study data
- Lecture 35: Reporting findings in case study research

Week 13-14: Advanced Topics and Applications

- Lecture 36: Longitudinal and cross-sectional studies
- Lecture 37: Factor analysis and structural equation modeling
- Lecture 38: Content analysis in qualitative research
- Lecture 39: Meta-analysis and systematic reviews
- Lecture 40: Presenting and publishing research findings

Week 15-16: Report Writing and Referencing styles

- Lecture 41: Guidelines for writing a research Report
- Lecture 42: Format and style
- Lecture 43: Evaluating a research report
- Lecture 44: Referencing styles
- Lecture 45: APA
- Lecture 46: MLA
- Lecture 47: Any other Referencing style
- Lecture 48: Practical demonstration

RECOMMENDED READINGS

1. "Research Design: Qualitative, Quantitative, and Mixed Methods Approaches" by John W. Creswell and J. David Creswell - This book provides a comprehensive overview of research design options, including both qualitative and quantitative approaches, and discusses the integration of these methods.
2. "Qualitative Inquiry and Research Design: Choosing Among Five Approaches" by John W. Creswell and Cheryl N. Poth - This book explores five different qualitative research approaches, providing practical guidance on designing and conducting qualitative studies.
3. "The SAGE Handbook of Qualitative Research" edited by Norman K. Denzin and Yvonna S. Lincoln - This comprehensive handbook covers various aspects of qualitative research, including theoretical frameworks, data collection methods, and data analysis techniques.
4. "Research Methods in Education" by Louis Cohen, Lawrence Manion, and Keith Morrison - This book offers a broad overview of research methods commonly used in education, including both quantitative and qualitative approaches, with practical examples and case studies.

5. "Introduction to Social Research: Quantitative and Qualitative Approaches" by Keith F. Punch - This introductory textbook provides an accessible overview of quantitative and qualitative research methods, covering topics such as sampling, data collection, and analysis.
6. "Doing Quantitative Research in Education with SPSS" by Daniel Muijs - This book focuses on quantitative research methods specifically in the

Degree Program	BS-LIS	Course Code	LIS-474
Course Title	Electronic Resource Management (ERM)	Credit Hour	3
Course Domain	Major	Sub Domain	

Course Objectives	
<ul style="list-style-type: none"> • . Investigate the impact of emerging technologies on Electronic Resource Management (ERM) practices and workflows within library and information science contexts. • Examine the effectiveness of different strategies for electronic resource acquisition, licensing, and negotiation in addressing library users' and stakeholders' evolving needs and preferences. • Explore the role of metadata standards and cataloging practices in enhancing access to electronic resources and facilitating seamless integration with library discovery systems. • Evaluate the challenges and opportunities associated with preserving and archiving electronic resources, particularly in the context of digital preservation strategies and long-term access considerations. 	

Week	Description/Lecturers	Week	Description/Lecturers
1	Introduction to Electronic Resource Management	2	Types of Electronic Resources
	1. Definition and importance of Electronic Resource Management (ERM)		1. Understanding different types of electronic resources

	2.	2 Overview of electronic resources: databases, e-journals, e-books, etc.		2.	Overview of subscription-based vs. open-access resources
	3.	Role of ERM in modern library and information services		3.	Emerging trends in electronic resource formats (e.g., streaming)
3.	Acquisition and Licensing		4	Collection Development and Management	
	1.	Acquisition methods for electronic resources: purchase vs. subscription vs. consortia		1.	Collection development policies for electronic resources
	2.	Licensing agreements and negotiations		2.	Selection criteria and evaluation of electronic resources
	3.	Copyright and fair use considerations in electronic resource		3.	. Techniques for managing electronic resource collections
5.	Access and Discovery		6	Metadata and Cataloging	
	1.	Providing access to electronic resources: authentication methods		1.	Metadata standards for electronic resources: MARC, Dublin Core, etc.
	2.	Implementing discovery tools for electronic resources		2.	Cataloging electronic resources in library catalogs
	3.	Enhancing user experience through effective access and discovery		3.	Techniques for metadata creation and management
7.	Usage Statistics and Assessment		8	Preservation and Archiving	
	1.	Importance of usage statistics in electronic resource management		1.	Preservation strategies for electronic resources
	2.	Collecting and analyzing usage data for electronic resources		2.	Digital archiving and long-term access to electronic content
	3.	Assessing the value and impact of electronic resources on library services		3.	Ensuring sustainability and continuity of electronic resource collections
Mid Semester Examination					
9	Electronic Resource Discovery Systems		10	Open Access and Institutional Repositories	
	1.	Overview of Electronic Resource Management Systems (ERMS)		1.	Understanding the open access movement
	2.	Features and functionalities of ERMS platforms		2.	Developing and managing institutional repositories
	3.	Implementing and integrating ERMS into library workflows		3.	Promoting open access publishing and scholarship
11	Digital Rights Management (DRM) and Licensing		12	Emerging Technologies in ERM	
	1.	Overview of digital rights management (DRM) technologies		1.	Introduction to artificial intelligence (AI) and machine learning in ERM
	2.	Ensuring compliance with licensing agreements and copyright laws		2.	Blockchain technology for digital rights management and authentication
	3.	Managing access controls and user permissions		3.	Impact of emerging technologies on future ERM practices
13	Vendor Relations and Negotiations		14	User Support and Training	
	1.	Building and maintaining relationships with electronic resource vendors		1.	Providing user support for accessing and using electronic resources

