

# INFORMATION & KNOWLEDGE ORGANIZATION

## Professional Pathway

### Description:

Information & Knowledge Organization (IKO) is concerned with the standards, processes, practices, and associated technologies for representation and organization of information objects for future access, use, and discoverability in any environment.

There are a number of **career paths** within the information organization domain. You can select one or can combine more than one to create your plan of study. Courses are listed in numeric order by Course number under each category. Make sure to check the Course Catalog (<http://catalog.kent.edu/coursesaz/lis/>) for course prerequisites.

## GENERAL INFORMATION & KNOWLEDGE ORGANIZATION

If you wish to gain some general knowledge and skills in Information & Knowledge Organization, you can select any number of the courses suggested here. General information organization knowledge informs information system designers, those who help library, museum, archive or other information institution patrons find information and assist them in researching an information need. Information organization processes have implications across areas of information research including retrieval, interaction, and personal information management.

### REQUIRED MLIS CORE (13 Credit Hours)

Students must complete the core course requirements listed in the Kent State University Catalog Year. For YOUR Catalog Year (CY) and your core course requirements consult your GPS record in Flashline. For program requirements consult the appropriate Catalog ([catalog.kent.edu](http://catalog.kent.edu)).

IKO FOUNDATIONAL (KEY) COURSES (16 CREDIT HOURS)		
LIS 60602	Resource Description and Access	3
LIS 60603	Subject Analysis Representation and Access	3
LIS 60636	Knowledge Organization Structures, Systems and Services	3
LIS 60637	Metadata Architecture and Implementation	3

LIS 60649	Indexing & Abstracting	3
LIS 61095	ST: Archival Description: DACS, MARC, and EAD	1

<b>IKO RECOMMENDED ELECTIVES (CHOOSE AT LEAST 8 CREDITS)</b>		
LIS 50645	Database Fundamentals for the Information Professional	3
LIS 60510	Digital Technologies I: Data Fundamentals	1
LIS 60511	Digital Technologies II: Internet Fundamentals (requires LIS 60510)	1
LIS 60512	Digital Technologies III: Systems Fundamentals (requires LIS 60511)	1
LIS 60613	Information Needs, Seeking and Use	3
LIS 60635	Cultural Heritage Informatics	3
LIS 60692	Internship in Information and Cultural Heritage Institutions	2-3
LIS 60701	Museum Collections ( <i>requires LIS 60700</i> )	3
LIS 61095	Special Topics: Linked Data	3
KM 60301	Foundations of Knowledge Management	3
KM 60315	Foundations of Document Management (prerequisite: KM 60301)	3
KM 60370	Semantic Analysis Methods and Analysis (prerequisite: KM 60301)	3
UXD 60001	User Experience Design Principles and Concepts	3
UXD 60002	User Experience Design in Practice (prerequisite: UXD 60001)	3
UXD 60101	Information Architecture I (prerequisite: UXD 60001 and UXD 60002)	3

## SPECIALIZED CAREER PATHWAYS

There are a number of paths for **specialized careers** within the information and knowledge organization domain. These include career paths in:

- Archival Description
- Cataloging & Metadata
- Metadata Design and Architecture
- Museum Documentation and Cultural Object Cataloging
- Taxonomies, Ontologies, and Semantic Analysis

Each specialized career is briefly described first, followed by the table with their respective foundational (key) and recommended electives.

### Archival Description

Archival description experts are information professionals responsible for capturing, collating, analyzing, and organizing any information that serves to identify, manage, locate, and interpret the holdings of archival institutions and explain the contexts and records systems from which those holdings were selected. Professionals in archival description will be familiar with archival description theory and practices, such as provenance, original order, and hierarchical arrangement and description. They will also be familiar with descriptive standards such as Describing Archives, Encoded Archival Description, and Encoded Archival Context for Corporate Bodies, Persons and Families. Additionally, they will also be conversant with related bibliographic and archival standards where applicable, such as Resource Description and Access, MARC, and Dublin Core, and descriptive standards for other types of cultural heritage such as cultural objects, moving image and sound archives, and visual material.

