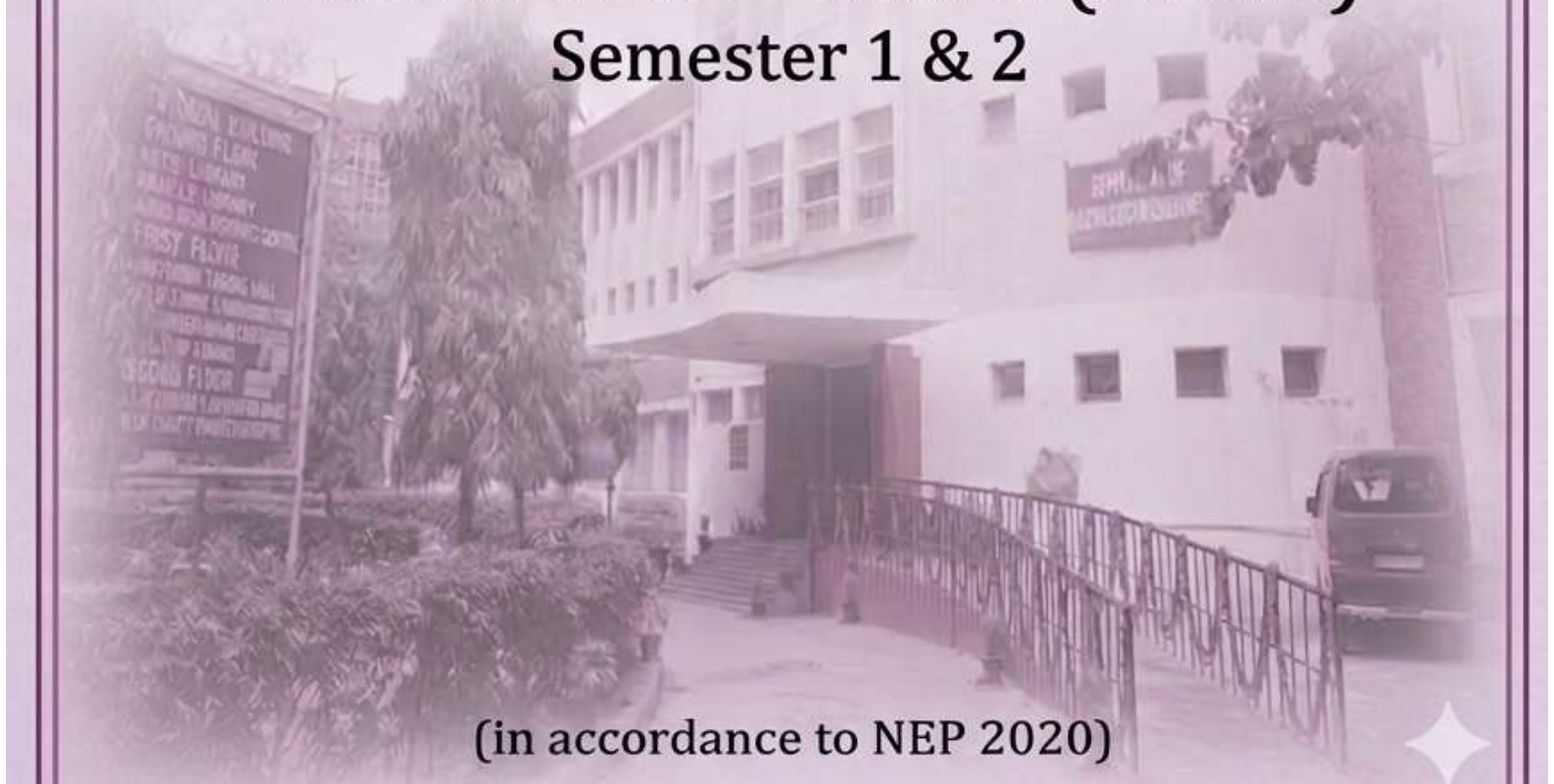
DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE
UNIVERSITY OF DELHI

Syllabus
Master of Library and Information Science (MLISc)
Semester 1 & 2



(in accordance to NEP 2020)

Options	Type of Course Post Graduate Professional	Nomenclature of Course: **Master of Library and Information Science**	Credits Distribution			Total Credits
			Lecture	Tutorial	Practical	
Semester I						
Core Courses	**DSC-1**	Research Methodology	3	1	0	4
	DSC-2	Information and Communication Technology Applications in Libraries: Theory	3	1	0	4
	DSC-3	Marketing of Library and Information Products and Services	3	1	0	4
	DSC-4	Information Systems and Programmes	3	1	0	4
Discipline Specific Elective	**DSE-1**	*Universal Decimal Classification: Practical	0	0	4	4
	DSE-2	**Choose any one of the following:**				
		Data Analytics and Visualization	3	1	0	4
		*Content Development: Practical	0	0	4	
		*Cataloguing of Non-Book Materials: Practical	0	0	4	
Project Work	**PW-1**	**Project Report -Part I** 1. Preparing Research Proposal 2. Review of Literature 3. Selection of Research Method	0	0	2	2
					TOTAL CREDITS	**26**
General Elective**	**GE-1**	**Choose any one of the following:**				
		Research Metrics and Visibility	3	1	0	4
		*Academic Writing Tools: Practical	0	0	4	
		*Reference Creation and Management Tools: Practical	0	0	4	

*** Practical papers will have 8 (4x2) classes per week**
**** General Elective papers are meant for students of the other departments.**

Note: New concepts/developments which will take place may be included in the teaching of the course by the concerned teachers.

Options	Type of Course Post Graduate Professional	Nomenclature of Course: **Master of Library and Information Science**	Credits Distribution			Total Credits
			Lecture	Tutorial	Practical	
		Semester II				
Core Courses	**DSC-5**	Information Storage and Retrieval System	3	1	0	**4**
	DSC-6	*Information and Communication Technology Applications in Libraries: Practical	0	0	4	**4**
	DSC-7	Advanced Information Literacy	3	1	0	**4**
	DSC-8	Academic Library and Information System	3	1	0	**4**
Discipline Specific Elective	**DSE-3**	Artificial Intelligence and Libraries	3	1	0	**4**
	DSE-4	**Choose any one of the following:**				
		Print and Electronic Sources and Literature in Humanities	3	1	0	**4**
		Print and Electronic Sources and Literature in Natural Sciences	3	1	0	
		Print and Electronic Sources and Literature in Social Sciences	3	1	0	
Project Work	**PW-2**	**Project Report -Part II** 1. Selection of Data Collection Tools and Techniques 2. Pilot Study 3. Data Collection 4. Data Analysis and Interpretations 5. Report Writing	0	0	2	**2**
					TOTAL CREDITS	**26**
General Elective**	**GE-2**	**Choose any one of the following:**				
		Research and Publication Ethics	3	1	0	**4**
		Statistical Tools and Techniques	3	1	0	
		Intellectual Property Rights	3	1	0	

*** Practical papers will have 8 (4x2) classes per week**

**** General Elective papers are meant for students of the other departments.**

Note: New concepts/developments which will take place may be included in the teaching of the course by the concerned teachers.

MLISc

Semester-I

DSC 1: Research Methodology

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 1: Research Methodology	4	3	1	0	BLISc	-

Course Objectives:

Students will master research fundamentals and methodologies tailored for Library and Information Science. The course focuses on selecting data collection tools, applying advanced statistical techniques using SPSS, and developing professional research reports that adhere to ethical standards and citation guidelines.

Learning Outcomes:

After completing this course, students will be able to:

- Apply the various statistics and statistical techniques to do research.
- Select appropriate data collection tool to gather data and use statistical methods to analyze the data and
- Use statistical package such as SPSS to data curation and data analysis.
- Create research report using standards and tools.

UNIT I: Introduction to Research — 10 Hours

- Fundamentals of Research: Concept, Meaning, Need, Types and Process of Research
- Research Problem
- Review of Literature
- Research Design
- Formulation of Hypotheses

UNIT II: Research Methods and Data Collection — 10 Hours

- Historical, Survey, Experimental, Case Study and Delphi Method
- Scientific Research, Statistical Research, etc.
- Various Approaches to Research
- Data Collection Methods, Sampling and Techniques

UNIT III: Statistical Tools and Techniques — 15 Hours

- Measures of Central Tendency and Dispersion
- Correlations and Regression, Factor Analysis, ANOVA, etc.
- Parametric and Nonparametric Tests
- Testing of Hypotheses
- Data Presentation and Visualization
- Application of Statistical Packages
- Metric Studies

UNIT IV: Citation Styles and Report Writing **10 Hours**

- Report Writing
- Citation Styles and Reference Management System
- Research Ethics and Plagiarism

Reading List

ALVESSON (M) and SKOLDBERG (K). Reflexive methodology: new vistas in qualitative research. Ed. 2 Rev. Sage Publication, London. 2009.

BUSHA (CH). Research methods in librarianship. Academic Press, New York. 1990.

BUSHA (C) and HARTER (SS). Research methods in librarianship: techniques and interpretation. Academic Press, Orlando. 1980.

