

BS EN ISO/IEC 19788-3:2013



BSI Standards Publication

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

Part 3: Basic application profile

bsi.

...making excellence a habit.
AVA Documents™
Document Sharing Hub

National foreword

This British Standard is the UK implementation of EN ISO/IEC 19788-3:2013. It is identical to ISO/IEC 19788-3:2011.

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.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2013. Published by BSI Standards Limited 2013

ISBN 978 0 580 82579 8

ICS 03.100.30; 35.240.99

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 December 2013.

Amendments issued since publication

Date	Text affected
------	---------------

English Version

Information technology - Learning, education and training -
Metadata for learning resources - Part 3: Basic application profile
(ISO/IEC 19788-3:2011)

Technologies de l'information - Apprentissage, éducation et
formation - Métadonnées pour ressources d'apprentissage -
Partie 3: Profil d'application de base (ISO/IEC 19788-
3:2011)

Informationstechnik - Lernen, Ausbildung und Weiterbildung
- Metadaten für Lernressourcen - Teil 3: Grundlegendes
Anwendungsprofil (ISO/IEC 19788-3:2011)

This European Standard was approved by CEN on 24 November 2013.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of ISO/IEC 19788-3:2011 has been prepared by Technical Committee JTC 1 “Information technology” of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) and has been taken over as EN ISO/IEC 19788-3:2013 by Technical Committee CEN/TC 353 “Information and Communication Technologies for Learning, Education and Training” the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2014, and conflicting national standards shall be withdrawn at the latest by May 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO/IEC 19788-3:2011 has been approved by CEN as EN ISO/IEC 19788-3:2013 without any modification.

Contents

Page

Foreword	iv
0 Introduction.....	v
0.1 Overall purpose of ISO/IEC 19788	v
0.2 Purpose and overview of ISO/IEC 19788-3	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols and abbreviations	3
5 Specification of the Application profile.....	3
6 Data element group specifications	4
6.1 The application profile underlying data element group specification (top level)	4
6.2 Component data element group specifications	5
7 Data element specifications from other parts of the MLR standard	5
7.1 Title (MLR-2/DES0100)	5
7.2 Creator (MLR-2/DES0200)	6
7.3 Subject (MLR-2/DES0300)	7
7.4 Publisher (MLR-2/DES0500)	8
7.5 Contributor (MLR-2/DES0600)	9
7.6 Relation (MLR-2/DES1300)	10
7.7 Coverage (MLR-2/DES1400)	11
7.8 Rights (MLR-2/DES1500)	12
8 Data element specifications (locally defined)	12
8.1 Date (MLR-3/DES0100)	13
8.2 Description (MLR-3/DES0200)	14
8.3 Format (MLR-3/DES0300)	15
8.4 Identifier (MLR-3/DES0400)	16
8.5 Language (MLR-3/DES0500)	17
8.6 Source (MLR-3/DES0600)	18
8.7 Type (MLR-3/DES0700)	19
9 Predefined rule sets (from ISO/IEC 19788-1)	20
9.1 PRS0001 MLR String	20
9.2 PRS0002 Date	20
Annex A (informative) MLR Vocabularies	21
Annex B (informative) Concept map of ISO/IEC 19788-3	25
Annex C (informative) Learning Object Metadata and Dublin Core Metadata crosswalk	26
Bibliography	28

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 19788-3 was prepared by Joint Technical Committee 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*

The following parts are under preparation:

- *Part 4: Technical elements*
- *Part 5: Educational elements*
- *Part 6: Availability, distribution, and intellectual property elements*

Bindings and Data elements for MLR records will form the subjects of future parts.

0 Introduction

0.1 Overall purpose of ISO/IEC 19788

The primary purpose 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 instance by learners, instructors or automated software processes. The interoperability of these functions can be achieved through harvesting or federated search processes, among other technologies and solutions. ISO/IEC 19788 is based on identified user requirements.

ISO/IEC 19788 is modularly structured with all subsequent 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.

