UNIVERSITY OF NIGERIA, NSUKKA
FACULTY OF EDUCATION
DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE

REVISED
POSTRADUATE PROGRAMME (PGD, MLS & Ph.D)
OF THE DEPARTMENT OF
LIBRARY AND INFORMATION SCIENCE

Postgraduate programme in Library and Information Science

PHILOSOPHY

Library and Information Science (LIS) discipline is concerned with the study of principles and skills required for systematic collection, organization and utilization of information resources in libraries. It is also concerned with the forces that govern ready access and free flow of information resources in the society. The programme is designed in two major pedagogical approaches; remedial and developmental. The remedial approach (Postgraduate Diploma) is designed to enable candidates deficient in LIS discipline to meet admission requirements for the Masters programmes. The programme provides remedial courses to postgraduate students whose first degrees are not in library and information science or whose grade points in the undergraduate and or Master's degrees fall short of admission into the cognate Masters and or Ph.D degree programmes. The developmental approach is designed as a core area of LIS pedagogy on principles and skills for effective academic pursuit.

OBJECTIVES
PGD Programme
The PGD programme in Library and Information Science is designed to
1. Develop awareness and interest in Library and Information Science as a discipline of study.
2. Develop basic theoretical knowledge in Library and Information Science required for further studies at the Masters level.

MLS & Ph.D Programme

The postgraduate programme is designed to provide professional education at higher degree level to highly qualified and motivated candidates who wish to pursue careers as librarians, information specialists, library educators and researchers. The specific objectives of the course are as follows: -
   i. To produce librarians and information specialists for school, academic, national, public and special libraries as well as information centers.
   ii. To provide further education opportunities for experienced librarians and information specialists.
   iii. To provide foundation for conducting advanced research in library and information science.
   iv. To promote the appreciation by the student of the functions and purposes of the library in the changing social, economic and educational set-up of the society.
   v. To provide foundation and skills required for information-related self-employment.

SCOPE
PGD Programme
The programme combines basic professional courses with library practice.

MLS & Ph.D Programmes
The programme prepares candidates for leadership positions in all types of libraries and information centres by combining theoretical background with practical experience in the various aspects of library and information science.

ADMISSION REQUIREMENTS
PGD Programme
The following categories of students may be admitted:

1. Graduates of University of Nigeria or other approved Universities who have a Bachelor degree, second class (lower division) with the minimum of GPA of 2.50 on a 5-point scale in discipline other than Library and Information Science.
2. Graduates of this University or other approved universities who have a third class degree with a GPA of at least 2.00 on a 5-point scale in Library and Information Science.
3. HND in Library and Information Science with at least upper credit pass level in an approved institution.

Masters Programme
i) Holders of Bachelor's Degree in Library and Information Science of the University of Nigeria OR other recognized universities with a GPA of at least 2.50 on a five-point scale or 50%.

ii) Holders of a Post Graduate Diploma in Library and Information Science with at least Upper Credit level.

Ph.D. Programme
i) Holders of a Masters Degree in Library and Information Science of the University of Nigeria OR other recognized universities with a GPA of at least 4.00 on a 5-point scale (3.0 on a 4-point scale) or 60%.

DURATION OF THE PROGRAMME
PGD Programme
Minimum of 12 months and maximum of 24 months.

Masters Programme

(i)	Full-Time	18 calendar months minimum; 3 calendar years maximum.
(ii)	Part-Time	24 calendar months minimum; 5 calendar years maximum.

Ph.D Programme

(i)	Full-Time	2 calendar years minimum; 5 calendar years maximum.
(ii)	Part-Time	3 calendar years minimum; 6 calendar years maximum.

MODE OF STUDY
PGD Programme
Course work of 28 credit units including a project.

MLS Programme
For the Masters Degree the mode of study is by course-work to be examined in written papers together with research work to be presented in a project report, where course-work predominates over research and constitutes not less than two thirds of the total credit hours.

Ph.D Programme
The mode of study for the Ph.D. is by course-work to be examined in written papers together with research work to be presented in a project report.

AREA OF SPECIALIZATION
Library and Information Science

EMPLOYMENT OPPORTUNITIES
PGD Programme
The PGD is designed to prepare graduates from other disciplines for entry into the Master's programme in Library and Information Science. PG Diploma holders with a degree in education are qualified for employment as teacher-librarians.