CHARLES (H) and others. Research methods in librarianship: techniques and interpretations. Sage, New Delhi. 1993.

CRESWELL (JW). Research design: qualitative, quantitative, and mixed methods approaches. Sage Publications, California. 2009.

FOWLER (FJ). Survey research methods. Sage, New Delhi. 1993.

GOODE (WJ) and HATT (PK). Methods in social science research. McGraw-Hill, New Delhi. 1986.

GOON (AM). Fundamentals of statistics. World Press, Calcutta. 2000.

GREENFIELD (T). Research methods: guidance for postgraduates. Hodder Arnold, London. 1996.

KRISHAN KUMAR. Research methods in library and information science. Rev. Ed. Har-Anand Publications, New Delhi. 1999.

LANCASTER (FW) and POWELL (RR). Basic research methods for librarians. Ablex Publishing, New Jersey. 1985.

THENUA (BPS). Theoretical and conceptual perspectives in social research methods: a guide to students and researchers. Agra, Social Development Federation. 2024. (Series Editor: Prof. Margam Madhusudhan)

POWELL (RR) and SILIPIGNI (CL). Basic research methods for librarians. Ed. 4. Libraries Unlimited, Westport. 2004.

RAO (IKR). Quantitative methods for library and information science. Wiley Eastern, New Delhi. 1985.

SINGH (SP). Research methods in social sciences: a manual for designing questionnaires. Kanishka, New Delhi. 2002.

SLATER (M), Ed. Research methods in library and information studies. Library Association Publishing, London. 1990.

YOUNG (PV). Scientific social survey and research. Rev. Ed. 4. Prentice Hall, New Delhi. 1984.

DSC 2: Information Technology Applications in Libraries: Theory

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 2: Information Technology Applications in Libraries: Theory	4	3	1	0	BLISc	-

Course Objectives:

This course explores the integration of emerging technologies like AI, Blockchain, and IoT within library environments. Students will learn to manage digital resources, implement user-centric services through automation and virtual reality, and address the ethical and practical frameworks required for modern technological adoption.

Learning Outcomes:

After completing this course, students will be able to:

- Understand key emerging technologies and their role in libraries.
- Apply modern technologies for efficient resource management.
- Develop user-centric library services using advanced digital tools.
- Evaluate implementation, ethics, and future trends in library technologies.

UNIT I: Emerging Technologies in Libraries — 11 Hours

- Artificial Intelligence (AI) and Machine Learning
- Blockchain Technology, Cloud Computing and Big Data Analytics
- Internet of Things (IoT), Drones and Robots
- Augmented Reality (AR) and Virtual Reality (VR)

UNIT II: Resource Management Technologies — 12 Hours

- Electronic Resource Management Systems (ERMS)
- Radio Frequency Identification (RFID)
- IoT-based Tracking and Smart Shelves
- Cloud-based Library Platforms
- Digital Library Software and Institutional Repositories
- Blockchain Applications in Digital Rights Management and Secure Transactions

UNIT III: User-Centric Technologies and Services **12 Hours**

- AI-Powered Search and Discovery Tools
- Chatbots and Virtual Assistants for Reference Services
- Recommender Systems for Personalised Information Delivery
- Augmented Reality and Virtual Reality Application in Information Literacy and Exhibitions
- Mobile Library Applications and Responsive Interfaces

UNIT IV: Implementation, Ethics, and Future Trends **10 Hours**

- Technology Planning and Adoption frameworks in libraries
- Data privacy, security, and ethical concerns
- Staff training and capacity building for emerging technology integration
- Policy guidelines and standards for technology-enabled library services.
- Criteria for Selection and Implementation of Emerging Technologies

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Reading List

AKEROYD (John). Information and communication technology in libraries: Trends and issues. 2019.

AMERICAN LIBRARY ASSOCIATION. Library Technology Reports (various issues). Chicago: American Library Association. 2021.

BERTOT (JC) and CHOI (H). Emerging technologies in libraries: Concepts, applications, and impact. 2020.

CHOI (Y) and YI (H). Artificial intelligence and libraries. Journal of Academic Librarianship. 2021.

IFLA. Guidelines for emerging technologies in libraries. 2022.

KAVITHA (K). Emerging trends and technologies in libraries. New Delhi: Ess Ess Publications. 2021.

UNESCO. Policy guidelines for the adoption of emerging technologies in knowledge institutions. 2023.

MADHUSUDHAN (M) and PANDEY (P). Smart Library Systems: Competencies for Information Professionals. Agra: Social Development Federation. 2026.

DSC 3: Marketing of Library and Information Products and Services

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 3: Marketing of Library and Information Products and Services	4	3	1	0	BLISc	-

Course Objectives:

This course introduces fundamental marketing principles and strategic planning specifically for library environments. Students will learn to conduct market research, implement digital promotion strategies, and develop consolidated information products to enhance library visibility and service sustainability.

Learning Outcomes:

After completing this course, students will be able to:

- Explain the fundamental principles, concepts, and environmental factors influencing the marketing of library and information services.
- Apply strategic marketing planning, research tools, and analysis techniques in designing user-centred LIS marketing programs.
- Develop and implement promotional strategies, pricing models, and digital marketing methods for effective dissemination of LIS products and services.
- Evaluate consultancy practices, information product development, and repackaging methods to enhance library visibility and sustainability.

UNIT I: Fundamentals of Library Marketing — 11 Hours

- Library Marketing: Concept, Needs, Objectives, and Philosophy
- Marketing Environment
- Market Segmentation in LIS
- Marketing Mix
- Marketing Information System (MIS)

UNIT II: Strategies, Planning, and Market Research — 12 Hours

- Strategic Planning for Marketing Library Services
- Marketing Research: Tools, Techniques, and Applications in Libraries
- Marketing process in LIS
- Use of SWOT, PEST, and Competitive Analysis in Library Marketing

UNIT III: Promotion and Delivery of LIS Products and Services — 12 Hours

- Pricing Models and Distribution Channels
- Communication Strategies: Advertising, Public Relations, Sales Promotion
- E-marketing and Digital Promotion Methods for Libraries
- Social Media Marketing

UNIT IV: Management Consultancy and Information Product Development

10 Hours

- Management Consultancy
- Role of LIS Schools and Library Associations in Consultancy Services
- Information Analysis and Consolidation
- Packaging and Repackaging of Information
- Designing and Developing Consolidated Information Products for Users

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Reading List

BAKEWELL (KG). Managing user-centred libraries and information services. 2nd ed. London, Maxwell. 1997.

BHATT (RK) and BABBAR (P). Marketing Management and Marketing Consultancy in Libraries. Delhi, Sharda Publications. 2022.

CARPENTER (J) and DAVIES (R). Quantification of the overseas consulting market for professional consultancy services in librarianship and information science and information management. London, British Library. 1992.

CHAKRABORTY (S). Marketing in library and information services: a changing paradigm. New Delhi, EssEss Publications, 2014.

COOTE (H) and BATCHELOR (B). How to market your library services effectively. 2nd ed. London, ASLIB. 1997.

GUPTA (DK) and others. Marketing library and information services: international perspectives. Munich, K. G. Saur. 2006.

HELINSKY (ZA). Shortcut to marketing the library. Oxford, Chandos Publishing. 2008.

JAIN (AK) and others. Marketing information products and services: a primer for libraries and information professionals. New Delhi, Tata McGraw-Hill. 1999.

KOTLER (P). Marketing management. 12th ed. Delhi, Prentice-Hall. 2002.

KOTLER (P) and ARMSTRONG (G). Principles of marketing. 7th ed. New Delhi, Prentice-Hall of India. 1996.

PREM SINGH and others. Silver linings: shaping minds and institutions. Delhi, Excel India publishers. 2026

ROWLEY (J). Information marketing. London, Ashgate. 2001.

SINGH (SP) and KUMAR (K). Marketing of library and information services: a study of management techniques. New Delhi, Concept Publishing. 2005.

WEINGAND (DE). Preparing for the customer-driven library: managing programs and services. London, Library Association Publishing. 1995.

DSC 4: Information Systems and Programmes

60 Hours
(45hrs Lect. + 15 hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 4: Information Systems and Programmes	4	3	1	0	BLISc	-

Course Objectives:

This course examines the structure and function of local, national, and global information systems. Students will analyze information policies, explore international programs like UNESCO and INIS, and study the collaborative role of resource sharing, library networks, and consortia in modern information dissemination.

Learning Outcomes:

After completing this course, students will be able to:

- Explain the concepts, types, and characteristics of information systems and organizations.
- Analyze various information products and their role in information dissemination.
- Examine the need, structure, and formulation of information policy and national information systems.
- Evaluate the role of national and international information systems and organizations.

