BS ISO/IEC 19788-8:2015

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# Information technology — Learning, education and training — Metadata for learning resources

## Part 8: Data elements for MLR records

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## National foreword

This British Standard is the UK implementation of ISO/IEC 19788-8:2015.

The UK participation in its preparation was entrusted to Technical Committee IST/43, Information technology for learning, education and training.

A list of organizations represented on this committee can be obtained on request to its secretary.

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INTERNATIONAL STANDARD

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First edition
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# Information technology — Learning, education and training — Metadata for learning resources —

## Part 8: Data elements for MLR records

*Technologie de l'information — Apprentissage, éducation et formation — Métadonnées pour ressources d'apprentissage —*

*Partie 8: Éléments de données pour les enregistrements MLR*

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# Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, Subcommittee SC 36, *Information technology for learning, education and training.*

ISO/IEC 19788 consists of the following parts, under the general title *Information technology — Learning, education and training — Metadata for learning resources:*

— *Part 1: Framework*

— *Part 2: Dublin Core elements*

— *Part 3: Basic application profile*

— *Part 4: Technical elements*

— *Part 5: Educational elements*

— *Part 7: Bindings*

— *Part 8: Data elements for MLR records*

— *Part 9: Data elements for Persons*

The following part is under preparation:

— *Part 11: Migration from the LOM to MLR*


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# Introduction

The primary purpose of this part of ISO/IEC 19788 is to facilitate (1) the description of a learning resource by providing a standards-based approach to the identification and specification of the metadata elements required to describe a learning resource, e.g. as a metadata learning resource (MLR) record, and (2) the search, discovery, acquisition, evaluation, and use of learning resources, for example, by learners, instructors, or automated software processes.

This International Standard is modularly structured with all its parts corresponding to a specified set of user requirements for the identification and specification of metadata elements having a particular focus and intended use in the description of a learning resource. This includes categories of metadata elements focused on technical perspectives, pedagogical aspects, availability and intellectual property aspects, bindings, etc.

This part of ISO/IEC 19788 uses the data element specification (DES) model and framework provided in ISO/IEC 19788-1 to specify data elements for the description of MLR records.

An MLR record is defined as a "specified set of data elements describing a learning resource and resources directly related to that learning resource" (see ISO/IEC 19788-1:2011, 3.24).

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# Information technology — Learning, education and training — Metadata for learning resources —

# Part 8: Data elements for MLR records

## 1 Scope

### 1.1 Scope of MLR multipart standard

The primary purpose of this International Standard is to specify metadata elements and their attributes for the description of learning resources. This includes the rules governing the identification of data elements and the specification of their attributes.

This International Standard provides data elements for the description of learning resources and resources directly related to learning resources.

This International Standard provides principles, rules, and structures for the specification of the description of a learning resource. It also identifies and specifies the attributes of a data element, as well as the rules governing their use. The key principles stated in ISO/IEC 19788-1 are informed by a user requirements-driven context with the aim of supporting multilingual and cultural adaptability requirements from a global perspective.

ISO/IEC 19788-1 is information technology neutral and defines a set of common approaches, i.e. methodologies and constructs, which apply to the development of the subsequent parts of ISO/IEC 19788.

### 1.2 Scope of this part of ISO/IEC 19788

This part of ISO/IEC 19788 provides data elements for the description of MLR records: sets of data elements describing a learning resource [and resources directly related to that learning resource, e.g. persons (authors, contributors), annotations, learning activities, metadata records, etc.]. It can also be used to keep track of the record editing process including global metadata author identification, last record update, and application profile used for the description of a learning resource.

These elements can later be combined with other descriptive elements from other parts of ISO/IEC 19788 or other standards to provide the description of a learning resource and of related entities needed for that description.

This part of ISO/IEC 19788 enables the storage of learning resource description in the traditional database approach and the exchange of descriptions through harvesting mechanisms[1)].

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 19788-1, *Information technology — Learning, education and training — Metadata for learning resources — Part 1: Framework*

1) RDA (Resource Description and Access), OAI PMH (Open Archives Initiative Protocol for Metadata Harvesting), etc.

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## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 19788-1 and the following apply.

**3.1**
**internationalized resource identifier**
**IRI**
sequence of characters from the Universal Character Set (see ISO 10646) constructed according to the syntax rules provided in RFC 3987

Note 1 to entry: IRIs are generalization of URIs (ISO/IEC 19788-1:2011, 3.36). While URIs are sequence of characters chosen from a limited subset of US-ASCII, IRIs may contain characters from the Universal Character Set such as Chinese, Japanese, Korean, or Cyrillic characters.

Note 2 to entry: A mapping from IRIs to URIs is defined in RFC 3987, making it possible to use IRIs instead of URIs, where appropriate, to identify resources.

