DPTP Online Learning outcomes

Overview of DPTP Online

The **Digital Preservation Training Programme (DPTP)** is designed for all those working in institutional information management who are grappling with fundamental issues of digital preservation. It provides the skills, knowledge and confidence necessary for institutions to combine organisational and technological perspectives, and devise an appropriate response to the challenges that digital preservation needs present.

DPTP Online is an entry-level course aimed at complete beginners who wish to learn more about the field. The course is ideal for starters in all disciplines who want to know more about digital preservation, gain confidence, and feel enabled to start working with digital preservation. It contains all the content previously taught on the award-winning 2-day face-to-face Course *DPTP: An Introduction to Digital Preservation*, and many additional modules.

The course is a starting point. It passes on awareness of subjects that need to be investigated in more depth, so those attending can expect a good deal of further reading afterwards and practical follow-up training / experience on their own behalf.

Summary of content

DPTP Online contains 14 separate modules. You can complete them in any order. The module names are:

1. What is digital preservation and why do we need it?
2. Approaches to Digital Preservation
3. An OAIS-like workflow for digital preservation
4. What are File Formats?
5. Tools for File Formats
6. Metadata for digital objects
7. Managed storage
8. Defining the User Community
9. Making digital content accessible to users
10. Legal Issues affecting digital preservation
11. Preservation Planning Tools
12. Trusted Digital Repositories and Audit
13. Self-Assessment Toolkits
14. Risk Management

Estimated time to complete

3-5 working days.

How the course is delivered

1.   DPTP Online has 14 modules.
2.   The topics are taught by a mix of overviews, illustrated books, relevant case studies, and further reading.
3.   Each module has at least one directed Activity, where you can discuss key digital preservation issues with other students in a Forum.
4.   Each module has a general reading list, and specific reading lists and case studies on aspects of the topic. Please note you are not expected to complete your reading in the estimated time.
5.   Each module has at least 1 quiz of multiple-choice questions, which will test your learning and comprehension.
6.   When you have completed the feedback form online, you will be issued with a certificate of completion for DPTP Online.

Cost of DPTP Online

£200.00. The content will remain available to paying students for 12 months.

Table of Contents

Module 1: What is Digital Preservation, and why do we need it?

You will learn what digital preservation means, and understand some of the major technical issues that make this activity so distinctive (compared with traditional archival or library management). Part of this learning includes debunking some of the many myths and misunderstandings about the subject.

You will learn about important activities and knowledge associated with the work of digital preservation; these are taught by basic overviews of digital objects, hardware, storage, and integrity. All of them are taught with a view to stressing the need to address some of the particular vulnerabilities of digital content.

You will also learn about the high level strategies you will need concerning metadata, preservation planning, governance, policies, and technology monitoring.

The main topics include:

- Definitions of digital preservation
- What digital preservation is NOT
- Disambiguation of shared terms
- Aspects of digital content
- Storage and storage media
- Integrity
- Metadata
- Systems documentation
- Governance and policy
- Monitoring technology

Module 2: Approaches to digital preservation

You will be introduced to several approaches to doing digital preservation. You will learn about the three main approaches (bit-level preservation, migration, and emulation) and understand at the pros and cons of each.

Bit-level preservation is the most basic preservation operation. If you ingest and store the material exactly as it comes, and ensure it doesn't change, a future archivist can emulate or migrate it in a way that is beyond your current capabilities. *Migration* is used to convert a digital object into a format that is more future-proof than its current one. This is an option that needs to be considered in the context of the technical constraints and options available. *Emulation* is when you create or acquire an IT environment (not necessarily the original one that the digital object was created in) to render your digital object without changing it. There are many factors to consider when choosing a method and depending on what your main constraint is: money, time or expertise, different approaches will be more suitable for different organisations and collections.

The main topics include:

- Bit-level preservation
- Migration
- Emulation
- Technology preservation
- Digitisation
- Parsimonious preservation
- Which preservation approach?

Each preservation approach is taught by an overview explaining what it is, and how to go about doing it. In each case, the lesson is backed up with case studies and examples of how others have done it. There are two directed Activities, where you can discuss your preservation approaches with other students in a Forum. There is a general reading list and three specific reading lists. The module has one quiz of 17 multiple-choice questions, enabling you to test your learning.

Module 3: An OAIS-like workflow for digital preservation

The module has two aims: (1) to teach you the nuts and bolts of the OAIS Reference Model and (2) to teach you the main steps in a possible preservation workflow.

You will learn a possible digital preservation workflow that is aligned to the OAIS Reference Model. You will learn some of the important steps involved in ingesting content, and the actual steps you could take to begin digital preservation in a repository.