UNIT I: Information Systems and Organizations — 10 Hours

- Information Systems: Concepts, Types, and Characteristics
- Information Organizations: Definition, Objectives, Types, and Functions
- Information Products: Definition, Objectives, Types, and Use
- Library and Information Services: Definition, Types, and Use

UNIT II: Information Policy and National System of Information Services — 11 Hours

- Information Policy: Need, Purpose, and Process
- National System of Information Services: Planning, Design, and Structure
- National Information Systems

UNIT III: Global Information Systems — 12 Hours

- IFLA and UNESCO: Contribution, Programmes, and Activities
- UNISIST, INSPEC, and INIS
- AGRIS, MEDLARS/MEDLINE, and INFOTERRA

UNIT IV: Resource Sharing, Library Networks, and Consortia **12 Hours**

- Resource Sharing: Concept, Need, Purpose, and Areas
- Library Networks: Concept, Need, Purpose, and Types
- Library Networks: DELNET, INFLIBNET, National Knowledge Network
- Library Consortia: ONOS, CSIR-National Knowledge Resource Consortium

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Reading List

ATHERTON (P). Handbook for information systems and services. Paris, UNESCO. 1997.

BHATT (RK). Information systems. Delhi, Pragati Publications. 2009.

BOURGEOIS (DT) and others. Information systems for business and beyond. Saylor Foundation. 2014.

BURCH (JG) and GRUDNITSKI (G). Information systems: Theory and practice. Singapore, Wiley. 1986.

JAEGER (PT) and others. Foundations of information policy. Chicago, ALA Neal-Schuman. 2019.

ROWLEY (J). The basics of information systems. London, Library Association. 1996.

DSE 1: Universal Decimal Classification: Practical

120 Hours
(120hrs Practical)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE 1: Universal Decimal Classification: Practical	4	0	0	4	BLISc	Basics of Classification Theory and Practice

Course Objectives:

This course provides practical training in the Universal Decimal Classification system. Students will learn to analyze subject concepts, apply common and special auxiliaries, and use number-building techniques to accurately classify simple, compound, and complex interdisciplinary documents using UDC schedules.

Learning Outcomes:

After completing this course, students will be able to:

- Understand and explain the framework, structure, and purpose of the Universal Decimal Classification (UDC) system.
- Classify documents with simple and compound subjects accurately using UDC schedules.
- Apply common and special auxiliaries, and UDC devices effectively in classification.
- Construct class numbers for complex, interdisciplinary, and compound subject documents using UDC.

UNIT I: Introduction to UDC — 25 Hours

- Structure and Organization of UDC Schedules
- Principles of Classification and Synthesis in UDC
- Main Classes, Divisions and Notation System

UNIT II: Classification of Simple and Compound Subjects — 35 Hours

- Subject Analysis: Identifying Main Concepts
- Assigning Class Numbers to Simple Subjects
- Classification of Documents with Compound Subjects
- Use of Schedules and Indexes for Number Building

UNIT III: Auxiliaries in UDC — 35 Hours

- Introduction to Common Auxiliaries
- Introduction to Special Auxiliaries
- Application Rules with Examples
- Positioning Auxiliaries in Class Numbers

UNIT IV: Devices and Classification of Complex Subjects **25 Hours**

- Number Building for Complex and Interdisciplinary Subjects
- Practical Exercises on Classifying Complex Documents
- Introduction to UDC Online

Reading List

FOSKETT (AC). Universal decimal classification. London, Clive Bingley. 1973.

MCILWAINE (IC). The universal decimal classification: a guide to its use. The Hague, UDC Consortium. 2007.

SINGH (KP). UDC manual. New Delhi, EssEss Publications. 2010.

UNIVERSAL DECIMAL CLASSIFICATION. Latest ed. London, British Standards Institution.

DSE 2a: Data Analytics and Visualization

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE 2a: Data Analytics and Visualization	4	3	1	0	BLISc	-

Course Objectives:

This course introduces the principles of data analytics and visualization within library settings. Students will master the data lifecycle, from cleaning usage statistics to performing exploratory analysis while learning to create impactful visual stories using bibliometric, network, and geographic visualization tools for evidence-based reporting.

Learning Outcomes:

After completing this course, students will be able to:

- Introduce the concept of data analytics and visualization in the library environment.
- Analyze and interpret library datasets effectively.
- Apply techniques for visual representation of library data.
- Use modern analytics and visualization tools in library contexts.

UNIT I: Foundations of Data Analytics and Visualization — 11 Hours

- Data Sources in Libraries: Usage Statistics, OPAC Logs, Repository Data, Bibliographic and Citational Data
- Data Lifecycle: Collection, Cleaning, Processing, Analysis, and Interpretation
- Data Analytics: Concept, Need, Scope, Purpose and Types
- Data Visualization: Concept, Need, Purpose and Principles
- Ethical Issues in Data Analytics and Visualization

UNIT II: Data Preparation and Exploratory Data Analysis — 12 Hours

- Data Collection Methods and Formats
- Data Cleaning and Preprocessing
- Exploratory Data Analysis
- Descriptive and Inferential Statistics for Data Analysis
- Data Tabulation and Graphical Presentation

UNIT III: Data Visualization Techniques — 12 Hours

- Principles of Effective Visualization and Storytelling with Data
- Types of Visualizations
- Network and Citation Visualization
- Visualization of Time-Series and Multivariate Data
- Geographic Visualization and Mapping
- Visualization of Bibliometric and Scientometric Data

UNIT IV: Tools and Applications of Data Visualization **10 Hours**

- Tools for Data Analysis and Visualization
- Data Visualization for Digital Libraries and Institutional Repositories
- Bibliometric and Scientometric Visualization Tools
- Dashboard Creation and Reporting
- Trends in Data Analytics and Visualization

Reading List

CHEN (C). CiteSpace: A practical guide for mapping scientific literature. New York, Nova Science Publishers. 2016.

EVERGREEN (SDH). Effective data visualization: The right chart for the right data. Thousand Oaks, CA, SAGE Publications. 2016.

FRIENDLY (M) and DENIS (D). Milestones in the history of thematic cartography, statistical graphics, and data visualization. Toronto, York University. 2001.

HEALY (K). Data visualization: A practical introduction. Princeton, Princeton University Press. 2018.

KNAFLIC (CN). Storytelling with data: A data visualization guide for business professionals. Hoboken, NJ, Wiley. 2015.

MUNZNER (T). Visualization analysis and design. Boca Raton, CRC Press. 2014.

TUFTE (ER). The visual display of quantitative information. Cheshire, CT, Graphics Press. 2001.

WILKE (CO). Fundamentals of data visualization: A primer on making informative and compelling figures. Sebastopol, CA, O'Reilly Media. 2019.

DSE 2b: Content Development: Practical

120 Hours
(120hrs Practical)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE 2b: Content Development: Practical	4	0	0	4	BLISc	-

Course Objectives:

This course provides practical skills in creating and hosting digital content for library environments. Students will master multimedia design, CSS-based website development, and the creation of subject gateways, while ensuring accessibility standards, data security, and proper server configuration for professional web hosting.

Learning Outcomes:

After completing this course, students will be able to:

- Understand the concept of content development
- Able to design, create, develop and maintain online content
- Learn critical evaluation of website quality and maintenance of quality web pages
- Get acquainted with web design standards, their importance and how to manipulate images as per requirements.

UNIT I: Image and Graphics Design — 25 Hours

- Images and Logo Creation
- Creation of Audio and Visual Contents
- Multimedia Content Creation

UNIT II: Design and Development of Library Websites — 35 Hours

- Content Creation and Management
- Cascading Style Sheets (CSS)
- Design and Development of Library Website

UNIT III: Design and Development of Subject Gateways — 35 Hours

- Content Creation and Management
- Design and Development of Subject Gateway

UNIT IV: Hosting of Web Contents — 25 Hours

- Data Security
- Server Configuration
- Domain Configuration
- Hosting of Library Website and Subject Gateway

Reading List

CEDERHOLM (D). CSS3 for web designers. New York: A Book Apart. 2015.

CLARK (J). Building accessible websites. Indianapolis: New Riders Publishing. 2002.

COOMBS (N). Making online teaching accessible. San Francisco: Jossey-Bass. 2010.

CUNNINGHAM (K). The accessibility handbook. Sebastopol, CA: O'Reilly Media. 2012.

DUCKETT (J). Accessible XHTML and CSS: Web sites problem design solution. Birmingham: Wrox. 2005.

FELKE-MORRIS (T). Basics of web design: HTML5 and CSS3. Boston: Addison-Wesley. 2013.

HORTON (S). Access by design: A guide to universal usability for web designers. Indianapolis: New Riders Publishing. 2005.

HORTON (S) and QUESENBERY (W). A web for everyone. Brooklyn: Rosenfeld Media. 2012.

HORTON (S) and QUESENBERY (W). Universal design for web accessibility. Brooklyn: Rosenfeld Media. 2014.

HRICKO (M), ed. Design and implementation of web-enabled teaching tools. Hershey, PA: Idea Group Publishing. 2002.

KIRKPATRICK (A) and others. Web accessibility: Web standards and regulatory compliance. New York: Friends of ED. 2006.

MEIERT (JO). Little book of HTML/CSS coding guidelines. Sebastopol, CA: O'Reilly Media. 2015.

RUSHBY (N) and others. Wiley handbook of learning technology. Hoboken, NJ: Wiley. n.d.