0.2 Purpose and overview of this part of ISO/IEC 19788

This part of ISO/IEC 19788 provides a basic application profile as a recommended approach to enhance interoperability through an application profile with attributes such as presence type indicator, repeatability indicator and order indicator, applied to the Dublin Core elements specified in ISO/IEC 19788-2. Whenever learning resource descriptions are exchanged across repositories, interoperability issues are raised. For example, processing a query for learning resources in a given format requires that format information be available in all descriptions being searched. Likewise, searching or sorting based on date can only be done when a common format such as ISO 8601 is used in all sets.

This application profile is an ISO/IEC 19788 Type 2¹ standard. It is recommended that it be used as a best practice guide that can be further refined by communities with data elements additions from other authorities or communities, including the *IEEE Standard for Learning Object Metadata* (LOM) [4]. However, there is no obligation for MLR stakeholders to use this application profile.

This application profile provides records of metadata elements promoting best practices based on an international survey² of commonly used data elements in an ITLET (information technology for learning, education and training) context. It also reflects the actual practices of both the Dublin Core Metadata Initiative (DCMI) and the *IEEE Standard for Learning Object Metadata* (LOM) [4].

As further Type 1 parts of ISO/IEC 19788 become available, it is likely that future editions of this part of ISO/IEC 19788 will be updated to include additional data element specifications, such as Technical data elements or Educational data elements.

¹ For meaning of a Type 1 MLR standard versus a Type 2 MLR standard, etc., see 13.2 *Categorization of ISO/IEC 19788 Parts* in ISO/IEC 19788-1:2011.

² *Final Report on the "International LOM Survey"* [17].

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

Part 3: Basic application profile

1 Scope

The primary purpose of ISO/IEC 19788 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.

ISO/IEC 19788 provides data elements for the description of learning resources and resources directly related to learning resources.

This part of ISO/IEC 19788 is designed to help implementers with a starting point for adopting ISO/IEC 19788, defining an application profile that specifies, through adding constraints to the use of some data elements, how the ISO/IEC 19788-2 element set can be used.

2 Normative references

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

ISO 639-2:1998, *Codes for the representation of names of languages — Part 2: Alpha-3 code/Codes pour la représentation des noms de langue — Partie 2: Code alpha-3*

ISO 639-3:2007, *Codes for the representation of names of languages — Part 3: Alpha-3 code for comprehensive coverage of languages*

ISO 8601:2004, *Data elements and interchange formats — Information interchange — Representation of dates and times*

ISO/IEC 10646:2011, *Information technology — Universal Coded Character Set (UCS)*

ISO/IEC 19788-1:2011, *Information technology — Learning, education and training — Metadata for learning resources — Part 1: Framework*

ISO/IEC 19788-2:2011, *Information technology — Learning, education and training — Metadata for learning resources — Part 2: Dublin Core elements*

3 Terms and definitions

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

NOTE For the convenience of the user, the terms and definitions from ISO/IEC 19788-1 that are the most important for the comprehension of this document are given below.

3.1
application profile
defined structured collection of **data element specifications** (3.6) chosen to satisfy the particular needs of a community or communities

NOTE The data element specifications are from the various parts of ISO/IEC 19788 and from other sources.

[ISO/IEC 19788-1:2011, 3.1]

3.2
attribute
characteristic of an object or **entity** (ISO/IEC 19788-1:2011, 3.17)

[ISO/IEC 19788-1:2011, 3.4]

3.3
attribute value
information recorded as the content of an **attribute** (3.2) in a **data element specification** (3.6), **data element group specification** (ISO/IEC 19788-1:2011, 3.13) or **application profile specification** (ISO/IEC 19788-1:2011, 3.3)

[ISO/IEC 19788-1:2011, 3.5]

3.4
data element group
identified, named set of related **data elements** (3.5) and/or **data element groups** (3.4) as described in a **data element group specification** (ISO/IEC 19788-1:2011, 3.13)

NOTE A data element group is a structured set of data elements.

