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## Faut-il des cyberarchivistes, et quel doit être leur profil professionnel ?

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## LEARNING OBJECTIVES FOR ARCHIVISTS IN AUTOMATED RECORDS AND TECHNIQUES

The learning objectives are organized into four broad clusters, each of which contains from four to eight general objectives. Each general objective is followed by a number of bulleted items, which are intended to provide examples or illustrations of the types of subject matter that might be covered in specific educational offerings addressing the objective. The bulleted items are not, however, meant to be complete or comprehensive lists of all topics within each objective.

### FOUNDATION CLUSTER

The Foundation Cluster provides an overview and introduction to the material presented in the other three clusters. It is intended to be a bridge between fundamental archival theory and practice and the additional knowledge and skills required to meet the challenges presented by automation. The content is intended to provide a common vocabulary and base of understanding about how automated systems operate and how they affect recordkeeping practices in order to prepare the archivist for the more advanced topics covered in the following clusters.

#### *Archival Perspectives*

Interprets archival theory and practice in the context of automation and examines the functions and responsibilities of archivists and archival institutions in organizations with advanced technology applications.

**Historical context.** The archivist will become familiar with the history, development, and use of automated information systems; communications, and telecommunications by organizations and individuals in order to compare and analyze differences between manual and automated recordkeeping.

- History of computing and automation
- Impact on organizations and society
- Successive changes in recordkeeping practices
- Projected trends

**Impact on archival concepts and theory.** The archivist will understand the impact of automation on basic archival concepts and theory, on the nature of records, and on recordkeeping practices.

- Definition of a record
- Provenance, original order, respect des fonds
- Legal admissibility of records
- Intellectual ownership and copyright
- Access, confidentiality, security, and ethics

**Information flow and management policy.** The archivist will understand how the structure of organizations affects the ways in which information is collected and disseminated and the documentation produced. The archivist will be introduced to the

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basic elements of information policy and be able to articulate specific archival concerns that should be addressed in an information policy developed for a particular organization or institution.

- Existing information policy legislation and regulations
- Impact of existing policy on archival practice
- Information policies in various types of organizations
- Components of an institutional information policy statement
- Archival considerations during development of a policy

**Archives and other information disciplines.** The archivist will be able to explain how archival science is related to other information-based disciplines, including information science, library science, computer science, and information resources management. The archivist will identify shared concepts and terminology and list areas in which archival practice makes unique contributions to the overall creation, management, use, dissemination, and preservation of information.

- Terminology distinct to each discipline
- Fundamental concepts and principles of each discipline
- Comparisons to archival terminology, concepts, and principles
- Principal professional associations serving each discipline
- Primary publishers of professional literature within each discipline

### ***Basic Concepts in Automated Information Systems***

The archivist will become familiar with the basic concepts and terminology of automated systems in order to understand archival literature on automated records and techniques, to identify and select relevant literature from related disciplines, and to participate in a sequence of more advanced education and training courses.

**Components of automated systems.** The archivist will be able to identify the basic components of automated information systems, describe their most common functions and applications, and compare their use by various types of organizations and individuals.

- Hardware, including computers, input and output devices, networks
- Software, including operating systems, programming languages, applications
- Storage media and methods, covering optical versus magnetic sequential versus random, multimedia systems
- Telecommunications, including networks, protocols, changes in communication patterns and practices

**Information system analysis and design.** The archivist will be able to apply basic systems analysis techniques to the design, development, or procurement of automated systems to support automated applications in archives and to analysis of automated information systems in organizations that produce archival records.

- Business function analysis
- Logical data models
- System design methodologies
- Flowcharting

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**Data structures.** The archivist will become familiar with common data structures, be able to list notable differences in their logical and physical organization, and explain how they are commonly applied in organizations.

- Numeric data files
- Databases
- Text files
- Electronic documents
- Geographic information systems
- Computer-aided design files
- Spreadsheets
- Bit-mapped images
- Compound documents

**Differences between manual and automated records.** The archivist will identify and describe key differences in the nature of manual and automated records.

- Searchability
- Manipulability
- Compactness
- Fragility
- Hardware and software dependency

**Functions and uses of automation.** The archivist will develop a general understanding of how and why organizations and individuals create and use information in electronic form. The archivist will identify the roles and relationships among various specialists within an organization and be able to contrast these roles with those used to control records in manual systems.

- Common applications in organizations (governments, academic institutions, businesses and manufacturing enterprises, not-for-profit organizations)
- Functional responsibilities and relationships within organization re: automation (chief information officers, records managers, archivists, data librarians)
- Common applications of automation by individuals

## AUTOMATED APPLICATIONS CLUSTER

The archivist will be able to identify the repository's organizational objectives and define the requirements of automated tools that can support those objectives, and the archivist will gain sufficient knowledge of automated techniques appropriate for control, management, and access to archival holdings to be able to select or design appropriate applications and oversee their implementation.

**Common applications.** The archivist will become familiar with common automated applications and how they can be used to improve the economy and efficiency of archival operations. The archivist will understand their capabilities and characteristics, the sources and services of major suppliers, and the standards applicable to each type of application.

- Word processing and office systems
- Database management systems

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- Spreadsheets and financial management systems
- Bibliographic retrieval systems and networks
- Barcoding and other tracking systems
- Artificial intelligence
- Telecommunications, e-mail, FAX, other messaging systems

**Defining organizational objectives.** The archivist will develop skills to understand the purpose of the repository in terms of providing information access services to internal and/or external customers in order to define the purpose and function of automated solutions.