DSE 2c: Cataloguing of Non-Book Materials: Practical

120 Hours
(120hrs Practical)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE 2c: Cataloguing of Non-Book Materials: Practical	4	0	0	4	BLISc	Basics of Cataloguing Theory and Practice

Course Objectives:

This course provides practical training in cataloguing non-book materials using international standards like AACR2, MARC21, and RDA. Students will learn to create bibliographic records for diverse formats, including cartographic materials, manuscripts, and electronic resources, while applying subject headings and exploring modern frameworks like FRBR.

Learning Outcomes:

After completing this course, students will be able to:

- Apply principles and rules in preparing cataloguing entries / records for the bibliographic entities such as books and periodicals.
- Apply principles and rules in preparing catalogues for the non-book materials including electronic resources as per the Anglo-American Cataloguing Rules.
- Assign the subject headings using Sears List of Subject Headings for the items.
- Create records using MARC21, RDA and FRBR

UNIT I: Introduction to Cataloguing Standards — 25 Hours

- Anglo American Cataloguing Rules II
- Library of Congress Subject Headings List
- Machine Readable Catalogue (MARC)

UNIT II: Non-Book Materials — 35 Hours

- Cartographic Materials
- Manuscripts
- Music
- Graphic Materials
- Three-Dimensional Artifacts and Relics

UNIT III: Electronic Resources and Web Resources — 35 Hours

- Sound Recordings
- Motion Pictures and Video Recordings
- Electronic Resources: Web Resources, Online and Offline Databases
- Microforms
- Continuing Resources: Integrated Resources

UNIT IV: Trends in Cataloguing **25 Hours**

- Resource Description and Access (RDA)
- Functional Requirements for Bibliographic Records (FRBR)
- AI Tools for Cataloguing

Reading List

American Library Association. Anglo-American Cataloguing Rules. London, Library Association. 2005.

American Library Association. Resource Description and Access: Toolkit. 2024. Available at: https://www.rdatoolkit.org/

Library of Congress. Library of Congress Subject Headings. Latest edition. Washington, Library of Congress.

WILKIE (Chris). Managing film and video collections. London, ASLIB. 1999.

BENNETT (Rick), LAVOIE (Brian F.) and O'NEILL (Edward T.). "The Concept of a Work in WorldCat: An Application of FRBR." Library Collections, Acquisitions and Technical Services, 27(1), Spring 2003. Available at: https://www.oclc.org/content/dam/research/publications/library/2003/lavoie_frbr.pdf

HICKEY (Thomas B.), O'NEILL (Edward T.) and TOVES (Jenny). "Experiments with the IFLA Functional Requirements for Bibliographic Records (FRBR)." D-Lib Magazine, 8(9), September 2002.

Library of Congress. Resource Description and Access. Available at: https://www.loc.gov/aba/rda/

OCLC. Functional Requirements for Bibliographic Records. Available at: https://www.oclc.org/research/activities/frbr.html

O'NEILL (Edward T). "Functional Requirements for Bibliographic Records: OCLC's Experience Identifying and Using Works." Given at FRBR Workshop, 8-9 July 2004, Frankfurt (Germany). Available at: https://www.oclc.org/content/dam/research/presentations/oneill/frbrddb2.ppt

GE 1a: Research Metrics and Visibility

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE 1a: Research Metrics and Visibility	4	3	1	0	BLISc	-

Course Objectives:

This course covers the quantitative evaluation of scientific literature and research impact. Students will apply bibliometric laws, growth models, and citation analysis to measure research productivity and visibility, while exploring modern indicators like the h-index and Altmetrics for individual and institutional performance.

Learning Outcomes:

After completing this course, students will be able to:

- Apply bibliometric, informetrics laws for quantitative and qualitative measurement of documents / information.
- Measure the performance of individuals and countries applying the principles of informetrics.
- Identify the growth and obsolescence of literature in a specific discipline / subject.
- Evaluate the quality of literature by using quality indicators such as citation analysis.
- Apply the informetrics and other metrics for collection development / access.

UNIT I: Introduction to Metric Studies — 10 Hours

- Librametry, Bibliometrics, Scientometrics, Informetrics and Webometric
- Scientific Indicators
- Trends in Metric Studies

UNIT II: Growth Models and Scientific Collaboration — 11 Hours

- Growth and Obsolescence of Literature: Growth Models, Aging factor and half-life: Real vs. Apparent, Synchronous vs. Diachronous
- Collaborative Measures and Indicators

UNIT III: Bibliometric Laws and Its Application — 12 Hours

- Bibliometrics Laws: Bradford, Lotka and Zipf
- Bibliometrics Distributions
- Informetrics Models: Bradford's Curve, Leimukuhler's Distribution, etc
- Concentration Measures: 80-20 Rule, Price's Law related to Scientific Productivity

UNIT IV: Citation Analysis and Altmetrics — 12 Hours

- Citation Analysis: Bibliographic Coupling and Co-Citation Analysis
- Science Indicators: Impact factor, h-index, g-index, i-10, Mapping of Science
- Author level and Article Level Metrics
- Altmetrics Tools and Techniques

Reading List

BAKER (SL) and LANCASTER (SW). Measurement and evaluation of library services. Ed. 2. Arlington: Information Resources Press. 1991.

CARPENTER (RL) and VASU (ES). Statistical methods for librarians. Chicago: ALA. 1979.

DONOHUE (JC). Understanding scientific literature: A bibliometric approach. London: MIT Press. 1990.

EGGHE (L) and ROUSSEAU (R). Introduction to informetrics: Quantitative methods in library, documentation and information science. Amsterdam: Elsevier. 1990.

EGGHE (L) and ROUSSEAU (R). Elementary statistics for effective library and information services management. London: ASLIB. 2001.

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GARG (KC). Introduction to bibliometrics and scientometrics. Ess Ess Publication, .2024

RAO (I K R). Quantitative methods for library and information science. New Delhi: Wiley Eastern. 1985.

SANGAM (SL). Scientometrics: qualitative methods for library and information science. Bangalore, Content Craft. 2015.

THELWALL (M). Introduction to webometrics: Quantitative web research for the social sciences. San Rafael, California: Morgan Publisher. 2009.

GE 1b: Academic Writing Tools: Practical

120 Hours
(120hrs Practical)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE 1b: Academic Writing Tools: Practical	4	0	0	4	BLISc	-

Course Objectives:

This course develops proficiency in ethical academic writing by integrating AI-driven tools for literature synthesis, data analysis, and content creation. Students will master search strategies, grammar enhancement, and citation management while navigating the complexities of scholarly publishing, including peer-review processes and the prevention of plagiarism.

Learning Outcomes:

After completing this course, students will be able to:

- Develop proficiency in academic and research writing, with effective and ethical use of digital and AI-based writing tools.
- Impart skills for conducting systematic literature reviews using specialized tools.
- Enhance competence in data analysis, interpretation, and scholarly communication.
- Manage citations and references using reference management tools and promote awareness of referencing, plagiarism detection, and publishing ethics.

UNIT I: Content Creation for Academic Writing — 30 Hours

- Search Strategy Development, Keyword Optimization, and Citation Chaining
- Content creation, editing, and formatting for research publications
- Ethical Use of Artificial Intelligence Tools for Article Writing

UNIT II: Review of Literature and Scholarly Discovery — 30 Hours

- Bibliometric and Visualization Techniques
- AI-assisted Literature Review and Summarization
- Exploration of Various Types of Databases
- Managing and Synthesizing Scholarly Information

UNIT III: Grammar, Paraphrasing, Data Analysis, and Interpretation — 30 Hours

- Grammar and Paraphrasing and Summarization
- AI-Driven Data Collection and Analysis
- Data Visualization and Interpretation in Research

UNIT IV: Referencing, Publishing, and AI-Enhanced Academic Communication

30 Hours

- Reference Management and Citation Creation
- Web and AI-based Citation Generation and Plagiarism Detection
- Scholarly Publishing: Journal Selection, Peer-Review, and Open Access
- Identifying predatory journals and maintaining publication ethics

Reading List

BOOTH (W C), COLOMB (G G) and WILLIAMS (J M). The craft of research. University of Chicago Press. 2024.

HART (C). Doing a literature review: Releasing the social science research imagination. Sage. 2025.

PAN (L M) and CRAVEN (J S). Preparing literature reviews. Routledge. 2024.

UGC. Regulations on academic integrity and plagiarism. 2018.

UNESCO. Recommendation on the ethics of artificial intelligence. 2021.

WIPO. Artificial intelligence and intellectual property. Available at https://www.wipo.int/portal/en/index.html

ONLINE tutorials and documentation for Zotero, Mendeley, Turnitin, and Scite.ai.

MADHUSUDHAN (M) and PANDEY (P). Smart library systems: Competencies for information professionals. Agra: Social Development Federation. 2026.

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GE 1c: Reference Creation and Management Tools: Practical

120 Hours
(120hrs Practical)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE 1c: Reference Creation and Management Tools: Practical	4	0	0	4	BLISc	-

Course Objectives:

This course provides practical training in managing bibliographic data using traditional and AI-driven tools. Students will master major citation styles like APA and MLA, learn to use reference managers such as Zotero and Mendeley, and leverage AI assistants for automated citation generation and literature organization across various platforms.