You will also learn what happens in each of the six Functional Entities in the OAIS Model; learn how to build Information Packages, how their contents are assembled, and when these operations take place in context of the OAIS Model. At each stage within the Model (particularly the Ingest stage) generic tools, services, utilities and applications could be inserted into the process and could feasibly be used to achieve the required preservation actions.

The main topics, taking their names from the parts of the OAIS reference model, include:

- Planning
- Administration
- Ingest
- Data management
- Archival Storage
- Access

Each of the six OAIS topics is illustrated with an overview and a detailed illustrated book, followed by a quiz testing comprehension of the topic. The module has three directed Activities, where you can discuss important functional entities with other students in a Forum. These are Producer engagement, Ingest and data management, and Administration for Access. The module has one general reading list, including a copy of the ISO standard for the OAIS reference model, and explanatory articles. Please note you are not expected to complete your reading in the estimated time. The module has 6 quizzes of multiple-choice questions as noted above, enabling you to test your learning.

Module 4: What are file formats?

The module is a general introduction to file formats, and what you need to know about them to begin digital preservation.

When you complete this module you will understand many aspects of file formats. The intention is not to transform you into an IT expert or a developer, but empower you enough to help with this aspect of your preservation plan.

Such a plan includes:

1 – choosing file formats for digital preservation. This refers to selecting an optimal target format for various preservation needs, which could include migration, digitisation, and access.

2 – making preservation decisions about content, defined by the limitations of the format type itself. This about making selection decisions based on functionality and quality, and can be influenced by what users want from access formats.

3 – making decisions based on what your organisation can actually support, as regards file formats.

The main topics include:

- Definitions of a file format
- The meaning of lossy and lossless encoding in file formats
- Image file formats
- Text file formats
- Strategic decisions you can make to protect content
- Significant Properties

There are two directed Activities, where you can discuss aspects of the learning with other students in a Forum. These are file format strategies and significant properties. The module has one general reading list, and four specific reading lists on file format topics. The module has 1 quiz of 11 multiple-choice questions, enabling you to test your learning. There is also a short drag-and-drop quiz testing your understanding of text file format properties.

Module 5: Tools for file formats

You will learn about tools that can be used for various aspects of digital preservation concerning file formats. By tool, we mean a utility or piece of software that can perform one or more of the specific tasks we require for preservation purposes. In some cases, we might be repurposing a tool that was not necessarily designed to perform or assist with preservation.

You will gain awareness of tools that can:

- Identify file formats
- Extract metadata from file formats
- Validate file formats
- Migrate files to preservation formats
- Migrate files to access formats

You will learn about checksum tools. Checksum generation and validation ought to take place for all digital objects in your care (not just data encoded in file formats), and through this learning you will understand what the operation is, and the tools that do it.

The module does include links to where these tools can be downloaded, but it does not instruct you in how to use or deploy the tools.

The main topics include:

- Ingest tools
- Checksum tools
- The PRONOM database
- Metadata extraction tools
- Validation tools
- Migration tools
- Tools registries

For each topic, you will see an overview of what the tools do, followed by a comprehensive book describing available file format tools. In the case of metadata extraction tools, you will be able to view and browse some real-world examples of technical metadata in CSV format. You will also see a brief screencast showing an extraction tool in action, and some suggested uses you could make of the result. There is one directed Activity, where you can discuss your need for file format tools with other students in a Forum. There is one general reading list, and two specific reading lists on file format tools. There is 1 quiz of 8 multiple-choice questions, enabling you to test your learning.

Module 6: Metadata types, and their usage for digital preservation

You will gain awareness of the many metadata types that exist, and an understanding of how metadata is essential to help with digital preservation. The aim is not to overwhelm you with metadata information, but empower you by being selective in its use. The outcome should be an improved metadata management strategy for your organisation.

This module proposes that there are several types of metadata that have a part to play in digital preservation; you will learn about the main types. Some metadata is governed by internationally-agreed standards, or managed by schemas, and some of these standards will be mentioned in the module.

You will learn how it is possible to manage metadata using a database, and why it is desirable to do so.

Lastly, since there are such a wealth of possibilities with metadata, one possible strategy is to reduce the overload by being *selective* about how much metadata is needed for your collections. The module will give you an overview of this selective approach.

The main topics include:

- Descriptive metadata
- Technical metadata
- Rights metadata
- Preservation metadata
- Structural metadata
- Representation information
- Metadata standards
- Metadata management
- Strategy

Each of the five metadata types is taught by an overview, followed by examples of standards and schemas that apply. There is a worked example of how metadata has a part to play in preserving a digital object and making it accessible. You will also learn how to manage metadata using a database. There is one directed Activity, where you can discuss your metadata needs with other students in a Forum. There is one general reading list, and numerous specific reading lists on metadata types, standards, and schemas. There are also several case studies, i.e. examples of how other projects have implemented metadata for certain projects and resources. There is 1 quiz of 10 multiple-choice questions, enabling you to test your learning.

