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**AMENDMENT 1**  
2016-11-01

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

**Part 3:  
Basic application profile**

**AMENDMENT 1**

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

*Partie 3: Profil d'application de base*

*AMENDEMENT 1*

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Reference number  
ISO/IEC 19788-3:2011/Amd.1:2016(E)



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Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
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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](http://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](http://www.iso.org/patents)).

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Amendment 1 to ISO/IEC 19788-3:2011 was prepared by ISO/IEC JTC 1, *Information technology*, Subcommittee SC 36, *Information technology for learning, education and training*.

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

## Part 3: Basic application profile

### AMENDMENT 1

*Page iv, Foreword*

Replace the list of parts by the following:

A list of parts in the ISO 19788 series can be found on the ISO website.

*Page v, Introduction*

Add the following paragraph after the first paragraph of 0.2:

As allowed by the amendment to ISO/IEC 19788-1:2011, this document added a new attribute to Data Element Specifications (DESSs). The attribute “Best practice(s)” has been added to provide optional informative good practice guidance.

*Page 1, Clause 2*

Replace the last two references by their undated versions:

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

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

*Page 3, Clause 5*

Replace the table by the following.

<b>Application profile specification</b>	
Application profile Identifier (AP_Identifier)	ISO_IEC_19788-3:2011:AMD.1:2016::AP0002
Name (ISO English)	MLR Basic Application Profile (v2)
Description	MLR entry level element set, based on Dublin Core
Underlying data element group specification	ISO_IEC_19788-3:2011:AMD.1:2016::DEGS0002

Replace the first table by the following.

Data element group specification						
Identifier (DEGS_Identifier)		ISO_IEC_19788-3:2011:AMD.1:2016::DEGS0002				
Name (ISO English)		MLR Basic data element group specification (v2)				
Description		MLR entry level element set designed to provide basic interoperability among catalogues 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_19788-3: 2011:AMD.1:2016:: DEGS0003	Learning resources DEGS	mandatory	non-repeatable	—	—
2	ISO_IEC_19788-3: 2011:AMD.1:2016:: DEGS0004	Persons DEGS	mandatory	non-repeatable	—	—

Remove the following footnote.

While this edition of the MLR Basic application profile is based on ISO/IEC 19788-2:2011, further editions are likely to include data elements from other parts.

Delete the Conditions Table.

Replace “N/A” by the following subclauses (6.2.1 and 6.2.2).

### 6.2.1 Learning resources data element group specification

Data element group specification						
Identifier (DEGS_Identifier)		ISO_IEC_19788-3:2011:AMD.1:2016::DEGS0003				
Name (ISO English)		Learning resources DEGS				
Description		MLR entry level element set designed to provide basic description of <i>Learning Resource</i> resource class instances.				
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 enti- ty first
3	ISO_IEC_19788-2: 2011::DES0300	subject	conditional C0001	repeatable	unordered	—

4	ISO_IEC_19788-2: 2011::DES0400	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 enti- ty first
7	ISO_IEC_19788-2: 2011::DES0700	date	optional	repeatable	unordered	—
8	ISO_IEC_19788-2: 2011::DES0800	type	optional	repeatable	unordered	—
9	ISO_IEC_19788-2: 2011::DES0900	format	optional	repeatable	unordered	—
10	ISO_IEC_19788-2: 2011::DES1000	identifier	mandatory	repeatable	unordered	—
11	ISO_IEC_19788-2: 2011::DES1100	source	optional	repeatable	unordered	—
12	ISO_IEC_19788-2: 2011::DES1200	language	optional	repeatable	unordered	—
13	ISO_IEC_19788-2: 2011::DES1300	relation	optional	repeatable	unordered	—
14	ISO_IEC_19788-2: 2011::DES1400	coverage	optional	repeatable	unordered	—
15	ISO_IEC_19788-2: 2011::DES1500	rights	conditional C0003	repeatable	unordered	—
16	ISO_IEC_19788-2: 2011:AMD.1:2016:: DES1600	creator	conditional C0002	repeatable	ordered	entities listed by importance of contributions, primary enti- ty first
17	ISO_IEC_19788-2: 2011:AMD.1:2016:: DES1700	subject	conditional C0001	repeatable	unordered	—
18	ISO_IEC_19788-2: 2011:AMD.1:2016:: DES1800	description	conditional C0001	repeatable	unordered	—
19	ISO_IEC_19788-2: 2011:AMD.1:2016:: DES1900	publisher	conditional C0002	repeatable	unordered	—
20	ISO_IEC_19788-2: 2011:AMD.1:2016:: DES2000	contributor	conditional C0002	repeatable	ordered	entities listed by importance of contributions, primary enti- ty first
21	ISO_IEC_19788-2: 2011:AMD.1:2016:: DES2100	source	optional	repeatable	unordered	—