	2.	Negotiating licensing terms and pricing models		2.	Developing training programs and materials for electronic resource literacy
	3.	Evaluating vendor products and services for ERM needs		3.	Assessing user needs and feedback for improving electronic resource services
15.	Collaboration and Partnerships		16	Future Directions in ERM	
	1.	Collaborating with other libraries and consortia for electronic resource access		1.	Trends and challenges in electronic resource management
	2.	Partnering with vendors, publishers, and content providers		2.	Opportunities for innovation and improvement in ERM practices
	3.	Sharing resources and best practices through collaborative initiatives		3.	Professional development and career paths in electronic resource management
Final Semester Examination					

<p>Recommended Readings</p> <p>1. Bailey, C. W. (Ed.). (2021). <i>Electronic Resource Management in Libraries: Research and Practice</i>. Libraries Unlimited.</p> <p>2. Cox, A. M., & Pinfield, S. (Eds.). (2020). <i>Electronic Resource Management: Practical Perspectives in a New Technical Services Model</i>. Chandos Publishing.</p> <p>3. Fu, Y., & Bonn, M. (Eds.). (2022). <i>Digital Libraries: Challenges and Opportunities in Electronic Resource Management</i>. Springer.</p> <p>4. Shreeves, S., & Wilcox, E. M. (Eds.). (2021). <i>Electronic Resource Management Systems: A Practical Guide for Libraries</i>. American Library Association</p>

Information Need and Seeking Behavior

Course Title: Information Need and Seeking Behavior

Course Code: LIS 472

Credit Hours: 03

Learning Objectives:

By the end of this course you will be able to:

- i. Define some Related Concepts
- ii. Know about information sources/resources and information retrieval
- iii. Consider the Information User
- iv. Consider Information User Studies
- v. Examine Information behavior Models
- vi. Examine some Information-Seeking Models Relevant to Library and Information Science
- vii. Examine the Information Behavior of Users in Various Contexts.

Learning Outcomes:

Students will gain an idea about

- 12. Information and Knowledge
- 13. Various models of information seeking

14. Various theories of information seeking
15. Information storage and retrieval
16. Information retrieval system

Course Contents

Week 1-2:

10. **Lecture 1-3:** Data, Information and Knowledge
11. **Lecture 4-6:** Nature, qualities and characteristics of information
12. **Lecture 7-8:** Information Need and Information Seeking Behavior

Week 3-4:

13. **Lecture 9-11:** How to study the information needs of the users
14. **Lecture 12-15:** Constraints in the evaluation the of information needs of the users
15. **Lecture 15-18:** Information seeking behavior, context, history and literature

Week 5-6:

7. **Lecture 19-21:** Wilson Models of information seeking
14. **Lecture 22-25:** Model of the information search process
15. **Lecture 26-28:** Eisenberg and Berkowitz big six model

Week 7-8:

10. **Lecture 29-31:** Play and entertainment theory
11. **Lecture 32-35:** The principal of least effort

Week 9-10:

12. **Lecture 36-38:** Measurement and scaling techniques
17. **Lecture 39-40:** Types of methods

Week 11-12:

- 15- **Lecture 41:** Information storage
16. **Lecture 42:** Information retrieval
17. **Lecture 43:** Information retrieval system

Week 13-14:

18. **Lecture 44:** Searching strategies
19. **Lecture 45-46:** Evaluation of information retrieval system

Week 15-16:

20. **Lecture 47:** How to use databases
21. **Lecture 48:** Impact of digital and electronic resources on the needs of the users in

Pakistan

Recommended Readings

Choo, C. W., Detlor, B. & Turnbull, D. (2000). Information seeking on the Web: An integrated model of browsing and searching, 5(2). http://firstmonday.org/issues/issue5_2/choo/index.html

Esew, M., Markarfi, A., Goshie, R. W. & Jimada, A. (2014). An overview of users' information-seeking behaviour on online resources, Social Science (IOSR-JHSS), 19(1), 09-17. www.iosrjournals.org

Law Insider (2022). Online information definition.

<https://www.lawinsider.com/dictionary/online-information>

Liu, F. (2020). How Information-Seeking Behavior Has Changed in 22 Years

<https://www.nngroup.com/articles/information-seeking-behavior-changes/>

Martoukou, K. (2015). A review of Web information seeking research: considerations of method and foci of interest, *Information Research*, 10(2), paper 214.