MLS Programme
M.L.S. holders are equipped for management positions in different types of library and information centers such as national, public, university and special libraries. Those competent are also qualified for academic positions. Further, there are self-employment opportunities in such areas as publishing and information brokerage.

Ph.D Programme
Those competent are also qualified for academic positions and for Ph.D programmes. Further, there are self-employment opportunities in such areas as publishing and information brokerage. Ph.D. holders are in addition equipped for leadership in library research and management.

STRESS AREAS/COURSE NUMBERING SYSTEM
PGD & MLS Programmes

General Librarianship	0
Technical Services	1
Literature of Subject Areas	2
Information and Communications Technology	3
Administration	4
Information Sources and Services	5
Practicals	6
Research Methods and Statistics	7
Seminar	8
Project	9

POSTGRADUATE DIPLOMA PROGRAMME
FIRST SEMESTER

Course code	Title	Units
LIS 0701	Introduction to Library and Information Science	2
LIS 0703	Visits to Libraries and Information Centres	1
LIS 0711	Cataloguing and Classification I	2
LIS 0713	Basic Technical Services in libraries	2
LIS 0715	Collection Development	2
LIS 0751	Fundamentals of Library Resources and Services	2
LIS 0761	Practice Librarianship	<u>2</u>
		13

SECOND SEMESTER

Course code	Title	Units
LIS 0712	Cataloguing and Classification II	1
LIS 0722	Literature in Subject Areas	2
LIS 0742	Administration in Libraries	2
LIS 0752	Media Resources in Libraries	2
LIS 0754	Reference and Information Services	2
LIS 0770	Research Methods in Library and Information Science	2
LIS 0790	Project	<u>4</u>
		15

PGD COURSE DESCRIPTIONS

LIS 0701   **Introduction to Library and Information Science**
Origin, history, definition, types and functions of libraries. Role of libraries in societies e.g. (ancient, modern, and African society), interrelationship of library and information centres with other systems (e.g. educational, economic and social systems). (2 units)

LIS 0703   **Visits to Library and Information centres**
Study visits to libraries, information centres, museums, etc to acquaint students with the structure and management of Library profession. Orientation in basic library processes in the teaching lab. (1 unit)

LIS 0711   **Cataloguing and Classification I**
Parts of a book, types and formats of cataloging, history of cataloging and classification codes and filing rules, theory and practice of descriptive cataloguing using AAR2.   (2 units)

LIS 0712   **Cataloguing and Classification II**
Preparation of the dictionary and classified catalogues. Subject cataloguing and classification using DDC, LC And Sear's list of subject heading, UDC, facetted classification scheme, online cataloguing, etc. (1 unit)

LIS 0713   **Basic Technical Services in Libraries**
Management aspects of acquisition, book processing, cataloguing, circulation and control, binding, preservation of materials automation of technical operation, reprography. (2 units)

LIS 0715   **Collection Development**
Collection of collection development including selection, acquisition, weeding, censorship, evaluation, .ICT application in collection development, resource sharing (inter-library cooperation). (2 units)

LIS 0722   **Literature in Subject Areas**
An overview of literature in subject areas such as African studies, science and technology, humanities and social sciences, including print, digital and oral information sources (i.e. indigenous knowledge). (2 units)

LIS 0742   **Administration of Libraries**
Basic administration of all types of libraries, personnel, funding, organization, budgeting etc. (2 units)

LIS 0751   **Fundamentals of Library resources and services**
Overview of library sources and services, characteristics and uses of different types of library materials, communication theories and library services, concepts of reference services, basic library services including technical readers preservation, circulation, acquisition, organization, reference, etc. (2 units).

LIS 0752 **Media resources in Libraries**
Characteristics and use of media resources in libraries including visual, aural, three dimensional and digital information sources, acquisition, classification, cataloguing, storage and preservation of media resources. (2 units)

LIS 0754 **Reference and Information Services**
Nature of reference and information sources and services, categories, characteristics, use of reference works. Reference and information services in different types of libraries. Status of reference and information services in Nigeria libraries. ICT in reference and information services. (2 units).

LIS 0761 **Practice Librarianship**
Practice in basic technical readers' services in libraries. (2 units).