22	ISO_IEC_19788-2:2011:AMD.1:2016::DES2200	relation	optional	repeatable	unordered	—
23	ISO_IEC_19788-2:2011:AMD.1:2016::DES2300	rights	conditional C0003	repeatable	unordered	—
24	ISO_IEC_19788-3:2011:AMD.1:2016::DES0101	date and time	optional	repeatable	unordered	—
25	ISO_IEC_19788-3:2011:AMD.1:2016::DES0201	time interval	optional	repeatable	unordered	—
26	ISO_IEC_19788-3:2011:AMD.1:2016::DES0301	content type	optional	repeatable	unordered	—
27	ISO_IEC_19788-3:2011:AMD.1:2016::DES0401	calendar date	optional	repeatable	unordered	—

**Conditions table**

Code ID	Conditions
C0001	A value shall be provided for at least one of these properties: ISO_IEC_19788-2:2011::DES0100 ( <b>title</b> ), ISO_IEC_19788-2:2011::DES0300 ( <b>subject</b> ), ISO_IEC_19788-2:2011:AMD.1:2016::DES1700 ( <b>subject</b> ), ISO_IEC_19788-2:2011::DES0400 ( <b>description</b> ) or ISO_IEC_19788-2:2011:AMD.1:2016::DES1800 ( <b>description</b> ).
C0002	A value shall be provided for at least one of these properties: ISO_IEC_19788-2:2011::DES0200 ( <b>creator</b> ), ISO_IEC_19788-2:2011:AMD.1:2016::DES1600 ( <b>creator</b> ), ISO_IEC_19788-2:2011::DES0500 ( <b>publisher</b> ), ISO_IEC_19788-2:2011:AMD.1:2016::DES1900 ( <b>publisher</b> ), ISO_IEC_19788-2:2011::DES0600 ( <b>contributor</b> ) or ISO_IEC_19788-2:2011:AMD.1:2016::DES2000 ( <b>contributor</b> ).  A MLR record conforming to this application profile cannot use both properties ISO_IEC_19788-2:2011::DES0200 ( <b>creator</b> ), ISO_IEC_19788-2:2011:AMD.1:2016::DES1600 ( <b>creator</b> ).  A MLR record conforming to this application profile cannot use both properties ISO_IEC_19788-2:2011::DES0600 ( <b>contributor</b> ), ISO_IEC_19788-2:2011:AMD.1:2016::DES2000 ( <b>contributor</b> ).
C0003	A value shall be provided for at least one of these properties: ISO_IEC_19788-2:2011::DES1500 ( <b>rights</b> ) or ISO_IEC_19788-2:2011:AMD.1:2016::DES2300 ( <b>rights</b> ).

**6.2.2 Persons data element group specification**

Data element group specification						
Identifier (DEGS_Identifier)		ISO_IEC_19788-3:2011:AMD.1:2016::DEGS0004				
Name (ISO English)		Persons DEGS				
Description		MLR entry level element set designed to provide basic description of <i>Person</i> resource class instances.				
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_19788-9:2015::DES0200	name	mandatory	repeatable	unordered	—

Page 5, Clause 7

Replace the entire content of Clause 7 with the following.

### 7.1 Title (MLR-2/DES0100)

Data element specification	
Identifier	ISO_IEC_19788-2:2011::DES0100
Data element attributes	
Property name	title
Definition	name given to the learning resource
Linguistic indicator	linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	—
Example(s)	1. 金葉和歌集 (Japanese) 2. Collection of Golden Leaves (English)
Note(s)	1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>title</i> described in ISO 15836:2009, Table 1. 2. More specific than properties <a href="http://purl.org/dc/elements/1.1/title">http://purl.org/dc/elements/1.1/title</a> and <a href="http://purl.org/dc/terms/title">http://purl.org/dc/terms/title</a>
Best practice(s)	—

### 7.2 Creator (MLR-2/DES0200)

Data element specification	
Identifier	ISO_IEC_19788-2:2011::DES0200
Data element attributes	
Property name	creator
Definition	entity primarily responsible for making the learning resource
Linguistic indicator	linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	ISO_IEC_19788-2:2011::DES0600 (contributor)

Example(s)	John Doe (English)
Note(s)	<ol style="list-style-type: none"> <li>1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>creator</i> described in ISO 15836:2009, Table 1.</li> <li>2. Examples of creator include a natural person, an organization, or a service. Typically, the name of the creator should be used to indicate the entity.</li> <li>3. A DES with the same property name (<i>creator</i>), but with non-literal content value, is also provided. See 7.16.</li> <li>4. More specific than property <a href="http://purl.org/dc/elements/1.1/creator">http://purl.org/dc/elements/1.1/creator</a></li> </ol>
Best practice(s)	Best practice recommends the use of ISO_IEC_19788-2:2011:AMD.1:2016::DES1600 ( <i>creator</i> ) instead of ISO_IEC_19788-2:2011::DES0200 ( <i>creator</i> )