<http://InformationR.net/ir/10-2/paper215.html>]

Okocha, F. & Owolabi, S. (2020). Web Information Seeking Behavior of Undergraduate Students in Kwara State Nigeria, *International Information and Library Review*, 52(4).

<https://doi.org/10.1080/10572317.2020.1729298>

Spencer, D. (2006). Four Modes of Seeking Information and How to Design for Them.

http://www.boxesandarrows.com/view/four_modes_of_seeking_information_and_how_to_design_for_them

Degree Program	BS-LIS	Course Code	LIS-473
Course Title	Leadership Skills in Library and Information Science	Credit Hour	3
Course Domain	Major	Sub Domain	---

Course Objectives

1. Understand the foundational theories and concepts of leadership within the context of library and information science.
2. Develop awareness of different leadership styles and their applications in library settings.
3. Cultivate effective communication and interpersonal skills essential for effective leadership in libraries.
4. Explore strategies for motivating and inspiring teams to achieve common goals and objectives.
5. Gain proficiency in decision-making processes and problem-solving techniques relevant to library leadership.
6. Learn techniques for conflict resolution and managing difficult situations within a library environment.
7. Acquire knowledge of organizational culture and change management principles to facilitate innovation and adaptability.
8. Develop skills in strategic planning and visioning to steer library services and resources towards future needs.

9. Foster an understanding of ethical leadership principles and their application in the ethical stewardship of library resources and services.
10. Engage in reflective practices to continuously assess and improve one's leadership effectiveness in library and information science contexts.

Learning Outcomes

1. Identify and describe key theories and models of leadership relevant to the field of library and information science.
2. Differentiate between various leadership styles and assess their suitability for different library contexts and organizational structures.
3. Demonstrate effective communication skills, including active listening, clear articulation of ideas, and persuasive communication techniques.
4. Apply principles of team building and motivation to enhance group dynamics and productivity within library teams.
5. Utilize decision-making frameworks to evaluate options and make informed decisions in library management scenarios.
6. Employ conflict resolution strategies to address interpersonal conflicts and maintain a positive work environment in libraries.
7. Analyze organizational culture and develop strategies for fostering a culture of innovation and continuous improvement within library settings.
8. Develop and articulate a strategic vision for library services and resources, considering emerging trends and user needs.
9. Assess ethical dilemmas in library leadership contexts and propose solutions aligned with professional ethical standards.
10. Engage in reflective practices to evaluate personal leadership strengths and areas for growth, and create a plan for ongoing leadership development

Week-wise break up of course contents

Week 1: Introduction to Leadership in LIS

1. Lecture 1: Overview of Leadership in LIS
2. Lecture 2: Importance of Leadership Skills in LIS
3. Lecture 3: Historical Perspectives on Leadership in Libraries

Week 2-3: Leadership Theories and Models

4. Lecture 4: Trait Theory of Leadership
5. Lecture 5: Behavioral Theories of Leadership

6. Lecture 6: Contingency Theories of Leadership
7. Lecture 7: Transformational Leadership
8. Lecture 8: Servant Leadership
9. Lecture 9: Situational Leadership
10. Lecture 10: Authentic Leadership

Week 4-5: Communication Skills for Leaders 11. Lecture 11: Importance of Communication in Leadership

12. Lecture 12: Effective Listening Skills
13. Lecture 13: Non-verbal Communication
14. Lecture 14: Written Communication
15. Lecture 15: Conflict Resolution and Negotiation Skills

Week 6-7: Decision Making and Problem Solving 16. Lecture 16: Decision Making Models

17. Lecture 17: Problem Solving Techniques
18. Lecture 18: Critical Thinking in Decision Making
19. Lecture 19: Ethical Decision Making in LIS

Week 8-9: Team Building and Motivation 20. Lecture 20: Building High-Performance Teams

21. Lecture 21: Motivation Theories
22. Lecture 22: Incentives and Rewards
23. Lecture 23: Team Building Activities and Exercises

Week 10-11: Change Management in LIS 24. Lecture 24: Understanding Change in Libraries

25. Lecture 25: Change Management Models
26. Lecture 26: Leading Change in LIS Organizations

Week 12-13: Leadership in a Digital Environment 27. Lecture 27: Digital Transformation in Libraries

28. Lecture 28: Leading Technological Change
29. Lecture 29: Information Management in Digital Environments

Week 14-15: Leadership in Diversity and Inclusion 30. Lecture 30: Importance of Diversity in Libraries

31. Lecture 31: Inclusive Leadership Practices
32. Lecture 32: Overcoming Bias in Decision Making

Week 16: Leadership Ethics and Future Trends 33. Lecture 33: Ethical Leadership in LIS

34. Lecture 34: Case Studies in Ethical Leadership

35. Lecture 35: Future Trends in Library Leadership

Week 17: Capstone Project Presentations 36-48. Students present their capstone projects, applying leadership principles learned throughout the course to real-world scenarios.