Module 7: Storage configuration for digital preservation

You will learn how it is possible to configure storage for digital objects in such a way that makes it optimal for digital preservation. The aim is not to make you into a systems administrator, but to enable you to open a dialogue with your server room manager.

"Archival storage" for digital preservation is not the same as network storage. You will learn the important distinctions that make storage configuration special.

You will learn about possible storage / ingest scenarios in your repository and the space you might need for carrying out certain actions. This includes the use of a buffer zone, archival storage, tiered storage, storage for DIPs, and space for carrying out migrations. There are also useful applications that can give you a view of your servers and your objects.

You will also learn the main pros and cons of using Cloud Storage for the purposes of digital preservation.

The main topics include:

- A description of archival storage
- The buffer zone
- Tiered storage
- Storage for access copies
- Space for carrying out migrations
- Bandwidth
- Practicalities of configuration
- Storage management applications
- Cloud storage

Aspects of managed storage are illustrated with overviews and diagrams. The learning is backed up with further reading and case studies of storage implementation. There are two directed Activities, where you can discuss managed storage and cloud storage with other students in a Forum. There is one general reading list, and numerous case studies on aspects of storage. Please note you are not expected to complete your reading in the estimated time. There is 1 quiz of 12 multiple-choice questions, enabling you to test your learning. Some of these questions are based on a comprehension of the case studies.

Module 8: Defining and understanding the user community

You will learn how to define what the User Community is, and strategic ways in which you can find out more about what users want from a digital archive, and their requirements for access. It's in your own interests to tailor the OAIS Access functional entity towards meeting these requirements, as it will lead to a pragmatic service that is economical and supported, and meets the needs of this User Community.

This module is about strategic planning only. If you're more interested in preparing digital objects and building an access platform to serve them to users, then the module "Making digital content accessible to users" will be more appropriate for you.

The main topics include:

- Definition of the user community
- Identifying user needs and encouraging user participation
- Building use cases
- Mapping user needs to a preservation planning strategy

The topics are reinforced with real world examples of how other institutions have implemented access to their online and digital resources. There is one directed Activity, where you can discuss Use Cases for access in your organisation with other students in a Forum. There are two specific reading lists and one quiz of 16 multiple-choice questions. These questions are based on a solid comprehension of the use cases presented in this module.

Module 9: Making digital content accessible to users

You will learn the many considerations when preparing and serving digital content to your users for access purposes.

You will learn the main steps in preparing file formats for access, metadata, protection, and storage. The topic of conversion of file formats to serve accessible copies is taught with a description of the process, some tips for best practice, and available tools for doing it.

You will learn the value of an access platform. This refers to the user interface, the point at which the User / Consumer will view / download / replay digital content. The subject is taught by examples, screenshots, and links to real-world access platforms, in the hope that these will inspire you with ideas for how to present your digital content. This will not teach you how to build such a platform.

If you currently lack an access policy, you may find "Defining and understanding the user community" a better place to begin.

The main topics include:

- Access in OAIS terms
- File formats for access
- Metadata for access
- Protection of digital content
- Storage for access
- Access platform technologies

The topics are taught by a mix of overviews, illustrated books, and relevant case studies. There is one directed Activity where you can discuss managed access with other students in a Forum. The module has no general reading list, but three specific reading lists and case studies on aspects of access management. There is 1 quiz of 9 multiple-choice questions, which will test your learning.

Module 10: Legal issues affecting digital preservation

This module will cover the ways in which legal considerations can affect your actions in digital preservation. At the end you will have gained a better understanding about such legislation in the UK, including Copyright and Intellectual Property Rights (IPR), Freedom of Information, and Data Protection law. The module proposes best practices for rights management, and suggests treating legal considerations using a risk-based approach.

Caveat: the content was not written by lawyers and does not contain any legal advice.

Each legal topic is taught using an overview, suggested best practices, and case studies for how other organisations have approached the management of legal issues. Some topics are reinforced with real-world examples of consent forms, terms and conditions statements, and other documents.

There are two real-world case studies: (1) a terms and conditions breach and (2) a copyright and licensing study.