### 7.3 Subject (MLR-2/DES0300)

<b>Data element specification</b>	
Identifier	ISO_IEC_19788-2:2011::DES0300
<b>Data element attributes</b>	
Property name	subject
Definition	topic of the learning resource
Linguistic indicator	linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	—
Example(s)	Creutzfeldt-Jakob disease (English)
Note(s)	<ol style="list-style-type: none"> <li>1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>subject</i> described in ISO 15836:2009, Table 1.</li> <li>2. To describe the spatial or temporal topic of the learning resource, use the ISO_IEC_19788-2:2011::DES1400 (<i>coverage</i>) element.</li> <li>3. The content value of element instances of this data element specification is a keyword or a keyword index from a classification or a controlled vocabulary.</li> <li>4. A DES with the same property name (<i>subject</i>), but with non-literal content value, is also provided. See 7.17.</li> <li>5. More specific than property <a href="http://purl.org/dc/elements/1.1/subject">http://purl.org/dc/elements/1.1/subject</a></li> </ol>
Best practice(s)	—

### 7.4 Description (MLR-2/DES0400)

<b>Data element specification</b>	
Identifier	ISO_IEC_19788-2:2011::DES0400
<b>Data element attributes</b>	
Property name	description
Definition	account of the learning resource
Linguistic indicator	linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)

Codomain	<i>literal</i>
Content value rules	<i>MLR String</i> (ISO_IEC_19788-1:2011::PRS0001)
Refines	—
Example(s)	This Java applet shows a car moving with constant acceleration. The green control panel contains text fields where you can vary the values of initial position, initial velocity and acceleration. (English)
Note(s)	<ol style="list-style-type: none"> <li>1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>description</i> described in ISO 15836:2009, Table 1.</li> <li>2. Description may include, but is not limited to, an abstract, a table of contents, a graphical representation, or a free-text account of the learning resource.</li> <li>3. The description is a statement of the essential content in the learning resource.</li> <li>4. A DES with the same property name (<i>description</i>), but with non-literal content value, is also provided. See 7.18.</li> <li>5. More specific than properties <a href="http://purl.org/dc/elements/1.1/description">http://purl.org/dc/elements/1.1/description</a> and <a href="http://purl.org/dc/terms/description">http://purl.org/dc/terms/description</a>.</li> </ol>
Best practice(s)	—

#### 7.5 Publisher (MLR-2/DES0500)

Data element specification	
Identifier	ISO_IEC_19788-2:2011::DES0500
Data element attributes	
Property name	<i>publisher</i>
Definition	entity responsible for making the learning resource available
Linguistic indicator	<i>linguistic</i>
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	<i>MLR String</i> (ISO_IEC_19788-1:2011::PRS0001)
Refines	—
Example(s)	British Museum (English)
Note(s)	<ol style="list-style-type: none"> <li>1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>publisher</i> described in ISO 15836:2009, Table 1.</li> <li>2. Examples of publisher include a natural person, an organization, or a service. Typically, the name of the publisher should be used to identify the entity.</li> <li>3. A DES with the same property name (<i>publisher</i>), but with non-literal content value, is also provided. See 7.19.</li> <li>4. More specific than <a href="http://purl.org/dc/elements/1.1/publisher">http://purl.org/dc/elements/1.1/publisher</a></li> </ol>
Best practice(s)	Best practice recommends the use of ISO_IEC_19788-2:2011:AMD.1:2016::DES1900 ( <i>publisher</i> ) instead of ISO_IEC_19788-2:2011::DES0500 ( <i>publisher</i> )

## 7.6 Contributor (MLR-2/DES0600)

Data element specification	
Identifier	ISO_IEC_19788-2:2011::DES0600
<b>Data element attributes</b>	
Property name	contributor
Definition	entity responsible for making contributions to the learning resource
Linguistic indicator	linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	—
Example(s)	John Smith (English)
Note(s)	<p>1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>contributor</i> described in ISO 15836:2009, Table 1.</p> <p>2. Examples of a contributor include a natural person, an organization, or a service. Typically, the name of the contributor should be used to indicate the entity.</p> <p>3. A DES with the same property name (contributor), but with non-literal content value, is also provided. See 7.20.</p> <p>4. More specific than property <a href="http://purl.org/dc/elements/1.1/contributor">http://purl.org/dc/elements/1.1/contributor</a></p>
Best practice(s)	Best practice recommends the use of ISO_IEC_19788-2:2011:AMD.1:2016::DES2000 (contributor) instead of ISO_IEC_19788-2:2011::DES0600 (contributor)

