

Core Competencies for Cataloging and Metadata Professional Librarians

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Introduction to the 2017 Document

The evolution of cataloging and metadata standards, library technologies, and technical services workflows challenges the cataloging and metadata profession to continually reevaluate the core competencies required of metadata creation work. This document defines a baseline of core competencies for library and information studies (LIS) professionals in the cataloging and metadata field. The document should also prove useful to managers and supervisors in their hiring, assessment, and position review/promotion decisions, to LIS students in making informed educational/internship choices, and to LIS educators for guidance with curriculum and course development.

This document defines competencies in broad terms to acknowledge the wide variety of work performed by cataloging and metadata professionals in libraries of all types and sizes, regardless of developments in a particular standard or technology. While a baseline of knowledge, skills, and behaviors for cataloging and metadata professional librarians is defined in this document, competence in cataloging and metadata is obtained over the course of an individual's career.

This document is meant to supplement the American Library Association's Core Competencies of Librarianship, and as such, many general competencies of librarianship will not be listed here.

In addition to the competencies detailed below, metadata professionals are responsible for advancing diversity issues within the broader information community, and should be familiar with the Cataloguing Code of Ethics. Human beings unavoidably assign value judgments when making assertions about a resource and in defining (via metadata standards and vocabularies) the assertions that can be made about a resource. Metadata creators must possess awareness of their own historical, cultural, racial, gendered, and religious worldviews, and work at identifying where those views exclude other human experiences. Understanding inherent bias in metadata standards is considered a core competency for all metadata work, since that awareness contributes to accurate and accessible description of information resources. Development of inclusive metadata standards or best practices is a competency that should be developed over the course of a career.

Metadata creation competencies for specific use cases, roles, or specialized library communities, such as serials, audiovisual, music, and rare and special collections, are not fully covered in this document; however, specialized metadata communities may build on this core competencies document.

Introduction to the 2023 Revision

In early 2023, the Core Metadata & Collections Leadership Team asked former member of the Cataloging Competencies Task Force, Karen Snow, to lead an effort to revise the *Core Competencies for Cataloging and Metadata Professional Librarians*. The revision team worked during 2023 to update the 2017 document. Their effort was informed by 2022 survey research data collected by the Cataloging Competencies Task Force that spoke to the current usage of the *Core Competencies* document and potential changes and additions to the document, as stated by the cataloging and metadata community.¹

There have been many changes in the cataloging and metadata world since the release of the 2017 *Core Competencies*, such as the publication of the Library Reference Model (LRM), a new version of Resource Description & Access (RDA), the *Cataloguing Code of Ethics*, as well as major leaps forward in generative artificial intelligence that has the potential to transform cataloging and metadata work in many ways.

Taking into consideration these changes and the aforementioned survey results, the revision team updated the entire original document to clarify language and incorporate competencies relating to artificial intelligence and large language models, emphasize ethics, and move the examples to an appendix for easier updating over time.

This revised *Core Competencies for Cataloging and Metadata Professional Librarians* is a living document that is not meant to be exhaustive or final. Cataloging and metadata practices and standards will continue to evolve as they always have, and the *Core Competencies* document must evolve with it. This document was produced under the auspices of the ALA and as such may be limited in scope. We recognize that there are other communities that have contributions to make in this area and encourage them to use this document to explore competencies in other contexts and communities.

¹ Evans, B., Liss, J., McCourry, M., Rathbun-Grubb, S., Shoemaker, E., Snow, K., & Yanos, A. (2023). Core Competencies for Cataloging and Metadata Professional Librarians: Assessment of community use and recommendations for the future of the document. *Library Resources & Technical Services*, 67(4), 114-123.

2017 Document

This document was prepared by the members of the Cataloging Competencies Task Force, charged by the ALA ALCTS CaMMS Competencies and Education for a Career in Cataloging Interest Group:

Bruce J. Evans, chair (Baylor University)

Jennifer A. Liss, member (Indiana University)

Maurine McCourry, member (Hillsdale College)

Susan Rathbun-Grubb, member (University of South Carolina, School of Library and Information Science)

Elizabeth Shoemaker, member (Emory University)

Karen Snow, member (Dominican University, School of Information Studies)

Allison R. Yanos, member (Baylor University)

2023 Revision

The 2023 revision to the 2017 document was prepared by the following revision team:

Karen Snow, chair (Dominican University, School of Information Studies)

Bobby Bothmann, member (Minnesota State University, Mankato)

Staci Ross, member (University of Pittsburgh)

Elizabeth Russey Roke, member (Emory University)

Pam Swaidner, member (Indianapolis Public Library)

Knowledge Competencies

Knowledge competencies encompass background and context for cataloging and metadata work. These competencies include understanding conceptual models upon which standards are based, and the structure of basic cataloging tools and encoding standards. Knowledge competencies can be viewed as an extension of the third competency area in the *ALA Core Competences of Librarianship*.