Learning Outcomes:

After completing this course, students will be able to:

- Create, format, and export references using online and AI-based tools.
- Manage and organize bibliographic data through reference management software.
- Apply proper citation styles (APA, MLA, IS:IDBR, Chicago, Harvard, etc.) in academic writing.
- Integrate AI-driven research assistants (e.g., SciSpace, Semantic Scholar, Paperpal) for literature discovery and citation generation.

UNIT I: Reference Creation and Management — 30 Hours

- Citation Styles: APA, MLA, Chicago, Harvard, IS: IDBR, IEEE, etc.
- Creation and Organization of Citations

UNIT II: Web-Based Citation Generators — 30 Hours

- Creating References using Various Web-Based Citation Generators
- Exporting citations in Word, BibTeX, and RIS formats

UNIT III: Desktop and Cloud-Based Applications — 30 Hours

- Installing and setting up accounts
- Importing, organizing, and annotating references
- Managing libraries, tags, and notes
- Integration with MS Word, Google Docs, and LaTeX

UNIT IV: AI-Based Citation Tools — 30 Hours

- Creation of Citations using Various AI-based Tools
- Exporting citations in Word, BibTeX, and RIS formats

Reading List

AMERICAN PSYCHOLOGICAL ASSOCIATION. Publication manual of the American Psychological Association. Ed. 7. American Psychological Association. 2020.

DESHMUKH (R). Comparing traditional and AI-driven research tools: A library science perspective. Vidyawarta. 2024.

DOCUMENT analysis platform | Petal. Available at: https://www.petal.org/. n.d.

ENDNOTE. EndNote [computer software]. EndNote. Available at: https://endnote.com/. 2017.

INDIAN STANDARD INFORMATION AND DOCUMENTATION – BIBLIOGRAPHIC REFERENCES (IS: IDBR). Available at: https://archive.org/details/gov.in.is.2381.1.2009. 2014.

MENDELEY. Mendeley: Reference management software and researcher network [computer software]. Elsevier. Available at: https://www.mendeley.com/. 2018.

MODERN LANGUAGE ASSOCIATION. MLA handbook. Ed. 9. Modern Language Association of America. 2021.

SCISPACE. SciSpace [computer software]. SciSpace.com. Available at: https://scispace.com/. 2025.

SEMANTIC SCHOLAR. Semantic Scholar: An academic search engine for scientific articles [web application]. Available at: https://www.semanticscholar.org/. 2019.

THE CHICAGO MANUAL OF STYLE. The Chicago manual of style. Ed. 17. University of Chicago Press. 2017.

ZOTERO. Zotero: Your personal research assistant [computer software]. Zotero.org. Available at: https://www.zotero.org/. 2019.

MLISc

Semester-II

DSC 5: Information Storage and Retrieval System

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 5: Information Storage and Retrieval System	4	3	1	0	BLISc	-

Course Objectives:

This course explores the fundamental principles of Information Storage and Retrieval (ISAR) systems. Students will master indexing techniques, vocabulary control, and retrieval models, while learning to design advanced search strategies and evaluate system performance using modern tools like data mining and the semantic web.

Learning Outcomes:

After completing this course, students will be able to:

- Understand and evaluate the fundamental concepts, components, and models of Information Storage and Retrieval (ISAR) systems.
- Apply indexing systems, classification tools, thesauri, and vocabulary control for effective information retrieval.
- Design and implement search strategies using Boolean logic, proximity operators, and web-based tools for diverse information needs.
- Analyze the role of metadata, file organization, and knowledge management techniques in modern retrieval systems.

UNIT I: Basics of Information Retrieval System — 10 Hours

- Information Retrieval System: Concept, Components, Typesand Compatibility
- Information Retrieval Models
- Evaluation of Information Retrieval System

UNIT II: Information Storage and Organization — 11 Hours

- Controlled Vocabulary
- Thesaurus: Need, Purpose and Construction
- Classification Schedules, Subject Heading Lists
- Bibliographic Description Standards and Tools

UNIT III: Indexing and Indexing Systems — 12 Hours

- Index, Indexing and Indexing Systems
- Types of Indexing Systems: Pre-Coordinate, Post-Coordinate, Assigned, Derived andAutomatic
- Landmarks in Indexing Systems

UNIT IV: Information Retrieval and Searching Techniques — 12 Hours

- Information Retrieval: Types and Techniques
- Information Searching: Types and Techniques
- Data Mining, Data Harvesting and Semantic Web
- Trends in Information Storage and Retrieval

Reading List

AITCHIAON (J). Thesaurus construction and use: a practical manual. 3rd ed. London, ASLIB. 1997.

BAEZA-YATES (R) and RIBEIRO-NETO (B). Modern information retrieval: the concepts and technology behind search. 2nd ed. Boston, Addison-Wesley. 2011.

CHOWDHURY (GG). Introduction to modern information retrieval. London, Library Association. 1999.

CLEVELAND (DB) and CLEVELAND (AD). Introduction to indexing and abstracting. Colorado, Libraries Unlimited. 2001.

CROFT (WB) and others. Search engines: information retrieval in practice. Boston, Addison-Wesley. 2010.

FOSKETT (AC). Subject approach to information. 5th ed. London: Library Association. 1996.

GHOSH (SN) and SATPATHI (JN). Subject indexing system: concepts, methods and techniques. Calcutta, IASLIC. 1998.

KORFHAGE (RR). Information storage and retrieval. New York, John Wiley. 1997.

LANCASTER (FW). Vocabulary control for information retrieval. 2nd ed. Arlington, Information Resources Press. 1985.

LANCASTER (FW). Indexing and abstracting in theory and practice. 3rd ed. Urbana, University of Illinois. 2003.

MANNING (CD) and others. Introduction to information retrieval. Cambridge, Cambridge University Press. 2008.

ROWLEY (J). The basics of information systems. 2nd ed. London, Library Association. 1996.

SARACEVIC (T). Evaluating information retrieval systems. Cham, Springer. 2016.

SOERGEL (D). Indexing languages and thesauri: construction and maintenance. New York, John Wiley and Sons. 1974.

WALKER (G) and JANES (J). Online retrieval: a dialogue of theory and practice. Englewood, Libraries Unlimited. 1993.

DSC 6: Information and Communication Technology Applications in Libraries: Practical

120 Hours
(120hrs Practical)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 6: Information and Communication Technology Applications in Libraries: Practice	4	0	0	4	BLISc	-

Course Objectives:

This course provides hands-on training in library automation and digital repository management. Students will master the installation and configuration of Koha, execute core housekeeping operations like circulation and serials management, and learn to build digital collections using institutional repository software and standardized metadata.

Learning Outcomes:

After completing this course, students will be able to:

- Install and configure Koha for library automation.
- Perform cataloguing, circulation, and reporting using Koha.
- Apply metadata standards for digital resource management.
- Design and manage automated and digital library systems.

UNIT I: Library Automation Using Koha — 30 Hours

- Installation and Configuration of Koha
- Creation of Library Branches and User Categories
- System Preferences and Administration Tools
- Customization of Bibliographic Framework

UNIT II: Koha Modules and Housekeeping Operations — 30 Hours

- Database Creation
- Patron Management
- Acquisition
- OPAC Configuration and Customization
- Serials Management
- Import and Export
- Conversion of Spreadsheet to MARC File
- Reports and Statistics Generation

UNIT III: Building Collection using Institutional Repository Software **30 Hours**

- Installation and Configuration
- Collection Creation and Index Generation
- Importing Digital Documents
- Browsing and Search Interfaces

UNIT IV: Metadata Creation and Customization **30 Hours**

- Metadata Creation
- Indexing and Search Configuration
- Interface Design and Multilingual Support
- Customization

Reading List

ARMS (WY). Digital libraries. Cambridge, MIT Press. 2000.

BORGMAN (CL). Scholarship in the digital age: Information, infrastructure, and the Internet. Cambridge, MIT Press. 2007.

BREEDING (M). Library technology guides. Chicago, American Library Association. 2016.

CHOWDHURY (GG) and CHOWDHURY (S). Introduction to digital libraries. London, Facet Publishing. 2003.

HARAVU (LJ). Library automation: Design, principles and practice. New Delhi, Allied Publishers. 2004.

KOHA COMMUNITY. Koha manual. Wellington, Koha Library Software Foundation. 2023.

WITTEN (IH) and others. How to build a digital library. San Francisco, Morgan Kaufmann. 2010.

DSC 7: Advanced Information Literacy

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 7: Advanced Information Literacy	4	3	1	0	BLISc	-

Course Objectives:

This course explores advanced information literacy models and frameworks essential for the knowledge society. Students will learn to design instructional programs, apply critical evaluation techniques like CRAAP and SIFT to combat misinformation, and integrate AI tools into digital literacy initiatives while upholding media ethics and data privacy.