[ISO/IEC 19788-1:2011, 3.12]

3.5
data element
unit of data described in a **data element specification** (3.6)

[ISO/IEC 19788-1:2011, 3.11]

3.6
data element specification
set of **attributes** (3.2) and **attribute value** (3.3) rules characterizing a set of **data elements** (3.5)

NOTE Adapted from the definition of “simple data element specification” in ISO/IEC 9735-1:2002, 4.106.

[ISO/IEC 19788-1:2011, 3.14]

4 Symbols and abbreviations

DC	Dublin Core
DCMI	Dublin Core Metadata Initiative
DEGS	data element group specification
DES	data element specification
DOI	Digital Object Identifier
IEEE	Institute of Electrical and Electronics Engineers
ISAN	International Standard Audiovisual Number
ISBN	International Standard Book Number
ISIN	International Securities Identification Number
ISMN	International Standard Music Number
ISSN	International Standard Serial Number
LOM	Learning Object Metadata
MLR	Metadata for Learning Resources
PRS	predefined rule set
PURL	Persistent Uniform Resource Locator
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
URN	Uniform Resource Name
UUID	Universally Unique IDentifier

5 Specification of the Application profile

The four mandatory attributes for the specification of an application profile are provided in the table below. The definitions and rules of clause 12 *Specification of application profile* stated in ISO/IEC 19788-1:2011 apply.

Application profile specification	
Application profile Identifier (AP_Identifier)	ISO_IEC_19788-3:2011::AP0001
Name (ISO English)	MLR Basic Application Profile
Description	MLR entry level element set, based on Dublin Core
Underlying data element group specification	ISO_IEC_19788-3:2011::DEGS0001

6 Data element group specifications

6.1 The application profile underlying data element group specification (top level)³

Data element group specification						
Identifier (DEGS_Identifier)		ISO_IEC_19788-3:2011::DEGS0001				
Name (ISO English)		MLR Basic data element group specification				
Description		MLR entry level element set ⁴ designed to provide basic interoperability among catalogs or repositories				
Position	DES_Identifier/ DEGS_Identifier	Name (ISO English)	Presence type indicator	Repeatability indicator	Order indicator	Order semantic
(01)	(02)	(03)	(04)	(05)	(06)	(07)
1	ISO_IEC_19788-2:2011::DES0100	title	conditional C0001	repeatable	unordered	-
2	ISO_IEC_19788-2:2011::DES0200	creator	conditional C0002	repeatable	ordered	entities listed by importance of contributions, primary entity first
3	ISO_IEC_19788-2:2011::DES0300	subject	conditional C0001	repeatable	unordered	-
4	ISO_IEC_19788-3:2011::DES0200	description	conditional C0001	repeatable	unordered	-
5	ISO_IEC_19788-2:2011::DES0500	publisher	conditional C0002	repeatable	unordered	-
6	ISO_IEC_19788-2:2011::DES0600	contributor	conditional C0002	repeatable	ordered	entities listed by importance of contributions, primary entity first
7	ISO_IEC_19788-3:2011::DES0100	date	optional	repeatable	unordered	-
8	ISO_IEC_19788-3:2011::DES0700	type	optional	repeatable	unordered	-
9	ISO_IEC_19788-3:2011::DES0300	format	optional	repeatable	unordered	-
10	ISO_IEC_19788-3:2011::DES0400	identifier	mandatory	repeatable	unordered	-
11	ISO_IEC_19788-3:2011::DES0600	source	optional	repeatable	unordered	-
12	ISO_IEC_19788-3:2011::DES0500	language	optional	repeatable	unordered	-

³ For the rules governing a data element group specification (DEGS), see clause 11 in ISO/IEC 19788-1:2011 and in particular its subclause 11.4 *Specification of a data element group*.

⁴ While this edition of the MLR Basic application profile is based on ISO/IEC 19788-2:2011, *Information technology — Learning, education and training — Metadata for learning resources — Part 2: Dublin Core elements*, further editions are likely to include data elements from other parts.