- Organizational mission
- Business function analysis
- Analysis of customer needs
- Client identification
- Information-handling requirements and information flow
- Organizational operational requirements

**Technology overview.** The archivist will learn how to locate current information, background materials, and guidance on potential technological solutions to the repository's organizational objectives.

- Sources of technology reviews and overviews
- Identifying and understanding standards
- Obtaining information from vendors
- Organizations and associations serving the information professions

**Selecting solutions.** The archivist will be able to examine and evaluate existing practices and work patterns within the repository in order to determine whether automated applications could be used to improve current practices or services.

- Development of functional specifications (functionality, compatibility, standards, physical constraints)
- Cost versus benefit analysis
- Requirements for developing solution specifications

**Implementing solutions.** The archivist will learn the steps necessary to implement an automated application in order to lead or contribute to an organizational effort to implement and operate a technological solution to service delivery within the repository.

- Implementation planning
- Change management
- Training (staff and public)
- Documentation
- Adaptation of planned solution to actual implementation
- Working in teams

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## ELECTRONIC RECORDS CLUSTER

The archivist will gain sufficient knowledge of electronic records necessary for supporting their institutions in the identification, appraisal, acquisition, access to, and preservation of electronic records.

**Evaluation of practice.** The archivist will understand the various methods and techniques that have evolved for the management of electronic records in a variety of contexts, both active and archival.

- Data archives
- Traditional archives
- Active organizations
- Noncustodial archives
- Document management environments

**Characteristics of electronic records.** Building on the knowledge of basic characteristics introduced in the Foundation Cluster, the archivist will understand the differences among various business applications and the types of automated records systems and file structures.

- Transactions
- Geographic information systems
- Database management systems
- Office systems

**Determining value.** The archivist will understand the nature of electronic records and their content, context, and provenance, sufficient to determine their administrative, legal, fiscal, research, and other values.

- Concept of “continuing value”
- Evidential value of electronic records
- Informational value of electronic records
- Evaluating provenance and context
- Risk assessment
- Value-added concepts and techniques

**Metadata.** The archivist will understand the nature and utility of metadata and how to interpret and use metadata for archival purposes.

- Definitions of *metadata*
- Metadata structures
- Metadata standards, especially information resource dictionary systems (IRDS)
- Uses for metadata in administration of electronic records

**Description.** The archivist will be able to describe common methods for description and the standards for descriptive elements needed to ensure long-term access and use of electronic records.

- Descriptive requirements for electronic records
- Descriptive standards
- Evaluating and managing documentation

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- Common descriptive practices

**Preservation.** The archivist will understand threats to the longevity of information in electronic form, maintenance requirements for existing storage media, and strategies to ensure that electronic records remain understandable, accessible, and usable.

- Preservation hazards for electronic records
- Preservation of magnetic and optical media
- Migration issues and strategies
- Information technology standards that support continuing access
- Advantages and disadvantages of various storage media

**Reference services.** The archivist will understand the components of reference services, learn how to identify user requirements, and determine how to apply methods and technologies to meet user needs for access to electronic records.

- Identifying user communities and user requirements
- Promoting use of electronic records
- Model practices for electronic reference services
- Privacy and access issues

**Implementation strategies.** The archivist will define his or her role within the organization for implementing an effective program to manage electronic records and to ensure their long-term preservation and use.

- Program elements for electronic records programs
- Relationship between electronic records and other program elements
- Resource requirements
- Program planning and evaluation
- Strategies for gaining support and sustaining programs

## MANAGEMENT CLUSTER

The archivist will acquire the necessary management skills especially those required for implementing automated systems and developing electronic records programs. The archivist will learn to use strategic planning in managing his or her own program and in aligning the archives' efforts with those of the parent institution. The archivist will understand the importance of positioning the archives within the broader context of institutionwide information resource management and information policy formation.

**Core management competencies.** The archivist will acquire general management skills, especially as they relate to the implementation of automated systems and development of electronic records programs.

- Program planning and development, especially strategic planning
- Budgeting and personnel management
- Space and facilities planning
- Legal and ethical issues for archives

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**Organizational dynamics and change management.** The archivist will understand how technological change affects organizations and the people who work in them and the resulting effects on information flow and documentation.

- Organizational assessment and change modeling
- Technology transfer and adaptation
- Groupwork and groupware
- Worker productivity and employee development

**Information policy formation.** The archivist will understand how organizations are developing more formal information policies to protect their “information assets” and the resulting effects on information ownership, access, and dissemination in order to participate effectively in policy development.

- Information as an organizational asset
- “Ownership” of data
- Access, security, and privacy
- Resource sharing
- Policy formation

**Environmental scanning/technology scanning/reengineering.** The archivist will learn to assess external conditions and opportunities that may influence archival activities, to use bench-marking for evaluating current archival program performance, and to reengineer processes for improved performance.

- Environmental and technology scanning
- Total quality management principles and application
- Understanding customer requirements
- Benchmarking and process reengineering

**Marketing and entrepreneurial skills! influencing.** The archivist will learn effective means to communicate archivists’ needs and capabilities to those they serve and from whom they require resources.

- Marketing archival services and the mission of archives
- Assessing customer/client/patron needs
- Defining mutually beneficial activities
- Negotiating “win/win” alliances
- Intrapreneurialism and entrepreneurialism