Learning Outcomes:

After completing this course, students will be able to:

- Explain advanced concepts, models, and standards of information literacy, and compare global IL frameworks with a focus on their relevance to Indian libraries.
- Design an IL curriculum and training module for a specific user group, applying effective instructional methods and evaluation strategies.
- Demonstrate advanced search strategies in various information systems and databases, and critically evaluate sources for authority, accuracy, and relevance.
- Apply critical thinking and evaluation techniques (CRAAP, SIFT, SMART) to identify misinformation, practice digital ethics, and integrate emerging trends such as AI and app-based tools in MIL initiatives.

UNIT I: Foundation of Information Literacy — 10 Hours

- Concept, Scope, and Evolution of Information Literacy.
- Information Literacy in the Knowledge Society and Lifelong Learning.
- Five Laws of Media and Information Literacy
- Information Literacy Standards and Frameworks
- Information Literacy Models

UNIT II: Designing and Delivering Information Literacy Programmes — 12 Hours

- Needs Assessment for Information Literacy Training
- Information Literacy for Specific User Groups
- Information Literacy: Instruction Modes, materials and Methods
- Web-based Information Literacy
- AI tools integration in Information Literacy Programmes

UNIT III: Information Literacy Skills **12 Hours**

- Information Search Strategies: Basic and Advance
- Digital literacy and Media Literacy
- Information Literacy Skills through Web-Based Instruction
- Trends in Information Literacy: Artificial Intelligence
- Assessment and Evaluation of Information Literacy Programmes

UNIT IV: Assessment and Evaluation of Information **11 Hours**

- Fake News, Misinformation, Disinformation, Cyberbullying, and Netiquettes
- Open Access Movement and Creative Commons Licensing
- Data Privacy, Security Issues and Media and Information Ethics
- Evaluating Resources and Methods

Reading List

AMERICAN LIBRARY ASSOCIATION. Framework for information literacy for higher education. Chicago, American Library Association. 2016.

BROWN (N) and others. Visual literacy for libraries: A practical, standards-based guide. London, Facet Publishing. 2016.

BURKHARDT (JM). Teaching information literacy reframed: 50+ framework-based exercises for creating information-literate learners. London, Facet Publishing. 2016.

CRAWFORD (J) and IRVING (C). Information literacy and lifelong learning: Policy issues, the workplace, health and public libraries. Oxford, Chandos Publishing. 2014.

GODWIN (P) and PARKER (J). Information literacy beyond Library 2.0. London, Facet Publishing. 2012.

GRASSIAN (ES) and KAPLOWITZ (JR). Learning to lead and manage information literacy instruction programs. New York, Neal-Schuman Publishers. 2005.

HEPWORTH (M) and WALTON (G). Teaching information literacy for inquiry-based learning. London, Facet Publishing. 2009.

HORTON (FW). Understanding information literacy: A primer. Paris, UNESCO. 2007.

INTERNATIONAL FEDERATION OF LIBRARY ASSOCIATIONS AND INSTITUTIONS. Guidelines on information literacy for lifelong learning. The Hague, IFLA. 2006.

JACOBSON (TE) and MACKEY (TP). Metaliteracy in practice. London, Facet Publishing. 2015.

JULIEN (H) and others. The information literacy framework: Case studies of successful implementation. Lanham, Rowman & Littlefield Publishers. 2020.

MARTIN (A) and MADIGAN (D). Digital literacies for learning. London, Facet Publishing. 2006.

SCONUL. The seven pillars of information literacy. London, SCONUL. 2011.

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANISATION (UNESCO). Global media and information literacy assessment framework. Paris, UNESCO. 2013.

DSC 8: Academic Library and Information System

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 8: Academic Library and Information System	4	3	1	0	BLISc	-

Course Objectives:

This course examines the evolution and management of academic library systems, specifically within the Indian context. Students will explore collection development policies, financial planning, and organizational governance, while gaining the skills to implement ICT-enabled services, resource-sharing networks like INFLIBNET, and effective human resource management strategies.

Learning Outcomes:

After completing this course, students will be able to:

- Explain the origin, development, and role of academic libraries in formal and non-formal education, with reference to India.
- Develop and manage diverse library collections, including print, non-print, and digital resources, and understand consortium-based access models.
- Analyze organizational structures, administration, standards, budgeting, and financial management in academic libraries.
- Implement information services, ICT-enabled services, networking, and human resource management to enhance library efficiency and user satisfaction.

UNIT I: Academic Libraries: History and Development — 10 Hours

- Types, Objectives, Functions and Services of Academic Libraries
- History and Development of College and University Libraries with Special Reference to India
- Role of Academic Libraries in Formal and Non-Formal Education
- Role of UGC in the Development of Academic Libraries

UNIT II: Collection Development and Information Resources — 12 Hours

- Collection Development Policy and Procedures
- Print and Electronic Resources
- Non-Book Materials
- Consortia and Access Models

UNIT III: Organization, Administration and Standards — 11 Hours

- Organizational Structure and Governance in Academic Libraries
- Staff Manual, Library Statistics, Surveys, Annual Reports and Standards
- Budgeting: Types of Budget and Financial Planning in Libraries
- Sources of Finance for Academic Libraries

UNIT IV: Information Services, Networking, and Human Resources — 12 Hours

- Information Services: CAS, SDI, etc
- Web Based Library Services: OPAC, Digital Reference, Online Helpdesks, etc
- Resource Sharing and Library Networks: INFLIBNET, DELNET, etc
- Human Resource Management: Job Analysis and Assessment
- Staff Competency Development and Performance Evaluation

Reading List

AGGARWAL (DS). Management of academic libraries in the digital era. New Delhi, EssEss Publications. 2015.

BAKER (D), ed. Resource management in academic libraries. London, Library Association. 1997.

BHATT (RK) and others. Academic Libraries. Delhi, KK Publications. 2018.

BHATT (RK). University Libraries. Delhi, Narendra Publishing House. 2019.

BROPHY (P). The academic library. London, Library Association. 2000.

BUDD (JM). The academic library: the context, its purpose and its operation. London, Libraries Unlimited. 1988.

CHAPMAN (L). Managing acquisitions in library and information services. London, Library Association. 2001.

DOWLER (L), ed. Gateways to knowledge: the role of academic libraries in teaching, learning and research. London, MIT Press. 1998.

GUPTA (DK). Library networks and resource sharing in India. Munich, K. G. Saur. 2009.

JORDAN (P). The academic library and its users. London, Gower Publishing Limited. 1998.

KUMAR (P) and SINGH (S). Human resource management in academic libraries. New Delhi, Routledge. 2020.

LINE (MB), ed. Academic library management. London, Library Association. 1990.

RAJU (NV) and KUMAR (R). Digital library services : planning, design and management. New Delhi, Excel Books. 2018.

RANGANATHAN (SR). School and college libraries. Madras, Madras Library Association. 1942.

SHARMA (JP). Academic libraries in India: emerging trends and challenges. New Delhi, Chand Publications. 2016.

WEBB (SP). Personal development in information work. 2nd ed. London, ASLIB. 1991.

WHITE (CM). Survey of the University of Delhi. Delhi, Planning Unit, University of Delhi, 1965.

DSE 3: Artificial Intelligence and Libraries

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE 3: Artificial Intelligence and Libraries	4	3	1	0	BLISc	-

Course Objectives:

This course explores the transformative role of Artificial Intelligence in library environments, covering fundamental branches like Machine Learning and Natural Language Processing. Students will learn to implement AI-powered search, metadata generation, and virtual reference services while critically addressing algorithmic bias, data privacy, and the evolving competencies required for AI-augmented knowledge services.

Learning Outcomes:

After completing this course, students will be able to:

- Explain the fundamental concepts, history, and branches of Artificial Intelligence, and relate their relevance to Libraries.
- Identify and evaluate AI applications in library services, including cataloguing, reference, search systems, and recommender technologies.
- Demonstrate practical skills in using AI-based tools for metadata creation, content analysis, plagiarism detection, and bibliometric analysis in library workflows.
- Critically assess ethical, legal, and policy implications of AI in libraries, and propose strategies for responsible AI adoption.

UNIT I: Fundamentals of Artificial Intelligence — 10 Hours

- Definition, Scope, and Characteristics of AI
- Branches of AI: Machine Learning, Natural Language Processing (NLP)
- AI Trends in Global and Indian Contexts

UNIT II: AI Applications in Library and Information Services — 13 Hours

- Artificial Intelligence based Integrated Library Management Systems (ILMS)
- AI in Cataloguing and Metadata Generation
- AI-Powered Search and Discovery Systems
- Natural Language Processing for Information Retrieval
- Chatbots and Virtual Reference Services
- AI-Based Recommendation Systems

UNIT III: AI Tools for Libraries **12 Hours**

- AI-Driven Tools for Librarians: Cataloguing & Metadata, Text and Content Analysis, Plagiarism Detection, Image & OCR Tools
- AI in Digital Preservation and Archive Management
- AI-Powered Bibliometric and Scientometric Analysis

UNIT IV: Challenges, Ethics, and Future of AI in Libraries **10 Hours**

- Data Privacy and Security in AI-Powered Systems
- Bias and Fairness in AI Algorithms
- Skills and competencies for Library and Information Science Professionals
- Future trends: Generative AI, Semantic Web, and AI-Augmented Knowledge Services.

