IS Curriculum Prior to intake AY18/19

The programme builds foundational skills across the breadth of the information studies field. The core and foundation courses in the programme are as follows:

- H6702 Research Methods in Human Information Behaviour (Core)
- H6713 Information Representation & Retrieval
- H6714 Information Organization
- H6715 Information Management
- H6717 Information Professions: Heritage, Values and Ethics
- H6718 Management of Technologies in Organisations

The programme also provides opportunities for students to take courses in the following two categorisations:

- Library Science
- Information Analytics

Library Science

The courses in this category equip graduates with the knowledge and skills to understand the current and future challenges of managing traditional as well as digital information assets – namely social, mobile, cloud and big data. Students will learn the proper frameworks to analyse and derive insight from traditional as well as digital information assets.

Courses in this category are as follows:

- H6721 Collection Development & Management
- H6722 Cataloguing & Classification
- H6723 Business & Management Sources and Services
- H6724 Children & Young Adults Sources and Services
- H6734 Reference and Information Discovery
- H6735 Theories and Practices of Heritage Work

Information Analytics

The courses in this track equip graduates with the knowledge and skills to understand the current and future challenges of managing traditional as well as digital information assets – namely social, mobile, cloud and big data. Students will learn the proper frameworks to analyse and derive insight from traditional as well as digital information assets.

Courses in this track are as follows:

- H6729 Organisational Records Management
- H6730 Digital Libraries
- H6750 Social Media Analytics
- H6751 Text and Web Mining
- H6752 Data Extraction Techniques
- H6753 User Metrics and Analytics
- CI6221 Information Visualization
Course Descriptions

Not all the elective courses listed will be offered in any given semester. While the school will endeavour to offer as many elective courses as possible, it cannot guarantee that students will be able to take all the elective courses of their choice.

Core Course

H6702 Research Methods in Human Information Behaviour

This course provides an introduction to research methods as applied in the field of human information behaviour. Students will gain a foundational understanding of the major paradigms and theories of information behaviour, as well as the principles and techniques of designing and evaluating research studies.


Foundation Courses

H6713 Information Representation and Retrieval

This course provides an introduction on how information in different forms of documents can be represented, organised and indexed to support effective search and retrieval. It covers the main concepts of information retrieval, Boolean and Non Boolean models, use of standards and controlled vocabulary, and the design and evaluation of such retrieval systems.


H6714 Information Organisation

This course introduces the principles and practices of metadata creation, and the organisation of physical and digital information resources. Students will be given an overview of the prominent standards and tools in resources description, vocabulary control, classification, and metadata encoding.

Subject analysis and access. Controlled vocabulary. Taxonomy and folksonomy. Classification systems. Metadata encoding.

**H6715 Information Management**

This course introduces the basic concepts of information management – how information is identified, evaluated, collected, processed, stored and disseminated in profit and non-profit organisations. The emphasis is on context-based information and its management for planning and decision-making.


**H6717 Information Professions: Heritage, Values and Ethics**

This course provides an overview of the broad heritage of information work, to give students an understanding and appreciation of the values/norms that inform this work, as well as the deep roots of many of the problems that continue to confront the information professions today.

Representing and recording information: from papyrus to ebooks. The social construction of scientific information systems. The tangled history of computing technology. Universal bibliography: Konrad Gesner to Paul Otlet to Google. Sorting things out: Linnaeus and Buffon to Dewey and Ranganathan. The social role & development of libraries: public, academic and special. Library history in Singapore. Ethical issues in information work: theories and practical concerns. Contemporary issues in information work.

**H6718 Management of Information Technologies in Organisations**

This course examines methods of strategic planning and management of information resources and technologies in libraries and other business organizations. It will cover the latest trends of the continuing evolution of library-related applications and other organizational information technologies. The challenges and opportunities presented by such rise of advanced technologies will also be explored. Tools and techniques for planning, implementing and managing technological change for libraries and information services in organisations. Technologies in organisations computing basics, network and database applications, libraries systems, collaborative software, communication technologies, social software, mobile software services and big data technologies. Human computer interaction and social aspects of information technologies.

**Library Science Track Electives**

**H6721 Collection Development and Management**

This course covers the principles and techniques used for developing, managing, and
evaluating print and non-print materials. Students will also learn about the impact of contemporary issues including intellectual freedom, copyright and censorship on collection development and management activities.


**H6722 Cataloguing and Classification**

This course covers cataloguing and classification principles and practices, with special emphasis on the standards and systems in the library communities. Students will gain experience in conducting cataloguing work, which include bibliographic description, authority control, subject cataloguing, classification, and MARC encoding. A concentrated focus will be on the description and access of digital resources.