## 7.7 Date (MLR-2/DES0700)

Data element specification	
Identifier	ISO_IEC_19788-2:2011::DES0700
<b>Data element attributes</b>	
Property name	date
Definition	point or period of time associated with an event in the lifecycle of the learning resource
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	—

Example(s)	<ol style="list-style-type: none"> <li>1. October 15, 1582</li> <li>2. 1985-01-16</li> <li>3. 2012-09-12/2013-09-12</li> <li>4. May 14, 2015</li> <li>5. January 12, 2015 to March 23, 2016</li> </ol>
Note(s)	<ol style="list-style-type: none"> <li>1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>date</i> described in ISO 15836:2009, Table 1.</li> <li>2. Date may be used to express temporal information at any level of granularity.</li> <li>3. More specific than properties <a href="http://purl.org/dc/elements/1.1/date">http://purl.org/dc/elements/1.1/date</a> and <a href="http://purl.org/dc/terms/date">http://purl.org/dc/terms/date</a></li> </ol>
Best practice(s)	<ol style="list-style-type: none"> <li>1. For the representation of a “calendar date” or the “date and time of day” use the W3CDTF profile of the ISO 8601. (<a href="http://www.w3.org/TR/Note-datetime.html">http://www.w3.org/TR/Note-datetime.html</a>)</li> <li>2. If possible, the more specific properties “date and time”, “time interval” or “calendar date” (see 8.1, 8.2 and 8.4) refining the date property should be used.</li> <li>3. “date” is a generic property; if available, more specific refinements of the date property should be used. Otherwise, the default interpretation of the value is as the “creation date” or the “availability period” of the learning resource.</li> </ol>

### 7.8 Type (MLR-2/DES0800)

Data element specification	
Identifier	ISO_IEC_19788-2:2011::DES0800
<b>Data element attributes</b>	
Property name	type
Definition	nature or genre of the learning resource
Linguistic indicator	linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	—
Example(s)	InteractiveResource (DCMI Type Vocabulary) (English)
Note(s)	<ol style="list-style-type: none"> <li>1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>type</i> described in ISO 15836:2009, Table 1.</li> <li>2. The value of this element is about content type. For format information, such as Media Types,<sup>[3]</sup> use ISO_IEC_19788-2:2011::DES0900 Format data element.</li> <li>3. More specific than property <a href="http://purl.org/dc/elements/1.1/type">http://purl.org/dc/elements/1.1/type</a></li> </ol>
Best practice(s)	<ol style="list-style-type: none"> <li>1. Recommended best practice is to use a controlled vocabulary such as Reference [2].</li> <li>2. If possible, the more specific property “content type” (see 8.3) refining the type property should be used.</li> </ol>

## 7.9 Format (MLR-2/DES0900)

Data element specification	
Identifier	ISO_IEC_19788-2:2011::DES0900
<b>Data element attributes</b>	
Property name	format
Definition	file format, physical medium, or dimensions of the learning resource
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	—
Example(s)	1. video/mpeg 2. adlcp:scormType = "sco" 3. non-digital
Note(s)	1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>format</i> described in ISO 15836:2009, Table 1. 2. More specific than property <a href="http://purl.org/dc/elements/1.1/format">http://purl.org/dc/elements/1.1/format</a>
Best practice(s)	1. When the resource is digital, best practice recommends using formal identification systems such as Media Types (formerly known as MIME types), <sup>[3]</sup> maintained by IANA. ( <a href="http://www.iana.org/assignments/media-types/index.html">http://www.iana.org/assignments/media-types/index.html</a> ). 2. For the dimensions "size" and "duration" of the learning resource, best practice recommends using data elements that conform to ISO/IEC 19788-4, DES0200 (size) or ISO/IEC 19788-4, DES0300 (duration).

## 7.10 Identifier (MLR-2/DES1000)

Data element specification	
Identifier	ISO_IEC_19788-2:2011::DES1000
<b>Data element attributes</b>	
Property name	identifier
Definition	unambiguous reference to the learning resource within a given context
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	—

Example(s)	1. 0-262-68093-9 (ISBN-10) 2. 978-0-262-68093-6 (ISBN-13) 3. 1661-7738/020203-43 (ISSN)
Note(s)	1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>identifier</i> described in ISO 15836:2009, Table 1. 2. More specific than properties <a href="http://purl.org/dc/elements/1.1/identifier">http://purl.org/dc/elements/1.1/identifier</a> and <a href="http://purl.org/dc/terms/identifier">http://purl.org/dc/terms/identifier</a>
Best practice(s)	Recommended best practice is to identify the related resource by means of a string conforming to a formal identification system (such as URI, URL, URN, PURL, DOI, ISBN, ISIN, ISAN, ISMN, UUID).