[SOURCE: Adapted from Internationalized Resource Identifiers (IRIs). IETF RFC 3987. Available from: http://tools.ietf.org/pdf/rfc3987.pdf]

**3.2**
**mutable MLR record**
container for an MLR record (ISO/IEC 19788-1:2011, 3.24) describing a given learning resource (ISO/IEC 19788-1:2011, 3.20) and resources directly related to that learning resource

Note 1 to entry: An MLR record (ISO/IEC 19788-1:2011, 3.24) is non-mutable. Addition or deletion of data elements (ISO/IEC 19788-1:2011, 3.11) to the data element set or modification of any data element belonging to the data element set makes it a different MLR record.

Note 2 to entry: Unlike the situation for an MLR record, the state (content) of a mutable MLR record can change over time while still describing a given learning resource and resources related to it.

## 4 Symbols and abbreviated terms

| | |
|---|---|
| ASCII | American Standard Code for Information Interchange |
| DES | Data Element Specification |
| HTML | Hyper Text Markup Language |
| HTTP | Hyper Text Transfer Protocol |
| IRI | Internationalized Resource Identifier |
| JPEG | Joint Photographic Experts Group |
| JSON | JavaScript Object Notation |
| MLR | Metadata for Learning Resource |
| PRS | Predefined Rule Set |
| OAI PMH | Open Archives Initiative Protocol for Metadata Harvesting |
| RC | Resource Class |
| URI | Uniform Resource Identifier |
| UCS | Universal Character Set |


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UTF UCS Transformation Format

XML Extensible Markup Language

# 5 Data element specifications

## 5.1 Has Record (DES0100)

| **Data element specification** | |
|---|---|
| Identifier | ISO_IEC_19788-8:2015::DES0100 |
| ***Data element specification attributes*** | |
| Property name | has record |
| Definition | an MLR Record instance describing the learning resource |
| Linguistic indicator | non-linguistic |
| Domain | *Learning Resource* (ISO_IEC_19788-1:2011::RC0002) |
| Codomain | *MLR Record* (ISO_IEC_19788-8:2015::RC0001) |
| Content value rules | N/A |
| Refines | — |
| Example(s) | — |
| Note(s) | There may be more than one MLR record describing a given learning resource. |

## 5.2 Record Language (DES0200)

| **Data element specification** | |
|---|---|
| Identifier | ISO_IEC_19788-8:2015::DES0200 |
| ***Data element specification attributes*** | |
| Property name | record language |
| Definition | default language code for the linguistic literal values in the MLR Record instance |
| Linguistic indicator | non-linguistic |
| Domain | *MLR Record* (ISO_IEC_19788-8:2015::RC0001) |
| Codomain | literal |
| Content value rules | RS_DES0200 |
| Refines | — |
| Example(s)[a)] | 1) eng<br>2) fra<br>3) ike |
| Note(s) | — |
| a) eng: English; fra: French; ike: Eastern Canadian Inuktitut. | |

| **ID: RS_DES0200** | |
|---|---|
| Rule_ID | Rule statement/Example(s) & Note(s) |
| 01 | Language code from ISO 639-3. |

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## 5.3 Source Record ID (DES0300)

| **Data element specification** | |
|---|---|
| Identifier | ISO_IEC_19788-8:2015::DES0300 |
| ***Data element specification attributes*** | |
| Property name | source record ID |
| Definition | when an MLR record is the result of a crosswalk mapping, identification of the original record |
| Linguistic indicator | non-linguistic |
| Domain | *MLR Record* (ISO_IEC_19788-8:2015::RC0001) |
| Codomain | literal |
| Content value rules | MLR STRING (ISO_IEC_19788-1:2011::PRS0001) |
| Refines | — |
| Example(s) | — |
| Note(s) | — |

## 5.4 Source Record Schema (DES0400)

| **Data element specification** | |
|---|---|
| Identifier | ISO_IEC_19788-8:2015::DES0400 |
| ***Data element specification attributes*** | |
| Property name | source record schema |
| Definition | when an MLR record is the result of a crosswalk mapping, metadata schema of the original record |
| Linguistic indicator | linguistic |
| Domain | *MLR Record* (ISO_IEC_19788-8:2015::RC0001) |
| Codomain | literal |
| Content value rules | MLR STRING (ISO_IEC_19788-1:2011::PRS0001) |
| Refines | — |
| Example(s) | 1) DC (English)<br>2) LOMFR (French)<br>3) Normetic (French)<br>4) KEM2007 (English) |
| Note(s) | — |

## 5.5 Previous Version (DES0500)

| **Data element specification** | |
|---|---|
| Identifier | ISO_IEC_19788-8:2015::DES0500 |
| ***Data element specification attributes*** | |
| Property name | previous version |
| Definition | previous version of the MLR record |
| Linguistic indicator | non-linguistic |


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