Recommended Readings

1. **"The New Leadership Challenge: Creating the Future of Nursing"** by **Sheila C. Grossman and Theresa M. Valiga** - This book offers insights into leadership theories and practices applicable to various fields, including library and information science.
2. **"Leadership and Management in Libraries"** by **Michael W. Crumpton and Nora J. Bird** - This comprehensive text explores leadership and management principles tailored specifically to library settings, offering practical advice and case studies.
3. **"The Leadership Challenge: How to Make Extraordinary Things Happen in Organizations"** by **James M. Kouzes and Barry Z. Posner** - This classic book outlines five practices of exemplary leadership and provides strategies for applying them in diverse organizational contexts, including libraries.
4. **"Emotional Intelligence 2.0"** by **Travis Bradberry and Jean Greaves** - This book explores the concept of emotional intelligence and its importance in effective leadership, offering strategies for improving emotional intelligence skills.
5. **"Leadership in Libraries: A Focus on Ethnic-Minority Librarians"** edited by **Suzanne Byke** - This collection of essays examines leadership issues specific to ethnic-minority librarians, offering insights into diversity, equity, and inclusion in library leadership.
6. **"Transformative Leadership and Library Management"** edited by **Beth McNeil and Denise J. Johnson** - This book explores transformative leadership theories and their applications in library management, addressing topics such as change management and strategic planning.
7. **"Strengths Based Leadership: Great Leaders, Teams, and Why People Follow"** by **Tom Rath and Barry Conchie** - This book focuses on identifying and leveraging individual and team strengths to maximize leadership effectiveness in various contexts, including libraries.
8. **"Servant Leadership in Libraries: Your Guide to Flourishing in the Library"** by **Robert P. Holley** - This book explores the concept of servant leadership and its relevance to library management, emphasizing principles of empathy, stewardship, and empowerment.

9. **"Leadership for Libraries: A Field Guide for the Future" edited by Alvin M. Schrader** - This book offers practical guidance for library leaders navigating challenges and opportunities in an evolving information landscape, covering topics such as advocacy, innovation, and community engagement.
10. **"Library Leadership Your Way: Practices to Energize Your Leadership Now!" by Julia Stier and William G. Potter** - This book provides practical tips and strategies for library leaders at all levels, offering actionable advice for enhancing leadership skills and driving positive change in libraries.

Degree Program	BS-LIS	Course Code	LIS -471
Course Title	Library and Information Software Packages	Credit Hour	04 (3+1)
Course Domain	Major	Sub Domain	

Course Objectives	
<ul style="list-style-type: none"> • Understand the core components and modules of Integrated Library Systems (ILS) and Library Information Management Systems (LIMS), including their features and functionalities. • Learn practical skills in data entry, cataloging, and copy cataloging using Library Information Management Systems (LIMS), including cataloging of books, member records, and searching techniques. • Develop proficiency in using reference management software like EndNote, including organizing references, creating bibliographies, and integrating references into documents. • Gain hands-on experience with repository software such as Senayan Library Management System (SLIMS) and Calibre, including system installation, customization, cataloging, circulation, and reporting functionalities. 	

Week	Description/Lecturers	Week	Description/Lecturers
1	Integrated Library System (ILS)	2	Library Information Management System (LIMS)
	1. Components of ILS		1. Introduction, construction and Requirement of LIMS
	2. Modules of ILS		2. Hardware Requirements, Installation
	3. Features of various Modules		3. Features
3.	Data Entry in LIMS	4	Library Information Management System (LIMS)
	1. Cataloguing of Books		1. Member Records
	2. Cataloguing of Books (continued)		2. Searching: Title, Author, Subject, Title And A

	3.	Copy Cataloguing of LIMS		3.	Member Ship Records
5.	Library Information Management System (LIMS)		6	EndNote	
	1.	Issuing and Return of Item, Reports		1.	Introduction, basic Concepts
	2.	OPAC construction of LIMS		2.	How to make references
	3.	OPAC (continued)		3.	Basic Information about EndNote Window
7.	EndNote			EndNote	
	1.	Groups in EndNote		1.	Import References form various database
	2.	Temporary and Permanent Groups		2.	Applications of EndNote in MS Word
	3.	Creating library and import and export of References		3.	Lecturer 2 (Continued)