LIS 0770 **Research Methods in Library and Information   Science**
Nature and purpose of research in library and information science, types of research: survey, history, documentary and experimental. (2 units)

LIS 0790 **Project**
Research on topical issues and presentation of a formal report. Project to be assessed for its practical relevance and extent to which it shows the student's grasp of methodology in library and information science research. (4 units)

MASTER OF LIBRARY AND INFORMATION SCIENCE DEGREE PROGRAMME

FIRST SEMESTER

MAJOR COURSES	Title	Units
LIS 801	Library and Information Professions in Contemporary Society	2
LIS 811	Theory of Knowledge and Classification	2
LIS 831	Computer Technology and Library Services	2
LIS 833	Digital Reference and Information Services	2
PGC 601	Research Methodology and Application of ICT in Research	3
	Select one of the following:	2
LIS 821	Science and Technology Literature	
LIS 823	Social Sciences Literature	
LIS 825	Humanities Literatures	
LIS 827	Africana Information Sources	
	Select two options (4 units) from the following:	4
LIS 803	Information Literacy and User Education	
LIS 805	Library Aesthetics	
LIS 813	Book Production and Publishing	

LIS 851	Audiovisual Media Librarianship	
LIS 853	Indigenous Knowledge and Oral Information	
LIS 855	Community Information Services	
LIS 857	Library Services for Children and Youth	
LIS 859	Business Information Services	
		17

SECOND SEMESTER

MAJOR COURSES

LIS 812	Advanced Cataloguing and Classification	2
LIS 814	Indexing and Abstracting	2
LIS 870	Research Methods in Library and Information Science	3
	Select at least one of the following options:	2
LIS 840	Administration of National and Public Libraries	
LIS 842	Administration of Academic Libraries	
LIS 844	Administration of Special Libraries & Information Centres	
LIS 846	Administration of School Libraries & Media Centres	
LIS 848	Archives and Records Management	
LIS 802	**Select three courses (6 units) from options:**	
LIS 804	Information Tools, Ethics and Policy	
LIS 806	Library Marketing, Advocacy and Public Relations	
LIS 816	Information Entrepreneurship	
LIS 818	Knowledge Management	
LIS 820	Systems Analysis and Evaluation	6
LIS 822	Children's Literature	
LIS 824	Law Librarianship	
LIS 826	Medical Librarianship	
LIS 832	Agricultural Librarianship	
LIS 834	Telecommunications and Networking	
LIS 852	Information Architecture for the Web	
	Library Services for Special Groups	
		15

| | **TOTAL FOR SESSION** | **32** |

FINAL SEMESTER

MAJOR COURSES

LIS 860	Library Internship	2
LIS 890	Project	6
		8

TOTAL FOR PROGRAMME   **40**

MLS COURSE DESCRIPTIONS

LIS 801 **Library and Information Professions in Contemporary Society**
(2 units) Libraries and other information-based institutions in the information age; modern trends; impact of ICT on library and information services; concepts of information literacy, knowledge societies, globalization, knowledge management with relation to library services; libraries and development; libraries and basic human rights; utilizing indigenous knowledge and cultural resources; challenges of the information profession in Africa.

LIS 802 **Information Tools, Ethics and Policy** (2 units)
Tools and concepts for information use; microcomputer software use and maintenance, applications and networked information systems; legal and ethical aspects of information; ethics and policies in libraries and information centres; ethical and social issues related to Internet resources; copyright issues; access to print and non-print resources; national information policy in Africa and Nigeria.

LIS 803 **Information Literacy** (2 units)
The concept of information; information needs; concept of information literacy; models for developing information literacy; the process of learning from information; location and evaluation of information sources: print, non-print and digital; information retrieval and use; information literacy and user education in schools, higher educational institutions, and public libraries; evaluation of programmes.

LIS 804 **Library Marketing, Advocacy and Public Relations** (2 units) Concept and theory of marketing as applied to library and information services; marketing strategies; fee-based and non fee-based services; advocacy and fundraising; public relations in libraries;
identification and reaching of potential users; use of library statistics and user studies in assessing needs, developing appropriate services, evaluating programme effectiveness, and advocating for libraries.

LIS 805 **Library Aesthetics** (2 units)
Creating a user-friendly and aesthetically pleasing library environment; library architecture; furnishings and décor; library guides; exhibitions and display; basic principles of composition and design in creating library displays, posters, presentations and publications.