Knowledge competencies fall under three main areas: principles, systems, and trends. Principles comprise standards for containers and content of bibliographic data. Systems encompass ways to manage bibliographic data. Trends include emerging tools and standards, as well as understanding how cataloging fits into the larger library world.

Knowledge of foundational cataloging and metadata principles

- Understands the theoretical foundation and evolution of metadata frameworks, ethics, principles, standards, and practices
- Understands data standards
 - Descriptive standards that provide guidelines for describing library resources
 - Data structure standards or schemas that define element sets for a particular descriptive domain
 - Data encoding, format, and exchange standards that provide technical specifications for machine readability, computer processing, and data exchange
 - Value standards such as controlled vocabularies
 - Administrative and structural data standards that are machine-readable or machine-created to provide structure to objects and to track data modifications
- Understands principles of identity management and authority control
 - Understands and can interpret an entity/authority record
 - Understands the purpose and benefit of identity management
 - Can identify commonly-used sources of named entities
- Understands principles behind controlled vocabularies, particularly international, domain, and community-centric vocabulary structures
 - Understands and can interpret vocabulary structures as well as their purposes and use
 - Can identify commonly-used vocabularies

- Understands principles of classification and information organization
 - Understands and can interpret classification schemas as well as their purpose and use
 - Identifies commonly used classification schemas
 - Understands the use cases for classification schemas
 - Establishes and applies appropriate methods to organize library resources
- Understands conceptual models for library data
 - Understands the differences and the benefits of various ways to structure data (flat, hierarchical, graph, relational, semantic, etc.)

Knowledge of systems and technology

- Understands how metadata is stored, processed, and retrieved
 - Indexing and database structure
 - Relationship of cataloging outputs to discovery and access use cases
- Understands the function and structure of library data management platforms, such as library management systems (LMS), institutional repositories (IR), and content management systems
- Understands the nature and function of cooperative databases and initiatives

Knowledge of practices in the cataloging and metadata profession

- Understands the historical context for current metadata practices
- Understands methods and approaches for metadata creation, editing, analysis, and transformation
- Understands standards and best practices for methodologies, best practices, and use cases for creating, structuring, managing, and sharing interoperable metadata
 - Analyzes how metadata supports core library functions such as reference, liaison, and circulation work
 - Can define metadata quality within different contexts and create principles and practices to address metadata quality
 - Understands the impact of metadata on discovery and access to resources
- Has awareness of major trends in cataloging and metadata

- Understands the impact, limitations, and possible usage of artificial intelligence (AI) applications and large language models (LLM)
- Understands bias in metadata standards and awareness of how personal experiences may inform description
- Knowledge of data practices
 - Ethical and transparent data
 - Computational accessibility of metadata
 - Principles of data provenance and how to track modifications of library data
 - Usage rights and copyright for library resources
 - Machine-generated metadata

Skill & Ability Competencies

The basis for competent cataloging and metadata work is not only the ability to master individual principles and skills but to synthesize these principles and skills to create, manage, and transform cohesive, compliant library data that function within local and international metadata ecosystems.

Application of conceptual frameworks, standards, and principles

- Formulates consistent and complete data by selecting, adapting, and applying a metadata content standard
- Identifies, evaluates, and assigns controlled vocabularies for appropriate uses in data element sets
- Assigns and establishes unique labels for agents and entities by utilizing metadata content standards and best practices
- Analyzes and classifies resources by utilizing best practices for subject, genre, and classification analysis and assignment from a metadata value standard
- Creates and manages machine-actionable data using formatting standards, serialization standards, and structural standards
- Asserts relationships between entities utilizing metadata value and encoding standards
- Evaluates metadata value standards for accessibility and inclusion