### Cataloging & Metadata

Information professionals responsible for the representation of resources of all types in libraries, digital libraries, special collections, and other information settings; creation of bibliographic and metadata records, database maintenance; authority work and vocabulary construction; bibliographic and authority data processing, analysis, and visualizations of bibliographic data. Whether cataloging in a library environment or creating metadata in any environment, cataloging and metadata professionals will be familiar with resource description theory and practices, relevant description standards and metadata schemas, such as Resource Description and Access (RDA), Dublin Core, and Visual Resource Association (VRA) Core, and linked data principles. They will be familiar with categorization, classification, and representation theories, knowledge organization systems (KOS) such as classification schemas, subject vocabularies, name authority files, and genre terminology. In addition, they will be familiar with record structures, frameworks, and encoding schemas such as RDF, XML, MARC, and BIBFRAME.

## **Metadata Design and Architecture**

Information professionals responsible for creating and maintaining the metadata strategy, roadmap, and metadata standards/policies of an institution. These professionals develop the enterprise or academic metadata strategy and architecture and leverage professional standard practices and solutions to develop and implement metadata schemas, ontologies, taxonomies, authority files, and other fundamental metadata artifacts and capabilities. In addition, they implement policies, guidelines, tools, metrics, and standards for creating, managing, integrating, and transforming metadata, define and implement improvements to the metadata strategy, framework, roadmap and solutions, establish and quantitatively improve metadata and information management effectiveness within the institution, based on analyzing and understanding the organization's goals, business needs, enterprise architecture and current information management solutions.

## **Museum Documentation and Cultural Object Cataloging**

Information professionals engaged in describing and documenting works of art, architecture, cultural artifacts, and images of these objects. These professionals are responsible for keeping accurate information about the objects in their care, including items in museum collections, visual resources collections, archives, and libraries with a primary emphasis on cultural objects. Among other things, professionals may be inputting data about new acquisitions, researching images for catalogues, developing online guides, working as museum registrar, or collections manager. Documentation is essential to all aspects of a museum's activities. Collections without adequate documentation are not true "museum" collections.

## **Taxonomies, Ontologies, and Semantic Analysis**

Information professionals who design, create, and maintain specific controlled vocabularies and structured taxonomies used for organizing, indexing, and retrieving information with the goal to significantly improve the findability and search experience of an institution's external users and the internal community. In addition, they create knowledge graphs and linked metadata schemes, map metadata, work with linked data, mine for data internally and externally, and collaborate with others on semantic technology projects.

## **FOUNDATIONAL (K) and RECOMMENDED (R) ELECTIVE COURSES**

**Note:** In this table, **Foundational (Key)** courses for one career path may be listed as **Recommended electives** for other career paths and vice versa. Consult with your faculty advisor for additional coursework if you are interested in specialized collections, such as music, media, medical literature, etc.

	<b>Career Paths</b> <b>Foundational (K) and Recommended (R) Elective courses</b>				
<b>Course*</b>	Archival Description	Cataloging & Metadata	Metadata Design & Architecture	Museum Documentation	Taxonomies, Ontologies & Semantic Analysis
LIS 50645		R			
LIS 60510		R	K	R	K
LIS 60511		R	K	R	K
LIS 60512		R	K		R
LIS 60602	R	K	R		
LIS 60603	R	K	R	R	R
LIS 60613		R	R		R
LIS 60635				K	
LIS 60636		K	K	R	K
LIS 60637	K	K	K	R	K
LIS 60649	R	R	R	R	R
LIS 60652	K				
LIS 60692	K	K	K	R	R
LIS 60701				K	
LIS 61095 Archival Description	K			R	
LIS 61095 Linked Data		K	K		K
KM 60315	R		R	R	R
KM 60370	K		K		K

UXD 60001	R		R	R	R
UXD 60002	R		R	R	R
UXD 60101	R		R	R	R

*\*For Course titles see listing above. For Course Descriptions, see [catalog.kent.edu](http://catalog.kent.edu)*