Prerequisite: Information Organisation or Instructor’s consent.

**H6723 Business & Management Information Sources & Services**

This course provides an overview of the wide world of business information sources and services. Students will be exposed to the dimensions of business information, and both print and electronic resources. The types of business information services that can be provided by libraries and information centres will also be looked at.


**H6724 Children & Young Adults Information Sources & Services**

This course provides basic knowledge of children/young adult literature, the value of that literature in child development, and an understanding of the information needs of children and young adults in the digital age.

Information services. Storytelling and read alouds. Folktales & mythology. Special collections.

**H6734 Reference and Information Discovery**

This course develops basic searching skills to effectively retrieve information using different information systems. It also familiarises students to key reference sources and activities, and how to manage a reference service.


**H6735 Theories and Practices of Heritage Work**

This course will introduce students to key archival theories and ongoing developments in cultural institutions, while offering opportunities for them to gain an understanding of current practices in National Archives of Singapore. Students will acquire knowledge of the different aspects of archival work to prepare them for future professions in archival studies. The course will be designed in collaboration with NAS.


**Information Analytics Track Electives**

**H6729 Organisational Records Management**

This course introduces the main concepts and practices of managing records in organisations. It equips students with the necessary knowledge and skills to prepare them as managers of records in organisations.

Foundations and importance of records management. Analysing the context of records. Record creation and capture. Managing the appraisal, retention and disposal of records. Records storage and preservation. Design and implementation of records management. Disaster planning and recovery.

**H6730 Digital Libraries**

This course will focus on building digital libraries using open source tools. Students will learn how information methods and techniques – such as metadata, taxonomy, XML, full-text indexes, Web applications, and database systems – are used together to build digital libraries.

H6750 Social Media Analytics

This course develops analytical ability with respect to the variety of information provided by the web and social media applications. In providing an overview of cutting-edge social media analytics with an emphasis on applications to real-life problems, students will learn about the mechanisms for observing behavioral and consumer-generated information as well as the leading-edge technologies that aid in the collection and analysis of this data.

Techniques for managing, exploring, visualizing, and analyzing data from social media applications. Strategic aspects of social media analytics. Metrics for assessing the effectiveness of social media strategies. Collecting, analyzing and deriving insights from social media data. Social Network Analysis.

H6751 Text and Web Mining

This course is an introduction to text and web data mining. Students will learn how to analyze unstructured data (i.e. text contents), hyperlinks, and usage data on the Web using text and data mining techniques. The basic concepts of data mining: supervised learning, unsupervised learning, and semi-supervised learning. Text mining: natural language processing and information extraction. Web mining: web crawling, web usage mining, and semantic web. Opinion mining and sentiment analysis. Tools for web data mining.

H6752 Data Extraction Techniques

This course covers how to obtain data from the web, and prepare retrieved data in various formats for further analysis. Students will learn various data crawling techniques and tools both through lectures and hands-on exercises in labs. Principles and concepts of data collection and preparation; Data gathering techniques: Web crawling, APIs for Social media data collection; Database definition and manipulation: structured query language, transaction processing, and access control; Client-side technologies: Web content representation with mark-up languages and dynamic Web page generation with script languages. Server-side technologies: application programming languages.

H6753 User Metrics and Analytics

This course examines metrics and analytics of users’ online and offline preferences and behaviours. It introduces principles, techniques, and new technologies for measuring and analysing users’ experiences with information services, online platforms, and information technologies. Students will learn to capture, visualise, analyse, and evaluate a variety of user metrics, including cognitive, affective, behavioural, physiological, performance-related, and geospatial measures.

CI6221 Information Visualisation
This course will examine the study of concepts, models and examples for improved information visualisation. Students will look at representation and interpretation data, as well as different forms of document visualisation such as TileBars, galaxies, themescapes, and Kohonen maps.

**K6312 Information Mining and Analysis**

As a supplement to the study of knowledge management, this course will explore the principles and concepts of knowledge discovery and data mining, and attempt to explain the knowledge discovery process. On the technical side, students will learn data preparation, statistical methods, and techniques and methods for extracting information and knowledge from large amounts of data. Machine learning techniques such as nearest neighbour categorization and Bayesian learning will be taught, to aid text and Web mining for unstructured data.

**Research Project**

Dissertation OR H6799 Critical Inquiry

Note: Not all courses listed in the curriculum will be offered in a semester. Courses offered are subject to availability of instructors and resources.