Mid Semester Examination

9	Senayan Library Management System (SLIMS)		10	Senayan Library Management System (SLIMS)	
	1.	Historical Perspective and Introduction		1.	System Module of SLIMS
	2.	Features of SLIMS		2.	Master File of SLIM
	3.	Interfaces of SLIMS		3.	Customization of OPAC
11	Senayan Library Management System (SLIMS)		12	Senayan Library Management System (SLIMS)	
	1.	Cataloguing Module of SLIMS		1.	Reporting Module of SLIMS
	2.	Membership Module of SLIMS		2.	Stock taking and Serial Control in SLIMS
	3.	Circulation of Items		3.	Installation of SLIMS
13	Repository Software (RS)		14	Calibre (Repository Software)	
	1.	Introduction, Importances		1.	Introduction, Installation Procedure
	2.	Brief Introduction of Various RS		2.	Features of Calibre
	3.	Rules for the cataloguing of Pakistani names		3.	Interfaces of Calibre, Layout of Calibre
15.	Calibre (Repository Software)		16	Calibre (Repository Software)	
	1.	How add books to Calibre		1.	Creation of libraries, Virtual libraries
	2.	Assing and edit metadata to documents		2.	Calibre Preferences, plugins
	3.	Convert books		3.	User Interface of Calibre

Final Semester Examination

Recommended Readings

1. Evans, G. E., & Ward, P. L. (2007). Management Basics for Information Professionals (2nd ed.). Neal-Schuman Publishers.
2. Chowdhury, G. G. (2010). Introduction to Modern Information Retrieval (3rd ed.). Facet Publishing
3. Hider, P. (2018). Information Resource Description: Creating and Managing Metadata (2nd ed.). Facet Publishing.
4. Kumar, P. S. G. (2016). Library Automation and Digitization. Ess Ess Publications.
5. Cochrane, P. A. (2013). Guide to Library User Needs Assessment for Integrated Information Resource Management and Collection Development. IGI Global.

Degree Program	BS-LIS	Course Code	LIS-484
Course Title	Database Design and Web Development for Libraries	Credit Hour	3
Course Domain	Compulsory	Sub Domain	

Course Objectives
<ul style="list-style-type: none"> • Understand database fundamentals and apply them to organize library data effectively. • Develop skills in web development to create interactive and user-friendly library websites. • Explore modern web technologies and frameworks for efficient website development. • Stay updated on emerging trends in web development relevant to library services and information management.

Week	Description/Lecturers	Week	Description/Lecturers
1	Introduction to Databases and Web Development	2	Database Fundamentals
	1. Overview of databases and their importance in library and information science		1. Understanding database concepts: tables, records, fields
	2. Introduction to web development technologies and tools		2. Introduction to relational databases and SQL
	3. Basics of HTML, CSS, and JavaScript		3. Data modeling and database design principles
3.	Introduction to MySQL	4	Web Development Basics
	1. Overview of MySQL database management system		1. Introduction to web servers and hosting environments
	2. Installing and configuring MySQL		2. Creating a simple static webpage with HTML and CSS
	3. . Basic SQL queries: SELECT, INSERT, UPDATE, DELETE		3. Introduction to responsive web design principles
5.	Advanced SQL Queries	6	Introduction to PHP
	1. Querying multiple tables using JOINS		1. Overview of PHP programming language
	2. Aggregation functions and GROUP BY clause		2. Setting up PHP environment and server

	3.	Subqueries and complex SQL statements		3.	Writing PHP scripts to interact with MySQL database
7.	Database Design and Normalization		8	Introduction to JavaScript	
	1.	Understanding database normalization principles		1.	Basics of JavaScript: variables, data types, operators
	2.	Normal forms and their importance in database design		2.	Control flow and loops in JavaScript
	3.	Practical application of normalization techniques		3.	Introduction to DOM manipulation with JavaScript
Mid Semester Examination					
9	Building Dynamic Websites with PHP and MySQL		10	Introduction to Content Management Systems (CMS)	
	1.	Integrating PHP and MySQL for dynamic web content generation		1.	Overview of popular CMS platforms: WordPress, Joomla, Drupal
	2.	Creating user registration and login systems		2.	Installing and configuring a CMS
	3.	Building a simple content management system (CMS)		3.	Customizing and extending CMS functionality
11	Introduction to WordPress Themes and Plugins		12	Introduction to Google Analytics and SEO	
	1.	Customizing WordPress themes		1.	Overview of Google Analytics
	2.	Installing and configuring WordPress plugins		2.	Tracking website traffic and user behavior
	3.	Building custom functionality with WordPress plugins		3.	Introduction to search engine optimization (SEO) techniques
13	Introduction to Frontend Frameworks		14	Introduction to Google Webmaster Tools	
	1.	Overview of frontend frameworks: React, Vue.js, Angular, etc.		1.	Overview of Google Webmaster Tools (Search Console)
	2.	Introduction to React: Components and state management		2.	Monitoring website performance and search rankings
	3.	Building a simple React application		3.	Optimizing website for search engine visibility
15.	Introduction to APIs and Google Maps Integration		16	Project Showcase and Future Learning Paths	
	1.	Basics of APIs: What are APIs and how do they work?		1.	Final project showcase: Presenting websites created during the course
	2.	Consuming APIs with JavaScript using fetch or Axios		2.	Discussion on future learning paths and opportunities in web development
	3.	Integrating Google Maps API into a website		3.	Q&A session and course wrap-up
Final Semester Examination					