### 7.11 Source (MLR-2/DES1100)

Data element specification	
Identifier	ISO_IEC_19788-2:2011::DES1100
<b>Data element attributes</b>	
Property name	source
Definition	related resource from which the described learning resource is derived
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	ISO_IEC_19788-2:2011::DES1300 (relation)
Example(s)	1. 0-262-68093-9 (ISBN-10) 2. 978-0-262-68093-6 (ISBN-13) 3. 1661-7738/020203-43 (ISSN)
Note(s)	1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>source</i> described in ISO 15836:2009, Table 1. 2. The described learning resource may be derived from the related resource in whole or in part. The source property is a particular type of relation. It is used to identify and indicate the original source(s) used to create the described learning resource. Examples include another source, an excerpt, and adaptation, a translation. 4. A DES with the same property name (source), but with non-literal content value, is also provided. See 7.21. 5. More specific than property <a href="http://purl.org/dc/elements/1.1/source">http://purl.org/dc/elements/1.1/source</a>
Best practice(s)	Recommended best practice is to identify the related resource by means of a string conforming to a formal identification system (such as URI, URL, URN, PURL, DOI, ISBN, ISIN, ISAN, ISMN, UUID).

### 7.12 Language (MLR-2/DES1200)

Data element specification	
Identifier	ISO_IEC_19788-2:2011::DES1200
<b>Data element attributes</b>	
Property name	language

Definition	language of the learning resource
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	—
Example(s)	1. zho ("Chinese" from ISO 639-2) 2. cmn ("Mandarin" from ISO 639-3)
Note(s)	1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>language</i> described in ISO 15836:2009, Table 1. 2. More specific than property <a href="http://purl.org/dc/elements/1.1/language">http://purl.org/dc/elements/1.1/language</a>
Best practice(s)	ISO 639-2 should be used if a code for the language name is available. If not, ISO 639-3 should be used.

### 7.13 Relation (MLR-2/DES1300)

<b>Data element specification</b>	
Identifier	ISO_IEC_19788-2:2011::DES1300
<b>Data element attributes</b>	
Property name	relation
Definition	related resource
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	—
Example(s)	Version of 10.1007/s11784-008-0095-0 (DOI)
Note(s)	1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>relation</i> described in ISO 15836:2009, Table 1. 2. Data elements conforming to this DES are used to indicate relationships other than source (e.g. reference, conformance, alternative format or version, prerequisite). 3. A DES with the same property name (relation), but with non-literal content value, is also provided. See 7.22. 4. More specific than property <a href="http://purl.org/dc/elements/1.1/relation">http://purl.org/dc/elements/1.1/relation</a>
Best practice(s)	Recommended best practice is to identify the related resource by means of a string conforming to a formal identification system (such as URI, URL, URN, PURL, DOI, ISBN, ISIN, ISAN, ISMN, UUID).

## 7.14 Coverage (MLR-2/DES1400)

<b>Data element specification</b>	
Identifier	ISO_IEC_19788-2:2011::DES1400
<b>Data element attributes</b>	
Property name	coverage
Definition	spatial or temporal topic of the learning resource, the spatial applicability of the learning resource, or the jurisdiction under which the learning resource is relevant
Linguistic indicator	linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	—
Example(s)	1. Vancouver, British Columbia, Canada (English) 2. Paleolithic Age (English) 3. 18000101 - 18991231
Note(s)	1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>coverage</i> described in ISO 15836:2009, Table 1. 2. Spatial topic and spatial applicability may be a named place or a location specified by its geographic coordinates. Temporal topic may be a named period, date or date range. A jurisdiction may be a named administrative entity or a geographic place to which the learning resource applies. 3. More specific than property <a href="http://purl.org/dc/elements/1.1/coverage">http://purl.org/dc/elements/1.1/coverage</a>
Best practice(s)	Recommended best practice is to use a controlled vocabulary such as the Reference [18]. Where appropriate, named places or time periods can be used in preference to numeric identifiers, such as sets of coordinates or date ranges.