Reading List

ANDERSON (CB) and FISHER (DH). Artificial intelligence for academic libraries. London, Routledge. 2025.

CHOI (Y) and YI (H). Artificial intelligence in libraries: Applications and challenges. Journal of academic librarianship. 2021.

IFLA. Artificial intelligence and libraries. The Hague, International Federation of Library Associations and Institutions. 2020.

JONES (R). AI and machine learning for librarians. Chicago, ALA Editions. 2022.

KHAMIS (I). Applications of artificial intelligence in libraries. Hershey, IGI Global Scientific Publishing. 2024.

LUND (BD). Artificial intelligence for libraries. London, Bloomsbury Publishing. 2025.

MEESAD (P) and MINGKHWAN (A). Libraries in transformation. Cham, Springer Nature Switzerland. 2024.

NORTON (A), SACCO (K) and ARMS (K). Navigating AI in academic libraries: Implications for academic research. Hershey, IGI Global Scientific Publishing. 2025.

ROSS (M). AI libraries. Oslo, Publifye AS. 2025.

SAHOO (S). AI-driven information management: Strategies for libraries in the digital era. New Delhi, IIP Iterative International Publishers. 2025.

DSE 4a: Print and Electronic Sources and Literature in Humanities

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE 4a: Print and Electronic Sources and Literature in Humanities	4	3	1	0	BLISc	-

Course Objectives:

This course examines the landscape of scholarly communication and information resources within the humanities. Students will analyze the unique information-seeking behaviors of humanities researchers, evaluate diverse print and electronic sources from manuscripts to digital databases and explore the role of international research institutions and digital humanities platforms in supporting global scholarly output.

Learning Outcomes:

After completing this course, students will be able to:

- Explain the scope, development, and research trends in humanities disciplines such as religion, philosophy, fine arts, and literature.
- Analyze the information needs and information-seeking behaviour of users in humanities.
- Identify, evaluate, and utilize print and electronic information sources relevant to humanities research.
- Access and use databases, digital resources, and institutional outputs while recognizing contributions of scholars and organizations in humanities.

UNIT I: Historical Development and Scope of Humanities — 11 Hours

- Scope and Nature of Humanities Disciplines
- Historical Development of Humanities Literature
- Research Trends in Humanities: Religion, Philosophy, Fine Arts and Literature
- Evolution of Scholarly Communication in Humanities

UNIT II: User Studies and Information-Seeking Behaviour — 10 Hours

- Information Needs of Humanities Scholars and Researchers
- Information-Seeking Behaviour in Humanities Disciplines
- User Studies: Importance, Objectives and Types
- Planning and Conducting User Surveys
- Methods and Techniques of User Services in Humanities Libraries

UNIT III: Information Sources and Evaluation **12 Hours**

- Primary, Secondary, and Tertiary Sources in Humanities
- Types of Sources: Manuscripts, Books, Journals, Essays, Archival Materials
- Evaluation of Print and Electronic Sources
- Reference Sources: Bibliographies, Encyclopedias, Indexes and Abstracts
- Criteria for Evaluating Authenticity, Authority and Relevance

UNIT IV: Databases, Internet Services, and Institutional Contributions

12 Hours

- Networked and Distributed Databases in Humanities
- Consortia, Subject Gateways and Digital Humanities Platforms
- Internet Resources, Digital Libraries and E-Journals
- Role of Research Institutions and Professional Organizations in India, UK, and USA Contributions of Prominent Thinkers in Religion, Philosophy, Fine Arts and Literature

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Reading List

ASHEIM (L) and others. Humanities and the library: Problems in the interpretation, evaluation and use of library materials. Chicago, American Library Association. 1970.

BALAY (R). ed. Guide to reference books. 11th ed. Chicago, American Library Association. 1996.

CHANDLER (G). How to find out about literature. 5th rev. ed. Oxford, Pergamon Press. 1982.

CRANE (RS). The idea of the humanities. Vol. 1. Chicago, University of Chicago Press. 1967.

JONES (WT). Sciences and the humanities: Conflict and reconciliation. Berkeley, University of California Press. 1965.

KENNA (S) and ROSS (S). eds. Networking in the humanities: Proceedings. London, Bowker-Saur. 1995.

DSE 4b: Print and Electronic Sources and Literature in Natural Sciences

60 Hours
(45hrs Lect. + 15 hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE 4b: Print and Electronic Sources and Literature in Natural Sciences	4	3	1	0	BLISc	-

Course Objectives:

This course explores the historical evolution and scholarly communication landscape of the natural sciences. Students will analyze the specialized information-seeking behaviors of scientists, evaluate the credibility of primary and technical resources, and master the use of global databases, subject gateways, and consortia to support research in the physical and biological sciences.

Learning Outcomes:

After completing this course, students will be able to:

- Understand the historical development, scope, and trends of research in natural sciences.
- Analyze the information needs and information-seeking behaviour of users in natural sciences.
- Evaluate and utilize print, electronic, and tertiary sources for research and study in natural sciences.
- Identify and access relevant databases, consortia, and internet resources; recognize contributions of institutions and eminent scientists.

UNIT I: Historical Development and Scope — 12 Hours

- Historical Development of Natural Sciences Literature
- Scope of the Discipline: Physical Sciences and Biological Sciences
- Research Trends and Emerging Areas in Natural Sciences
- Evolution of Scientific Communication and Publications

UNIT II: User Studies and Information-Seeking Behaviour — 12 Hours

- Understanding Information Needs of Researchers and Students
- Information-Seeking Behaviour in Natural Sciences
- Importance, Objectives, and Types of User Studies
- Planning and Conducting User Surveys
- Methods and Strategies for Effective User Services

UNIT III: Information Sources and Evaluation — 11 Hours

- Primary, Secondary, and Tertiary Sources of Information in Natural Sciences
- Evaluation of Secondary Sources: Print vs Electronic Resources
- Scientific Journals, Monographs, Conference Proceedings, Technical Reports
- Use of Bibliographies, Indexes, Abstracts, and Review Literature
- Criteria for Evaluating Quality, Relevance, and Credibility

UNIT IV: Databases, Internet Services and Institutional Contributions — 10 Hours

- Networked and Distributed Databases in Natural Sciences
- Consortia, Subject Gateways, and Federated Search
- Internet Resources, E-Journals, and Digital Libraries
- Role of Research Institutions and Professional Organizations in India, UK, and USA
- Contributions of Prominent Physical and Biological Scientists

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Reading List

AMERICAN CHEMICAL SOCIETY. Searching the chemical literature. Washington, American Chemical Society. 1979.

BERNAL (JD). Social function of science. Cambridge, MIT Press. 1964.

BROWN (CH). Scientific serials. Chicago, Association of College and Research Libraries. 1956.

DAMPIER (WC). History of science and its relations with philosophy and religion. London, Cambridge University Press. 1961.

GROGAN (D). Science and technology: Introduction to the literature. 4th ed. London, Clive Bingley. 1982.

HAMES (I). Peer review and manuscript management in scientific journals: Guidelines for good practice. Oxford, Wiley-Blackwell. 2013.

LANCASTER (FW) and FAYEN (EG). Information retrieval systems: Theory and practice. 2nd ed. San Diego, Academic Press. 2012.

MOSER (DK) and SPANGENBURG (G). The history of science. New Delhi, University Press. 1994.

ROWLEY (J) and HARTLEY (R). Organizing knowledge: An introduction to managing access to information. 5th ed. London, Routledge. 2017.

SPANGENBURG (R) and MOSER (DK). The history of science in the 19th century. Hyderabad, University Press. 1994.

TENOPIR (C) and KING (DW). Communication patterns of scientists. 2nd ed. Oxford, Wiley-Blackwell. 2004.

WELFORD'S GUIDE TO REFERENCE MATERIAL. Vol. 1. 8th ed. London, Library Association. 1999.

DSE 4c: Print and Electronic Sources and Literature in Social Sciences

60 Hours
(45hrs Lect. + 15 hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE 4c: Print and Electronic Sources and Literature in Social Sciences	4	3	1	0	BLISc	-

Course Objectives:

This course explores the nature, scope, and research trends within major social science disciplines like Economics, Sociology, and Political Science. Students will analyze the specific information-seeking behaviors of social scientists, evaluate primary and electronic resources, and examine the impact of global research institutions and networked databases on the development of the field.