Application of universal standards within a local context

- Assesses or seeks to understand user needs for library metadata from local and universal contexts
- Advises on or establishes local metadata practice, including selecting and adapting metadata standards to meet collection or end user needs
- Documents local decisions and practices
 - Justifies decisions/practices

- Explains the issue the decision/practice resolves
 - Reviews decisions periodically for effectiveness and need
- Designs and modifies metadata workflow processes and metadata application profiles
- Evaluates the quality of externally-produced metadata including vendor-supplied and machine-generated records

Management, transformation, and mapping

- Maps/crosswalks metadata from one standard/system to another
- Employs standards to normalize metadata
- Recognizes the role of interoperability in metadata ecosystems and understands approaches that achieve and optimize interoperability of metadata
- Formulates methods for quality control and data remediation
- Documents metadata management practices for the long-term maintenance and preservation of metadata assets

Behavioral Competencies

Behavioral competencies describe both personal attributes that contribute to success in the cataloging and metadata field and mindsets that can be developed through coursework, professional development, and employment experience. In tandem with behavioral competencies of the *ALA Core Competences of Librarianship*, cataloging and metadata professionals should especially demonstrate the following:

Public service orientation of cataloging and metadata work

- Considers the big picture in decision making
- Recognizes multiple cultures and diverse populations
- Prioritizes user needs
- Values diverse viewpoints and ways of doing things
- Contributes to holistic visioning and strategic planning efforts

Initiative & adaptability

Demonstrates

- Creative solutions to problem solving
- Flexible thinking
- Ability to handle ambiguity and changing priorities
- Independence in decision making
- Attention to detail and focus
- Commitment to continuous learning

Professional curiosity & advocacy

- Maintains awareness of professional literature and research

- Seeks collaborative opportunities with other professionals
- Advocates for the profession in both internal and external communities

Problem solving

- Implements project management techniques and tools
- Collaborates with colleagues to solve problems
- Evaluates problem solving results and applies knowledge to future tasks

Appendix

The encoding standards, metadata schemes, and content standards listed below are intended to be illustrative examples of some of the common types of standards in use in libraries and cultural heritage institutions in the United States. Metadata professionals should understand the use cases, limitations, and evolution of these standards, not just their direct application. For more information about the technical systems used in libraries to capture and manage metadata, see the annual Library Systems Report published by ALA. The 2023 version is here:

<https://americanlibrariesmagazine.org/2023/05/01/2023-library-systems-report/>

Data content standards

Content standards provide guidelines that describe how textual values in metadata should be structured, providing a standard to guide metadata creation and cataloging practices. Often described as cataloging rules and codes, content standards normalize the values that appear in metadata and include guidelines for sources of information and how data values should be formatted.

- Anglo-American Cataloguing Rules, 2nd edition (AACR2)
- Cataloging Cultural Objects (CCO)
- Describing Archives: A Content Standard (DACS)
- Resource Description and Access (RDA)
- Rules for Archival Description (RAD)

Data structure standards

Data structure standards or metadata schemas describe the element sets for a particular descriptive domain.

- Bibliographic Framework Initiative (BIBFRAME)
- Categories for the Description of Works of Art (CDWA)
- Dublin Core (DC)
- Encoded Archival Description (EAD)
- Metadata Object Description Schema (MODS)
- Machine-Readable Cataloging (MARC)
- Visual Resources Association (VRA Core)

Data value encoding schemes

Value standards are a type of standard that control data values. Vocabulary encoding schemes specify a set of standardized values to encourage consistency such as controlled vocabularies, thesauri, lists, classification schemes, and authority files. Syntax encoding schemes set rules about how data should be formatted in a consistent way.

- Art and Architecture Thesaurus (AAT)

- Dewey Decimal Classification (DDC)
- Extended Date/Time Format (EDTF)
- Homosaurus
- Internet Media Types (IMT)
- Library of Congress Classification (LCC)
- Library of Congress Name Authority File (LCNAF)
- Library of Congress Subject Headings (LCSH)
- Medical Subject Headings (MeSH)
- Thesaurus of Geographic Names (TGN)
- W3C Date and Time Format (W3CDTF)

Data exchange standards

Data exchange standards govern how data is packaged, transmitted, authenticated, and received between systems.

- Extensible Markup Language (XML)
- JavaScript Object Notation (JSON)
- Machine-Readable Cataloging (MARC)
- Resource Description Framework (RDF)