LIS 806 **Information Entrepreneurship** (2 units)
Employment environment in public and organized private sectors; need for self-employment opportunities – publishing, book selling, book binding, information brokerage, etc; skills required, sources of capital; evaluative reports on relevant businesses; setting up an information-related business-project proposals.

LIS 811   **Theory of Knowledge and Classification** (2 units)
The philosophers' classification of knowledge; Aristotle's logical division; history of library classification; facet theory; types of subjects in literature; how to make a classification scheme; theory of schemes in current use: DC, LC, UDC; recent developments; work of the NLS Cataloguing and Classification.

LIS 812   **Advanced Cataloguing and Classification** (2 units)
The history of cataloguing codes from the British Museum code to AACR II; descriptive and subject cataloguing of all types of library/information materials; developments in on-line and co-operative cataloguing; on-line public access cataloguing (OPAC); cataloguing of Internet resources; cataloguing and classification practice.

LIS 815   **Book Production and Publishing** (2 units)
History of written communication; the modern book: author's and publisher's roles; paper and binding, printing processes, desk-top publishing; costing, publicity, and legal deposit; publishing and book trade in Africa (Nigeria); multi-national and indigenous publishers; book-selling; reprography and copyright; problems of marketing and distribution.

LIS 814   **Indexing and Abstracting** (2 units)
Objectives of subject indexing; thesaurus construction; semantics and syntax assigned indexes, pre-coordinate indexes; chain, cycled, SLIC, PRECIS. Post-coordinate indexes; capit strategy; derived indexes; evaluation; precision; abstracting techniques; use of abstracts.

LIS 816   **Knowledge Management** (2 units)
Knowledge management (KM) domain; differences between information knowledge; knowledge management tools; personal knowledge management; developing KM strategies; the ethics of KM; software packages for KM operations; case studies in knowledge management; evaluation of KM; careers in KM.

LIS 818   **Systems Analysis and Evaluation** (2 units)
Library systems: elements, sub-systems, identifying requirements, conducting a survey; job analysis: inputs and outputs, flow-charting; designing a new system: economic feasibility, unit costs, design of printed forms, feedback; systems for acquisitions, cataloguing, serials and circulation; manual and automated systems compared; evaluation of systems.

LIS 821   **Science and Technology Literature** (2 units)
Nature and scope of science and technology; general reference books; indexing and abstracting services; bibliographic control; documentation/information services and problems; on-line and CD-ROM databases; national and professional organizations of scientific and technological research in Africa and other places.

LIS 822 **Law Librarianship** (2 units)
Law making procedures, legal profession and users of legal materials; administration of law libraries; acquisition sources; cataloguing and classification; Moys scheme; special services; legal literature; law libraries in Nigeria.

LIS 823 **Social Sciences Literature** (2 units)
Nature and subjects of the social sciences; scholarly communication in the social sciences; structure and types of reference materials in the social sciences; study of information sources in the social sciences; digital information resources in the social sciences. Submission of bibliography or special paper.

LIS 824 **Medical Librarianship** (2 units)
Medicine and related subjects. Health professions and their use of information. Administration of medical libraries; acquisition sources; classification: National Library of Medicine and Bernard Schemes. Subject indexing, MESH, visual materials; specimens and radiographs. Medical literature, MEDLINE. Medical libraries in Nigeria.

LIS 825 **Humanities Literature** (2 units)
Definition and scope of the humanities; nature of scholarship in the humanities; types of information materials in the humanities; general reference works in the humanities; major divisions of the field; major societies, information centers and special collections, bibliographies; indexes/abstracts; learned journals; oral information and cultural resources; digital information resources in the humanities. Submission of bibliography or special paper.

LIS 826 **Agricultural Librarianship** (2 units)
Agriculture and related subjects; various user needs; researchers, and farmers; administration of agricultural libraries; subject indexing; CAB thesaurus; agricultural literature; AGRIS; agricultural libraries in Nigeria.

LIS 827 **Africana Information Sources** (2 units)
African studies as an inter-disciplinary subject; key titles in the development of the field; bibliographic sources and other reference materials for African studies; indigenous knowledge; digital information resources; Africana collections.