Learning Outcomes:

After completing this course, students will be able to:

- Comprehend with nature, scope, development and research trends of major social science disciplines, their importance along-with current relevance in global scenario
- Acquaint students about the Information systems and sources, Network and related resources in the field of Social Sciences at national and international level
- Profound Knowledge of prominent Social Sciences Institutes/ Organizations: their role and activities at national and international level
- Comprehend with major contributions of eminent social scientists of national and international repute

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UNIT I: Historical Development, Scope and User Studies — 12 Hours

- Nature, Scope and Development of Social Sciences
- Definition, Scope, Landmarks and Research Trends in Political Science, History, Economics and Sociology
- Information Needs of User's in Social Sciences
- Information Seeking Behaviour for Research
- User Studies: Importance, Objectives, Types and Planning User Survey

UNIT II: Information Sources and Evaluation — 12 Hours

- Primary, Secondary and Tertiary Sources of Social Sciences
- Evaluation of Sources: Print and Electronic Resources

UNIT III: Databases and Internet Services **11 Hours**

- Networked and Distributed Databases
- Consortia and Subject Gateways in the Field of Social Sciences
- Internet Resources and Services

UNIT IV: Role of Contributors and Institutions **10 Hours**

- Activities of Research Institutions and Professional Organisations in the Growth and Development of Social Sciences with Particular Reference to India, UK and USA London School of Economics and Political Science
- Contributions made by the Prominent Social Scientists in the field of History, Political Science, Economics and Sociology

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Reading List

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BHATT (RK) and KUMAR (M). ed. Development of social sciences: A librarian's companion. New Delhi, K.K. Publications. 2014.

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LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE. LSE. Available at: https://www.lse.ac.uk/

NADKARNI (MV). ed. Landmarks in the development of social sciences during the twentieth century. New Delhi, Allied Publishers. 2002.

NATIONAL COUNCIL OF APPLIED ECONOMIC RESEARCH. NCAER. Available at: https://ncaer.org/

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GE 1a: Research and Publication Ethics

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE 1a: Research and Publication Ethics	4	3	1	0	BLISc	-

Course Objectives:

This course examines the ethical foundations of scholarly inquiry and the principles of research integrity. Students will learn to identify scientific misconduct like falsification and plagiarism, navigate global publication standards such as COPE, and understand the role of open access initiatives and research metrics in maintaining academic honesty within an evolving digital landscape.

Learning Outcomes:

After completing this course, students will be able to:

- Orient and develop basic understanding of research ethics and its importance, value for academic and professional activities along-with intellectual honesty
- To familiarize with various association/institutional ethics guidelines regarding academic integrity, plagiarism and its related issues and fair practices
- Aware students about open access publishing and importance of metric studies.
- Assess their abilities in context with respect to critical reasoning, effective communication, and ethical decision-making to deal with professional responsibilities

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UNIT I: Ethics and Research Integrity — 12 Hours

- Ethics - Definition, Moral Philosophy, Principles of Research Ethics, Nature of Moral Judgements
- Scientific misconduct: Falsification, Fabrication and Plagiarism (FFP)
- Intellectual Honesty and Research Integrity

UNIT II: Professional Ethics — 12 Hours

- Publication Ethics: Definition, Introduction, Importance and Salami Slicing
- Best Practices/Standards Setting Initiatives and Guidelines: COPE, WAME, etc.
- Publication Misconduct: Definition, Concept and Problems Lead to Unethical Behaviour
- Predatory Publishers and Journals

UNIT III: Open Access Publishing — 11 Hours

- Open Access Publishing and initiatives
- Metrics: h-index, i10 index, g index, Altmetrics
- Ethical Values Towards the Issue of Plagiarism, UGC/HEI Plagiarism Guidelines (Latest)

UNIT IV: Challenges and Issues in Research Ethics **10 Hours**

- Institutional Role in Awareness and Curbing Unethical Practices
- Use of AI Tools for Ethical Research

Reading List

AHUJA (VK) and BAISHYA (K). ed. Research and publication ethics. Guwahati, National Law University and Judicial Academy, Assam. 2024.

BOS (J). Research ethics for students in the social sciences. 1st ed. Cham, Springer International Publishing. 2020.

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MCMURRY (JH). The etiquette advantage: Personal skills for social success. Wilmington, NC, Stellar Publications. 2002.

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SHAMOO (AE) and RESNIK (DB). Responsible conduct of research. New York, Oxford University Press. 2003.

SINGH (UP), AHLAWAT (S) and SHARMA (S). Research and publication ethics. New Delhi, Sultan Chand & Sons. 2023.

STENECK (NH). Introduction to the responsible conduct of research. Washington, DC, Office of Research Integrity. 2007.

UGC. Promotion of academic integrity and prevention of plagiarism in higher educational institutions regulations. New Delhi, University Grants Commission. 2018.

VERMA (V) and others. Textbook on research and publication ethics. 1st ed. New Delhi, Jaya Publishing House. 2022.

GE 1b: Statistical Tools and Techniques

60 Hours
(45hrs Lect. + 15 hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE 1b: Statistical Tools and Techniques	4	3	1	0	BLISc	-

Course Objectives:

This course introduces the essential statistical methods and tools required for evidence-based research in Library and Information Science. Students will learn to collect and classify data, apply measures of central tendency and dispersion, and perform correlation and hypothesis testing using modern software to interpret and present research findings effectively.

Learning Outcomes:

After completing this course, students will be able to:

- Explain the basic concepts of statistics and their importance in library and information science research.
- Apply descriptive statistical methods to organize, summarize, and interpret library and information data.
- Utilize statistical techniques and software tools for analyzing research data in LIS studies.
- Interpret statistical results and present findings using appropriate tables, graphs, and charts for decision-making and research reporting.

UNIT I: Introduction to Statistics — 11 Hours

- Concept, Scope, and Importance of Statistics
- Qualitative and Quantitative Data
- Data Collection Tools
- Classification and Tabulation of Data
- Presentation of Data

UNIT II: Descriptive Statistical Measures — 12 Hours

- Measures of Central Tendency
- Measures of Dispersion
- Frequency Distribution, Probability and Graphical Representation

UNIT III: Correlation and Basic Inferential Statistics — 12 Hours

- Concept and Types of Correlation
- Methods of Calculating Correlation
- Regression Analysis: Concept and Applications
- Testing of Hypotheses

UNIT IV: Statistical Tools and Applications **10 Hours**

- Use of Statistical Tools and Software
- Presentation and Interpretation of Research Results
- Web-based Statistical Tools

Reading List

BABBIE (E). The practice of social research. 14th ed. Boston, Cengage Learning. 2016.

BRYMAN (A). Social research methods. 5th ed. Oxford, Oxford University Press. 2016.

CRESWELL (JW). Research design: Qualitative, quantitative, and mixed methods approaches. 4th ed. Thousand Oaks, SAGE Publications. 2014.

CROXTON (FE), COWDEN (DJ) and KLEIN (S). Applied general statistics. 3rd ed. New Delhi, Prentice Hall of India. 1982.

FIELD (A). Discovering statistics using SPSS. 4th ed. London, SAGE Publications. 2013.

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GUPTA (SP). Statistical methods. New Delhi, Sultan Chand & Sons. 2011.

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RANGANATHAN (SR). Library administration. 2nd ed. Bombay, Asia Publishing House. 1966.

GE 1c: Intellectual Property Rights

60 Hours
(45hrs Lect. + 15 hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE 1c: Intellectual Property Rights	4	3	1	0	BLISc	-

Course Objectives:

This course covers the legal frameworks of Intellectual Property Rights with a focus on library and academic environments. Students will explore IPR categories, the Copyright Act of 1957, and fair use provisions, while analyzing international treaties and the legal consequences of copyright violations as defined by UGC regulations.

Learning Outcomes:

After completing this course, students will be able to:

- Understand the concept and categories of Intellectual Property Rights (IPR)
- Explain legal and copyright issues in libraries.
- Analyze international conventions, treaties and legal frameworks related to IPR.
- Understand the legal implications and penalties for copyright violation in research and academic integrity.

UNIT I: Intellectual Property Rights – Concept and Categories — 11 Hours

- Intellectual Property Rights: Nature, Concept, Importance and Provisions
- Categories of Intellectual Property Rights
- The Copyright Act, 1957 (India) and Information Technology Act, 2000

UNIT II: Intellectual Property Rights and Legal Issues in Libraries — 12 Hours

- Legal issues in libraries and information centres
- Provisions for Fair Use
- Copyright Issues and Challenges in Digitization and Digital Libraries

UNIT III: International Conventions, Treaties and Digital IPR — 12 Hours

- Intellectual Property Rights: Developments at the Global Level
- International organizations, Conventions and Treaties
- Digital Rights Management
- Creative Commons Licenses

UNIT IV: Penalties for Copyright Violation — 10 Hours

- The University Grants Commission (Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions) Regulations, 2018
- Legal Implications with regard to IPR Violations

Reading List

BHANDARI (MK). Law Relating to Intellectual Property Rights. 2024. Central Law Publications. Uttar Pradesh.

GUPTA (A) and Others. Essentials of Intellectual Property Rights in India. 2024. A2Z Edu Learning Hub. Kerala.

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SWAIN (NK). IPRs and Contemporary Issues: Contexting Information Intermediaries. 2010. Raj Publishing House. Jaipur.

WADHERA (BL). Law Relating to Intellectual Property Rights. Ed 5. 2016. Universal Law Publishing Co. New Delhi.

WIPO. Artificial intelligence and intellectual property. Available at https://www.wipo.int/portal/en/index.html