The main topics include:

- Copyright for digital archives and digital books
- Copyright for digital images
- Licensing content
- Copyright and preservation
- Information compliance, including FOI and DPA

The topics are reinforced with real world examples and case studies of how other institutions have dealt with particular legal issues in relation to their digital collections. The module has no directed Activities, but you can introduce yourself to other students in the Forum. There is one general reading lists and several specific reading lists. There is one quiz of 16 multiple-choice questions, enabling you to test your learning.

Module 11: Preservation planning, and tools that can help

By the end you will have learned about aspects of preservation planning, enabling you to make decisions about which planning approach to use, or prioritise, for your organisation.

You will also have gained an awareness of available planning tools which may be suitable for assisting you with planning work.

While the module mentions the PLATO tool, it does not offer a walkthrough the complicated processes that are involved, and can only serve as an introduction to the main aspects of PLATO.

The main topics include:

- Definitions of preservation planning
- The migration pathway – what it means for migration, how you can plan for it
- Towards an understanding of technical planning, and automation of preservation tasks
- The PLATO online planning tool

Each preservation planning approach and tool is taught by an overview explaining what it is, and how to go about using it or implementing a plan. In most cases, the lesson is backed up with case studies and examples of how others have done it. There are two directed Activities, where you can discuss your preservation planning needs with other students in a Forum. There is a general reading list and two specific reading lists. There is one quiz of 6 multiple-choice questions, enabling you to test your learning.

Module 12: The Trusted Digital Repository Standard, and audit tools

You will learn about the audit and certification regime that is currently in operation for our digital preservation community. This regime is linked to the concept of a "Trusted Digital Repository", and to the OAIS Reference Model. You will learn the definition of a Trusted Digital Repository.

The module will help you to make a decision about whether audit is right for your organisation. You'll be interested in audit if you want your Institution to gain official certification and recognition of your ability to carry out digital preservation to a high standard. Even if you are not interested in certification, then a viable alternative is using one of these frameworks as a self-assessment tool, to perform a benchmark exercise or a gap analysis on your preservation activities.

If you're more interested in self-assessment rather than an actual external audit, you might find "Self-Assessment tools and their role in strategic planning" more suitable for your needs.

The main topics are:

- The value of assessing your repository
- The meaning of "trusted"
- The Trusted Repositories Audit & Certification checklist
- The Trusted Digital Repository regime
- The NESTOR certificate
- The Data Seal of Approval certificate

The learning is reinforced with a number of case studies by real-world institutions, which describe what it's like to undergo an audit, and how the experience went for them. There is one directed Activity, where you can ask whether carrying out an audit is suitable for you, and discuss it with other students in a Forum. There are several specific reading lists and one quiz of 14 multiple-choice questions, enabling you to test your learning. Some of these questions are based on a comprehension of the case studies.

Module 13: Self-assessment toolkits and their role in strategic planning

You will learn about self-assessment methods and tools which are currently available. You will learn that unlike audit standards, you don't get a certificate if you use these, and there is no auditing process involving an external agency. But you could use the results to assess for yourself how well your repository or service is doing, or for a gap analysis exercise.

This will help you to make a decision about whether self-assessment is right for your organisation. Self-assessment tends to be very valuable for internal reporting and the results can be used as leverage to make a case for improving digital preservation, leading to a higher profile, increased benefits for the organisation, and perhaps even more resources for doing it.

The main topics include:

- The NDSA Levels of Preservation
- The Digital Preservation Capability Maturity Model
- The UK Parliament Process Perspectives
- AIDA and CARDIO
- DRAMBORA

For each self-assessment approach, you will be given overviews and a link to the model / method itself. The learning is reinforced with real world examples and case studies of how other institutions have carried out self-assessment, and how the experience went for them. There is one directed Activity, where you can ask whether carrying out an assessment is suitable for you, and discuss it with other students in a Forum. There is one general reading list and one quiz of 5 multiple-choice questions, enabling you to test your learning. Some of these questions are based on a comprehension of the case studies.

Module 14: Risk management and risk assessment

You will understand the meaning of risk management, and its purpose in relation to digital preservation. You will learn how to perform a risk assessment, through an exercise.

In the second half, you'll learn about risks that are specific to digital preservation activity; in particular, the technical risks that can threaten the longevity of digital objects.

The main topics include:

- What is risk management?
- Carrying out a risk assessment
- Summary of risks specific to digital preservation
- File format migration risks
- File format pre-ingest risks
- Using the DRAMBORA tool for risk assessment

Risk management and risk assessment are taught with a mix of overviews, case studies, examples, and exercises. The module has no directed Activities. There is one general reading list, and numerous specific reading lists and case studies on aspects of risk assessment and risk management. There is 1 quiz of 8 multiple-choice questions, enabling you to test your learning. Some of these questions are based on a comprehension of the case studies.