Recommended Readings

1. Connolly, T. M., & Begg, C. E. (2014). Database Systems: A Practical Approach to Design, Implementation, and Management (6th ed.). Pearson.
2. Welling, L., & Thomson, L. (2016). PHP and MySQL Web Development (5th ed.). Addison-Wesley Professional.
3. Sebesta, R. W. (2018). Programming the World Wide Web (8th ed.). Pearson.
4. Robson, E. (2018). Learning PHP, MySQL & JavaScript: With jQuery, CSS & HTML5 (5th ed.). O'Reilly Media.
5. Duckett, J. (2014). HTML & CSS: Design and Build Websites. Wiley.

Degree Program	BS-LIS	Course Code	LIS-483
Course Title	Management of Information Systems (MIS)	Credit Hour	3
Course Domain	Major	Sub Domain	

Course Objectives

- Learn how technology, people, and processes intersect in organizational decision-making and information management.
- Analyze, design, and implement MIS solutions to enhance organizational efficiency.
- Gain skills in evaluating and selecting appropriate technologies and methodologies for information system design.
- Address ethical, legal, and security concerns to safeguard organizational information assets.

Week	Description/Lecturers	Week	Description/Lecturers
1	Introduction to Information Systems	2	Management and Decision Making
	1. Overview of information systems: people, organizations, and technology		1. Role of information systems in decision making
	2. Introduction to management information systems		2. Decision support systems (DSS) and executive information systems (EIS)
	3. Information system models and management concepts		3. Management strategies for effective decision making

3.	Technology Fundamentals		4	Software Fundamentals	
	1.	Basics of computer hardware and software		1.	Types of software: application software vs. system software
	2.	Introduction to networking and telecommunications		2.	Software development lifecycle (SDLC)
	3.	Emerging technologies and their impact on information systems		3.	Introduction to programming languages and development environments
5.	File and Database Processing		6	Microcomputer Systems	
	1.	File processing systems vs. database management systems (DBMS)		1.	Introduction to microcomputer hardware components
	2.	Basics of telecommunications networks		2.	Operating systems and software applications for microcomputers
	3.	Internet and intranet technologies	3.	Troubleshooting and maintenance of microcomputer systems	
7.	Telecommunications		8	MIS in Practice	
	1.	Media queries and responsive design principles		1.	Case studies of MIS implementation in different industries
	2.	Building responsive layouts with CSS Grid and Flexbox		2.	Best practices and lessons learned from successful MIS projects
	3.	Testing and debugging responsive websites		3.	Challenges and barriers to MIS implementation
Mid Semester Examination					
9	Transaction Processing and Office Automation		10	Building MIS	
	1.	Transaction processing systems (TPS)		1.	Requirements analysis for MIS development
	2.	Office automation tools and systems		2.	System design principles and methodologies
	3.	Integration of TPS and office automation for business processes		3.	System acquisition: in-house development vs. off-the-shelf solutions
11	Implementation and Maintenance		12	End-User Computing and Development	
	1.	Strategies for successful implementation of MIS		1.	Empowering end-users with computing tools and resources
	2.	User training and change management		2.	User-centered design principles
	3.	Maintenance and support of MIS systems		3.	Management of MIS Information Systems
13	Management of MIS Information Systems		14	Security and Computer Crime	
	1.	Roles and responsibilities of MIS managers		1.	Information security fundamentals

	2.	Strategic planning for information systems		2.	Types of computer crime and cyber threats
	3.	Performance measurement and evaluation of MIS		3.	Strategies for preventing and responding to security incidents
15.	Disaster Recovery		16	Project Management and Course Review	
	1.	Importance of disaster recovery planning		1.	Project management methodologies for MIS projects
	2.	Disaster recovery strategies and techniques		2.	Review of course topics and key concepts
	3.	Business continuity planning and risk management		3.	Final project presentations and course wrap-up
Final Semester Examination					

Recommended Readings
1. Laudon, K. C., & Laudon, J. P. (2019). Management Information Systems: Managing the Digital Firm (16th ed.). Pearson.
2. O'Brien, J. A., & Marakas, G. M. (2018). Management Information Systems (11th ed.). McGraw-Hill Education.
3. Stair, R. M., & Reynolds, G. W. (2018). Principles of Information Systems (13th ed.). Cengage Learning.
4. Kroenke, D. M., & Boyle, R. J. (2019). MIS Essentials (5th ed.). Pearson.
5. Alter, S. (2013). Decision Support Systems and Intelligent Systems (7th ed.). Pearson.

Degree Program	BS-LIS	Course Code	LIS -482
Course Title	Project Management	Credit Hour	3
Course Domain	Major	Sub Domain	

Course Objectives
<ul style="list-style-type: none"> • Develop a comprehensive understanding of project management principles, methodologies, and best practices. • Gain proficiency in utilizing project management tools and techniques to effectively plan, execute, and monitor projects.