LIS 828 **Children's Literature** (2 units)
Psychology of children and youth as it relates to literature; role of children's literature; survey of international classics and African/Nigerian literature for children and youth; types of literature; picture books, poetry, oral literature, fantasy, realistic fiction, non-fiction; Nigerian authors; reading interests of Nigerian children; creation and use of children's literature.

LIS 831 **Computer Technology and Library Services** (2 units)
Introduction to computers, hardware, software, automated library systems, planning, flow charts, acquisitions, cataloguing, circulation and serials systems, information retrieval, on-line searching, CD-ROM.

Telecommunications aspects, external data bases, videotex, facsimile transmission (FAX), desktop publishing.

LIS 832   **Telecommunications and Networking** (2 units)
Data communications: theory and systems structure; principles of communication; transmission media; data control protocols; basic principles of networking; network components ad technologies; network architecture and topologies.

LIS 833   **Digital Reference and Information Services** (2 units)
Concept of digital libraries and emerging new roles for librarians in the digital environment; nature and scope of digital reference and information services; trends and organization issues in digital librarianship; overview of digital resources; strategies for searching digital sources to access and evaluate quality information; information searches using the Internet, subject-specific databases and other specialized on-line resources and services.

LIS 834   **Information Architecture for the Web** (2 units)
Planning, designing, developing, managing and evaluating web resources; evaluation of the content and technical aspects of existing informational, instructional and promotional websites designed for libraries, schools, museums, and other organizations; creation of websites using HTML; web development tools; web accessibility; website management; copyright issues.

LIS 840   **Administration of National and Public Libraries** (2 units)
Concept, history, and development of national and public libraries; objectives and functions; administration and control; finance; staffing, clientele and services; public libraries in Nigeria/Africa; role in reading promotion, adult education, individual empowerment, HIV/AIDS education, cultural preservation, national development.

LIS 842   **Administration of Academic Libraries** (2 units)
Environment of academic libraries; government, organizational structures; standards, personnel management; budgeting; development and organization of information resources; users and services; resource sharing; communication and publicity; automation; buildings, branch libraries; systems co-ordination and evaluation.

LIS 844   **Administration of Special Libraries and Information Centres**
(2 units) Nature and functions of special libraries and information centers; survey of major special libraries and information centers in Nigeria; development, organization and administration of special materials with emphasis on both print and non-print materials; problems relating to the storage and maintenance of such materials.

LIS 846   **Administration of School Libraries and Media Centres** (2 units) Functions of school libraries; role of libraries in education; evolution of media resource centres; standards, personnel, collection; services and programmes; development and problems of primary and secondary school libraries and media resource centres, with special reference to Nigeria.

LIS 848 **Archives and Records Management** (2 units)
Definitions; objectives and use of archives and records. Management of repositories. Acquisitions, accessioning and organization. Buildings and equipment, conservation; archival legislation.

LIS 851 **Audiovisual Media in Libraries** (2 Units)
Concept of audiovisual media; development of audiovisual media and audiovisual librarianship; features and role of audiovisual resources: three-dimensional, visual, audio, and multi-media; school library media centres, toy libraries, media for development, sound libraries, picture librarianship, multi-media and digital resources; Technical processing of audiovisual media: acquisition; classification and cataloguing; storage and preservation; equipment maintenance and use.

LIS 853 **Indigenous Knowledge and Oral Information** (2 units)
Nature and scope. Oral indigenous knowledge, cultural events, news, research surveys, oral history, court and committee proceedings, conferences and meetings. Collection of information; choice of occasion, interviewees, speakers. Use of recording equipment, interviewing techniques. Organization and storage of sound archives. Artifacts and visual resources. Dissemination, user awareness, loan and use restriction. Costing and evaluation of indigenous knowledge and oral information collections.

LIS 854 **Community Information Services** (2 units)
Concept of community information services; community needs analysis; library and information services to rural communities and disadvantaged urban communities; indigenous knowledge and cultural resources; information repackaging: sources and methods; information in support of millennium development goals.

LIS 855 **Library Services for Children and Youth** (2 units)
Philosophy and objectives; library services in relation to the socio-economic and cultural background; characteristics and needs of early and middle childhood, preadolescence, and adolescence; literature, resources and services for the various age groups; characteristics of public and school library services, informal efforts.

LIS 857 **Library Services for Special Groups** (2 units)
Definition of special groups; library and information services to the blind, deaf, physically handicapped, learning disabled, prisoners, refugees, nomads, women in purdah, the elderly; needs, appropriate resources and services.