## 7.15 Rights (MLR-2/DES1500)

<b>Data element specification</b>	
Identifier	ISO_IEC_19788-2:2011::DES1500
<b>Data element attributes</b>	
Property name	rights
Definition	information about rights held in and over the learning resource
Linguistic indicator	linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	MLR String (ISO_IEC_19788-1:2011::PRS0001)
Refines	—

Example(s)	<p>1. Creative Commons Attribution-Noncommercial 3.0 United States License (English)</p> <p>2. Copyright of this publication is held by the British Museum (English)</p>
Note(s)	<p>1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>rights</i> described in ISO 15836:2009, Table 1.</p> <p>2. Typically, rights information includes a statement about various property rights associated with the learning resource, including intellectual property rights and jurisdiction.</p> <p>3. A jurisdiction may have one or more legally defined areas. If one needs to state more than one jurisdiction, this data element can be repeated.</p> <p>4. As more than one licence may associated with a learning resource, this data element can be repeated.</p> <p>5. A DES with the same property name (rights), but with non-literal content value, is also provided. See 7.23.</p> <p>6. More specific than property <a href="http://purl.org/dc/elements/1.1/rights">http://purl.org/dc/elements/1.1/rights</a></p>
Best practice(s)	—

#### 7.16 Creator (MLR-2/DES1600)

<b>Data element specification</b>	
Identifier	ISO_IEC_19788-2:2011:AMD.1:2016::DES1600
<b>Data element specification attributes</b>	
Property name	creator
Definition	entity primarily responsible for making the learning resource
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	Person (ISO_IEC_19788-1:2011::RC0003)
Content value rules	N/A
Refines	ISO_IEC_19788-2:2011:AMD.1:2016::DES2000 (contributor)
Example(s)	Resource denoted by URI <a href="http://dbpedia.org/resource/Mitchel_Resnick">http://dbpedia.org/resource/Mitchel_Resnick</a>
Note(s)	<p>1. A DES with the same property name (creator), but with literal content value, is also provided. See 7.2.</p> <p>2. More specific than properties <a href="http://purl.org/dc/elements/1.1/creator">http://purl.org/dc/elements/1.1/creator</a> and <a href="http://purl.org/dc/terms/creator">http://purl.org/dc/terms/creator</a></p>
Best practice(s)	—

#### 7.17 Subject (MLR-2/DES1700)

<b>Data element specification</b>	
Identifier	ISO_IEC_19788-2:2011:AMD.1:2016::DES1700
<b>Data element specification attributes</b>	
Property name	subject
Definition	topic of the learning resource
Linguistic indicator	non-linguistic

Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	Resource (ISO_IEC_19788-1:2011::RC0001)
Content value rules	N/A
Refines	—
Example(s)	1. Resource denoted by URI <a href="http://dbpedia.org/resource/Category:Artificial_intelligence">http://dbpedia.org/resource/Category:Artificial_intelligence</a> 2. Resource denoted by URI <a href="http://id.loc.gov/authorities/subjects/sh85008180">http://id.loc.gov/authorities/subjects/sh85008180</a>
Note(s)	1. A DES with the same property name (subject), but with literal content value, is also provided. See 7.3. 2. More specific than properties <a href="http://purl.org/dc/elements/1.1/subject">http://purl.org/dc/elements/1.1/subject</a> and <a href="http://purl.org/dc/terms/subject">http://purl.org/dc/terms/subject</a>
Best practice(s)	URI denoting the resource should be dereferenceable.

### 7.18 Description (MLR-2/DES1800)

<b>Data element specification</b>	
Identifier	ISO_IEC_19788-2:2011:AMD.1:2016::DES1800
<b>Data element specification attributes</b>	
Property name	description
Definition	account of the learning resource
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>Resource</i> (ISO_IEC_19788-1:2011::RC0001)
Content value rules	N/A
Refines	
Example(s)	1. Resource denoted by URI <a href="http://wikipedia.org/wiki/The_Fox_and_the_Crow_(Aesop)">http://wikipedia.org/wiki/The_Fox_and_the_Crow_(Aesop)</a> (with as the learning resource being described, the resource denoted by <a href="http://dbpedia.org/resource/The_Fox_and_the_Crow_(Aesop)">http://dbpedia.org/resource/The_Fox_and_the_Crow_(Aesop)</a> ) 2. Resource denoted by URI <a href="http://dbpedia.org/page/The_Fox_and_the_Crow_(Aesop)">http://dbpedia.org/page/The_Fox_and_the_Crow_(Aesop)</a> (with as the learning resource being described, the resource denoted by <a href="http://dbpedia.org/resource/The_Fox_and_the_Crow_(Aesop)">http://dbpedia.org/resource/The_Fox_and_the_Crow_(Aesop)</a> )
Note(s)	1. A DES with the same property name (description), but with literal content value, is also provided. See 7.4. 2. More specific than properties <a href="http://purl.org/dc/elements/1.1/description">http://purl.org/dc/elements/1.1/description</a> and <a href="http://purl.org/dc/terms/description">http://purl.org/dc/terms/description</a>
Best practice(s)	URI denoting the resource should be dereferenceable.