- Cultivate essential skills in team leadership, communication, and problem-solving to navigate project challenges and ensure successful project outcomes.
- Explore the application of project management concepts in real-world scenarios, with a focus on managing projects within library and information science contexts.

Week	Description/Lecturers		Week	Description/Lecturers	
1	Introduction to Project Management		2	Tools and Processes for Project Management	
	1.	Definition and importance of project management		1.	Understanding different types of electronic resources
	2.	Overview of project life cycle phases		2.	Project management processes and methodologies
	3.	Introduction to project teams and team building		3.	Project management context and organizational structures
3.	Project Integration Management		4	Project Scope Management	
	1.	Understanding project integration management processes		1.	Defining and controlling project scope
	2.	Project charter development and project kickoff		2.	Selection criteria and evaluation of electronic resources
	3.	Project management plan development and execution		3.	Scope verification and change control processes
5.	Project Time Management		6	Project Cost Management	
	1.	Developing project schedules using network diagrams		1.	Estimating project costs and developing a budget
	2.	Critical Path Method (CPM) and Program Evaluation and Review Technique		2.	Cost baseline and cost tracking techniques
	3.	Techniques for schedule compression and time management		3.	Earned Value Management (EVM) and cost performance analysis
7.	Project Quality Management		8	Project Human Resource Management	
	1.	Understanding project quality requirements		1.	Role of human resources in project management
	2.	Quality planning and assurance processes		2.	Team development and management techniques
	3.	Quality control techniques and continuous improvement		3.	Conflict resolution and performance management
Mid Semester Examination					
9	Project Communications Management		10	Utilizing project management software for communication	
	1.	Developing a project communication plan		1.	Identifying project risks and opportunities

	2.	Effective communication strategies for project stakeholders		2.	Qualitative and quantitative risk analysis techniques
	3.	Utilizing project management software for communication		3.	Risk response planning and monitoring
11	Project Procurement Management		12	Introduction to PCs	
	1.	Identifying project procurement needs		1.	Basics of personal computers
	2.	Procurement planning and vendor selection		2.	Hardware components and peripherals
	3.	Contract management and administration		3.	Operating systems and software applications
13	Study of Project Management with Reference Libraries in Pakistan		14	PC1: Writing Grant Proposals	
	1.	Overview of project management practices in libraries in Pakistan		1.	Understanding the grant writing process
	2.	Case studies of successful library projects in Pakistan		2.	Elements of a successful grant proposal
	3.	Challenges and opportunities in library project management in Pakistan		3.	Tips and strategies for writing effective grant proposals
15.	PC2: Monitoring and Evaluation of Projects		16	Capstone Project Presentation	
	1.	. Importance of monitoring and evaluation in project management		1.	Presenting capstone projects related to project management
	2.	Techniques for project monitoring and performance measurement		2.	Discussion and feedback on capstone project presentations
	3.	Conducting project evaluations and lessons learned sessions		3.	Reflection on learning outcomes and future applications of project management
Final Semester Examination					

Recommended Readings	
1. Kerzner, H. (2017). Project Management: A Systems Approach to Planning, Scheduling, and Controlling (12th ed.). Wiley.	
2. Schwalbe, K. (2019). Information Technology Project Management (9th ed.). Cengage Learning.	
3. Gray, C. F., & Larson, E. W. (2017). Project Management: The Managerial Process (7th ed.). McGraw-Hill Education.	
4. PMI. (2017). A Guide to the Project Management Body of Knowledge (PMBOK Guide) (6th ed.). Project Management Institute.	
5. Heagney, J. (2016). Fundamentals of Project Management (5th ed.). Amacom.	

Degree Program	BS- LIS	Course Code	LIS -481
Course Title	Professional Ethics	Credit Hours	03

Course Objectives	
	<ul style="list-style-type: none"> • Understand the foundational concepts and theories of ethics, including deontological, consequentialist, and virtue ethics. • Explore the ethical principles and values relevant to various professional fields, such as honesty, integrity, fairness, and respect for others. • Analyze case studies and real-world scenarios to identify ethical dilemmas and develop strategies for ethical decision-making. • Examine the role of ethics in professional responsibility, including obligations to clients, employers, colleagues, and the public.

Course Learning Outcomes	
	<ul style="list-style-type: none"> • Understand various ethical theories and their application to professional contexts. • Develop critical thinking skills for analyzing and resolving ethical dilemmas. • Familiarize with professional codes of ethics and standards relevant to their field. • Apply ethical decision-making frameworks to real-world scenarios. • Acquire skills for ethical leadership and promoting integrity within organizations.