LIS 859 **Business Information Service** (2 units)
Business environment – industry, banking, etc; nature of business information; users and sources of business information; business information in public and academic libraries; effective business information service; application of new technology; costing business information; case studies; setting up business information service.

LIS 860   **Library Internship** (2 units)
Internship in libraries and information centres. Submission of formal report.

LIS 870   **Research Methods in Library and Information Science** (3 units) Nature and objectives of research. Research in library and information science: survey, case study, causal/comparative, experimental, historical, documentary, bibliometric, user studies, etc. Formulation of a research problem; literature searching and review, including online sources; sampling and instrumentation; use of questionnaire, interview, focus group discussion, observation; data collection, presentation, analysis, and interpretation. Descriptive and inferential statistics. Formulation and production of written research proposal and project.

LIS 890   **Project Report** (core - 6 units)
Research on a topic of the student's own choice and presentation of a formal report, demonstrating the project's contribution to knowledge.

PH.D COURSEWORK

Ph.D candidates will be expected to take the following courses and seminars in preparation for writing of their thesis.

FIRST SEMESTER

Identification of types and nature of grant and grant writing; mining of grant application calls on the internet. Determining appropriate strategy for each grant application. Study of various grants application structures and contents and writing of concept notes, detailed project description, budgeting and budget defense. Study of sample grant writings in various forms and writing of mock research and other grants. Identification of University of Nigeria synopsis structure and requirements, (Introduction, Methodology and Results). Determining the content of each sub-unit of the synopsis. Steps in writing of synopsis from the Dissertation/Thesis document. Structural and language issues. Common errors in synopsis writing and strategies for avoiding them. The roles of the student and the supervisor in the production of a synopsis. Writing of mock synopsis. All registered Ph.D. students must attend a solution-based interactive workshop to be organized by the School of Postgraduate Studies for a practical demonstration and application of the knowledge acquired from the course conducted by selected experts.

PGC 701: Synopsis and Grant Writing   **3 Units**
This course identifies types and nature of grant and grant writing as well as meaning of grants application calls on the internet. The course Determines appropriate strategy for grant application; Study of various grant application structures and contents and writing of concept notes, detailed project description, budgeting and budget defense. Study of sample grant writings in various forms and writing of mock research and other grants are part of this course. Students are taught University of Nigeria synopsis structure and requirements, (Introduction, Methodology and Results); determining the content of each sub-unit of the synopsis; Steps in writing of synopsis from the Dissertation/Thesis document, Structural and language issues. Common errors in synopsis writing and strategies for avoiding them are discussed. The roles of the student and the supervisor in the writing of synopsis are discussed as well as writing of mock synopsis.

LIS 902   **Information Tools, Ethics and Policy** (2 units)

Tools and concepts for information use; microcomputer software use and maintenance, applications and networked information systems; legal and ethical aspects of information; ethics and policies in libraries and information centres; ethical and social issues related to Internet resources; copyright issues; access to print and non-print resources; national information policy in Africa and Nigeria.

LIS 906   **Information Entrepreneurship** (2 units)
Employment environment in public and organized private sectors; need for self-employment opportunities – publishing, book selling, book binding, information brokerage, etc; skills required, sources of capital; evaluative reports on relevant businesses; setting up an information-related business-project proposals.

LIS 971   **Advanced Research Methods in Library and Information Science** (4 units)
Critical examination of research in library and information science; problem formulation; review of literature; research design, with special reference to library and information science; data collection and analysis, interpretation and presentation; formulation and production of written research proposal and thesis.

LIS 973   **Statistics and Computer Usage in LIS Research** (3 units) Examination of descriptive and inferential statistical techniques in library and information science, such as chi-square, correlation analysis, t-test, ANOVA, multiple regression, etc; use of Statistical Package for the Social Sciences in data analysis; conduct of searches on databases on CD-ROM and the Internet.

SECOND SEMESTER
LIS 982   **Seminar in Area of Specialization** (3 units) In-depth review of the candidate's area of special interest in the form of an oral and written seminar presentation.

LIS 984   **Ph.D. Thesis Proposal (4 units)** - Presentation of an independent research proposal on a problem in library and information science before a panel of examiners.

LIS 990   **Ph.D Thesis (12 units).**