## 7.19 Publisher (MLR-2/DES1900)

Data element specification	
Identifier	ISO_IEC_19788-2:2011:AMD.1:2016::DES1900
Data element specification attributes	
Property name	publisher
Definition	entity responsible for making the learning resource available
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>Person</i> (ISO_IEC_19788-1:2011::RC0003)
Content value rules	N/A
Refines	—
Example(s)	Resource denoted by URI <a href="http://dbpedia.org/resource/University_of_Toronto_Press">http://dbpedia.org/resource/University_of_Toronto_Press</a>
Note(s)	1. A DES with the same property name (publisher), but with literal content value, is also provided. See 7.5.  2. More specific than properties <a href="http://purl.org/dc/elements/1.1/publisher">http://purl.org/dc/elements/1.1/publisher</a> and <a href="http://purl.org/dc/terms/publisher">http://purl.org/dc/terms/publisher</a>
Best practice(s)	—

## 7.20 Contributor (MLR-2/DES2000)

Data element specification	
Identifier	ISO_IEC_19788-2:2011:AMD.1:2016::DES2000
Data element specification attributes	
Property name	contributor
Definition	entity responsible for making contributions to the learning resource
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>Person</i> (ISO_IEC_19788-1:2011::RC0003)
Content value rules	N/A
Refines	—
Example(s)	Resource denoted by URI <a href="http://dbpedia.org/resource/Mitchel_Resnick">http://dbpedia.org/resource/Mitchel_Resnick</a>
Note(s)	1. A DES with the same property name (contributor), but with literal content value, is also provided. See 7.6.  2. More specific than <a href="http://purl.org/dc/elements/1.1/contributor">http://purl.org/dc/elements/1.1/contributor</a> and <a href="http://purl.org/dc/terms/contributor">http://purl.org/dc/terms/contributor</a>
Best practice(s)	—

## 7.21 Source (MLR-2/DES2100)

Data element specification	
Identifier	ISO_IEC_19788-2:2011:AMD.1:2016::DES2100
Data element specification attributes	
Property name	source
Definition	related resource from which the described learning resource is derived
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>Resource</i> (ISO_IEC_19788-1:2011::RC0001)
Content value rules	N/A
Refines	ISO_IEC_19788-2:2011:AMD.1:2016::DES2200 (relation)
Example(s)	Resource denoted by URI <a href="http://dbpedia.org/resource/The_Fox_and_the_Crow_(Aesop)">http://dbpedia.org/resource/The_Fox_and_the_Crow_(Aesop)</a> (with as the learning resource being described the resource denoted by <a href="http://dbpedia.org/resource/La_Fontaine's_Fables">http://dbpedia.org/resource/La_Fontaine's_Fables</a> )
Note(s)	1. A DES with the same property name (source), but with literal content value, is also provided. See 7.11. 2. More specific than properties <a href="http://purl.org/dc/elements/1.1/source">http://purl.org/dc/elements/1.1/source</a> and <a href="http://purl.org/dc/terms/source">http://purl.org/dc/terms/source</a>
Best practice(s)	URI denoting the resource should be dereferenceable.

## 7.22 Relation (MLR-2/DES2200)

Data element specification	
Identifier	ISO_IEC_19788-2:2011:AMD.1:2016::DES2200
Data element specification attributes	
Property name	relation
Definition	related resource
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>Resource</i> (ISO_IEC_19788-1:2011::RC0001)
Content value rules	N/A
Refines	—

Example(s)	<p>1. Resource denoted by URI  <a href="http://fr.dbpedia.org/resource/Le_Corbeau_et_le_Renard">http://fr.dbpedia.org/resource/Le_Corbeau_et_le_Renard</a>                      (with as the learning resource being described:  <a href="http://dbpedia.org/resource/The_Fox_and_the_Crow_(Aesop)">http://dbpedia.org/resource/The_Fox_and_the_Crow_(Aesop)</a> )</p> <p>2. Resource denoted by URI  <a href="http://ja.dbpedia.org/resource/からすときつね">http://ja.dbpedia.org/resource/からすときつね</a>                      (with as the learning resource being described:  <a href="http://dbpedia.org/resource/The_Fox_and_the_Crow_(Aesop)">http://dbpedia.org/resource/The_Fox_and_the_Crow_(Aesop)</a> )</p>
Note(s)	<p>1. A DES with the same property name (relation), but with literal content value, is also provided. See 7.13.</p> <p>2. More specific than properties <a href="http://purl.org/dc/elements/1.1/relation">http://purl.org/dc/elements/1.1/relation</a> and <a href="http://purl.org/dc/terms/relation">http://purl.org/dc/terms/relation</a></p>
Best practice(s)	URI denoting the resource should be dereferenceable.