Detailed Course Contents/Weekly Breakup

Week	Description/Lectures	Week	Description/Lectures
1.	Introduction to Professional Ethics in Library Science	2.	Ethical Foundations in Library Science
	I Introduction to ethics		i Core ethical principles and values in the library profession
	ii The importance of ethics in library science		ii Understanding the role of professional codes of ethics in library science
	iii Historical overview of ethical theories applicable to library science		iii Continue
3.	Ethical Decision Making	4.	Ethical Decision Making. Continue
	I Models for ethical decision making		i Case studies in ethical decision making for librarians
	ii Frameworks for ethical decision making		ii Practical applications in ethical decision making for librarians
	iii Continue		iii Continue
5.	Intellectual Freedom and Access to Information	6.	Intellectual Freedom and Access to Information Continue.

	I	The concept of intellectual freedom		i	Ethical considerations in providing equitable access to information
	ii	The significance of intellectual freedom		ii	Continue
	iii	Continue		iii	Continue
7.	Privacy and Confidentiality in Libraries		8.	Professional Integrity and Conduct	
	i	Principles of privacy and confidentiality in library services.		i	Ethical issues related to conflicts of interest and bias
	ii	Legal aspects of handling patron information.		ii	Ethical issues related to biasness
	iii	Ethical aspects of handling patron information.		iii	Continue
9.	Professional Integrity and Conduct. Continue		10.	Diversity and Inclusion in Library Services	
	i	Maintaining professional integrity in collection development		i	Ethical considerations in serving diverse populations
	ii	Cataloging, and reference services.		ii	Promoting inclusivity in library services
	iii	Continue		iii	Combating discrimination in library practices
11.	Ethical Leadership and Advocacy		12.	IFLA code of ethics for librarians and other Information Workers	
	i	Ethical responsibilities of library leaders and administrators		i	Access to Information
	ii	Advocacy for ethical principles in library.		ii	Responsibilities Towards Individuals and Society
	iii	Advocacy for ethics in library policies and practices.		iii	Privacy, Secrecy And Transparency
13.	IFLA code of ethics for librarians and other Information Workers. Continue		14.	Issues And Problems In Designing An acceptable Ethical Code For Library Professionals	
	i	Open Access and Intellectual Property		i	Image Of The Library And Information Profession In Society
	ii	Neutrality, Personal Integrity and Professional Skills		ii	More Than One Professional Body
	iii	Colleague and Employer/Employee Relationship		iii	Authority In Implementation

15.	Issues And Problems In Designing An acceptable Ethical Code For Library Professionals		16.	Become More Reliable And Responsible	
	i	Expanding Dimensions Of The Profession		i	How to Get To Work on Time
	ii	Professional Quality		ii	The art and importance of follow-through
	iii	New Entrants	iii	How to earn a reputation as someone to count on	

Recommended Readings:

1. **"Ethics for the Information Age" by Michael J. Quinn:** This book focuses on ethical issues in the realm of information technology, covering topics such as privacy, intellectual property, and computer crime.
2. **"Engineering Ethics: Concepts and Cases" by Charles E. Harris Jr., Michael S. Pritchard, and Michael J. Rabins:** This text provides a comprehensive overview of ethical theories and principles as applied to engineering, with case studies to illustrate real-world dilemmas.
3. **"Ethical Issues in Business: A Philosophical Approach" by Thomas Donaldson and Patricia H. Werhane:** Offering a philosophical perspective, this book explores ethical issues in business, including corporate responsibility, stakeholder theory, and ethical decision-making.
4. **"Medical Ethics: A Very Short Introduction" by Tony Hope:** This concise introduction provides an overview of key ethical issues in medicine, such as doctor-patient relationships, end-of-life care, and resource allocation.
5. **"The Legal Ethics of Drafting" by Peter R. Jarvis:** Focusing on legal ethics, this book examines the ethical considerations that arise in the drafting of legal documents, contracts, and agreements.
6. **"Journalism Ethics: A Philosophical Approach" by Christopher Meyers:** This text delves into the ethical challenges faced by journalists, including objectivity, bias, and conflicts of interest, from a philosophical standpoint.
7. **"Ethics in Public Relations: Responsible Advocacy" by Kathy Fitzpatrick and Carolyn Bronstein:** Providing insights into ethical practices in public relations, this book addresses issues such as transparency, honesty, and the public interest.
8. **"Business Ethics: Decision-Making for Personal Integrity & Social Responsibility" by Laura P. Hartman and Joseph R. DesJardins:** This text offers a practical approach to business ethics, emphasizing the importance of personal integrity and social responsibility in decision-making.
9. **"The Oxford Handbook of Professional Ethics" edited by George G. Brenkert and Tom L. Beauchamp:** This comprehensive handbook covers various professions and their ethical considerations, offering insights from leading scholars in the field.
10. **"Ethics in Engineering Practice and Research" edited by Caroline Whitbeck:** This anthology provides a collection of essays exploring ethical issues in engineering practice and research, addressing topics such as safety, sustainability, and professional responsibility.