## ADDITIONAL INFORMATION AND RESOURCES

### Competencies (knowledge, skills):

- Experience working with large complex systems or data solutions;
- Knowledge of information architecture components, particularly taxonomies, ontologies, and controlled vocabularies;
- Knowledge of Resource Description Framework (RDF) concepts and the Semantic Web, and experience applying those concepts;
- Relevant knowledge of experience with various information technologies, including experience with database structures, and metadata management technologies and tools;
- Understanding of data models at the conceptual, logical and physical levels;
- Strong consultative skills and experience with leadership at multiple organizational levels.
- Application of conceptual frameworks, standards, and principles of metadata creation;
- Application of universal standards within the context of local needs;
- Initiative and adaptability;
- Knowledge of foundational cataloging and metadata principles;
- Knowledge of relevant trends;
- Knowledge of systems and technology (database structures, technologies and tools for metadata creation and transformation);
- Condition reporting;
- Creation of complete inventory of all permanent and loan collections within the institution;
- Demonstrate knowledge of information management technologies and systems, including data structure, data systems and tools, related software, and data management policies and practices;
- Experience with ontology development using standard languages (RDF(S)/OWL, SKOS, and tools. Knowledge of theories, principles, and standards for metadata, classification, subject and descriptive cataloging, and knowledge organization;
- Good understanding and knowledge of data modeling (conceptual, logical, physical), data flow diagrams, taxonomic models, metadata management designs, and vocabulary standards;
- Knowledge of planning, designing, and implementing a domain or enterprise knowledge taxonomy, architecting and designing the application of metadata standards, controlled vocabularies and data rules, and establishing information management best practices;
- User experience principles and concepts.

### Additional skills:

- Extensive knowledge of information architecture, particularly with metadata concepts, technology and processes;
- Strong collaboration with customers and stakeholders across multiple organizations;
- Aptitude for complex, analytical, and detailed work;
- Effective verbal and written communication skills;
- Organizational and project management skills;

- Understanding of the research and grant process;
- Working across divisions and diverse populations;
- Good information technology and multimedia skills;
- Strong understanding of technical environments, their use, tenets, integration and interactions;
- Must be detail oriented, organized and may need specialized training depending on the nature of the documents and objects;
- May need to be familiar with tools such as PastPerfect and other software;
- Initiative, adaptability, and problem solving skills.

### **Professional organizations:**

American Association of Museums (AAM)

American Library Association (ALA): Association for Library Collections and Technical Services (ALCTS)

Library and Information Technology Association (LITA)

Association for Information Science and Technology (ASIS&T):

Special Interest Group (SIG):

- Classification Research (CR)
- Knowledge Management (SIG-KM)

Association of Registrars and Collections Specialists (ARCS)

Dublin Core Metadata Initiative (DCMI)

International Committee for Documentation (CIDOC) of the International Council of Museums (ICOM)

International Society for Knowledge Organization (ISKO)

- ISKO Canada and United States (C-US) Chapter

International Federation for Library Associations and Institutions (IFLA):

Sections:

- Cataloguing Indigenous Matters
- Subject Analysis and Access
- Audiovisual and Multimedia

Museums Association (MA)

Rare Books and Special Collections Serials and other Continuing Resources

Online Audiovisual Catalogers (OLAC)

### **Sample job titles:**

Archivist

Asset Librarian Cataloger

Business Analyst/Taxonomist

Cataloger/Archivist

Cataloging and Metadata Coordinator

Collections Cataloger

Data architect

Digital content manager

Digital Project Archivist

Digital Taxonomist (Data Engineer)

Documentation officer

Electronic Resources & Discovery Librarian

Engineer Taxonomist/Content Specialist  
Knowledge Engineer (Taxonomist)  
Knowledge Manager/Taxonomy  
Lead Ontologist  
Map Librarian  
Metadata architect  
Metadata librarian  
Metadata Librarian  
Metadata specialist  
Music and Media Cataloguing Librarian  
Ontology Engineer  
Principal Cataloger  
Semantic Analysis/Interoperability  
Special Collections Cataloger  
Taxonomist/Metadata Consultant  
Taxonomy and Knowledge Management Analyst  
Taxonomy Manager  
Technical Services Manager  
UX Taxonomist – Information Architecture