### 7.23 Rights (MLR-2/DES2300)

<b>Data element specification</b>	
Identifier	ISO_IEC_19788-2:2011:AMD.1:2016::DES2300
<b>Data element specification attributes</b>	
Property name	rights
Definition	information about rights held in and over the learning resource
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>Rights Statement</i> (ISO_IEC_19788-2:2011:AMD.1:2016::RC0001)
Content value rules	N/A
Refines	—
Example(s)	<p>1. Resource denoted by URI  <a href="http://creativecommons.org/licenses/by-nc/3.0/us/legalcode">http://creativecommons.org/licenses/by-nc/3.0/us/legalcode</a></p> <p>2. Resource denoted by URI  <a href="http://creativecommons.org/licenses/by-nc-sa/4.0/legalcode">http://creativecommons.org/licenses/by-nc-sa/4.0/legalcode</a></p> <p>3. Resource denoted by URI  <a href="http://www.gnu.org/licenses/gpl.html">http://www.gnu.org/licenses/gpl.html</a></p>
Note(s)	<p>1. A DES with the same property name (rights), but with literal content value, is also provided. See 7.15.</p> <p>2. More specific than properties <a href="http://purl.org/dc/elements/1.1/rights">http://purl.org/dc/elements/1.1/rights</a> and <a href="http://purl.org/dc/terms/rights">http://purl.org/dc/terms/rights</a></p>
Best practice(s)	URI denoting the resources should be dereferenceable.

## 7.24 Name (MLR-9/DES0200)

Data element specification	
Identifier	ISO_IEC_19788-9:2015::DES0200
Data element specification attributes	
Property name	name
Definition	word, phrase, character, or group of characters by which a person (natural person or organization) is known
Linguistic indicator	linguistic
Domain	<i>Person</i> (ISO_IEC_19788-1:2011::RC0003)
Codomain	literal
Content value rules	MLR STRING (ISO_IEC_19788-1:2011::PRS0001)
Refines	—
Example(s)	1. ابن سينا (Arabic) 2. Yong-Sang Cho (English) 조용상 (Korean) 3. Université du Québec à Montréal (French) 4. Mitchel Resnick (English) (with as the person being described the entity denoted by URI <a href="http://dbpedia.org/resource/Mitchel_Resnick">http://dbpedia.org/resource/Mitchel_Resnick</a> )
Note(s)	1. Other properties available to describe instances of the resource class <i>Person</i> (such as “family name”, “given name”, “email address”, “communication account”) are available in ISO/IEC 19788-9. 2. More specific than property <a href="http://xmlns.com/foaf/0.1/name">http://xmlns.com/foaf/0.1/name</a>
Best practice(s)	—

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Replace the entire content of Clause 8 with the following.

This clause introduces genuine data elements for this application profile that can either be entirely defined here or imported from other parts with attribute modification such as a different definition or codomain.

## 8.1 Date and Time (MLR-3/DES0101)

Data element specification	
Identifier	ISO_IEC_19788-3:2011:AMD.1:2016::DES0101
Data element attributes	
Property name	date and time
Definition	time point associated with an event in the lifecycle of the learning resource
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	RS_DES0101
Refines	ISO_IEC_19788-2:2011::DES0700 (date)

Example(s)	<p>1. 2015-01-27T16:38:12 (local time and date in Montréal, Canada)</p> <p>2. 2015-01-27T21:38:12Z (Coordinated Universal Time (UTC) time and date)</p> <p>3. 2015-01-27T16:38:12-05 (local time and date in Montréal (Canada) and difference from UTC)</p> <p>4. 2015-01-27T16 (local time and date in Montréal (Canada), reduced accuracy)</p> <p>5. 2015-01 (not a valid value for the “date and time” property)</p>
Note(s)	The set of values of data elements conforming to this DES is a subset of the values of the element <i>date</i> described in ISO 15836:2009, Table 1.
Best practice(s)	“date and time” is a generic property; if available, more specific refinements of the date and time property should be used. Otherwise, the default interpretation of the value is as the “creation date and time” of the learning resource.

ID : RS_DES0101	
Rule_ID	Rule statement / Example(s) and Note(s)
01	Is a MLR STRING (ISO_IEC_19788-1:2011::PRS0001)
02	A string constructed according to ISO 8601:2004, 4.3.2 and 4.3.3, using the extended format.

## 8.2 Time Interval (MLR-3/DES0201)

<b>Data element specification</b>	
Identifier	ISO_IEC_19788-3:2011:AMD.1:2016::DES0201
<b>Data element attributes</b>	
Property name	time interval
Definition	time interval associated with an event in the lifecycle of the learning resource
Linguistic indicator	non-linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	RS_DES0201
Refines	ISO_IEC_19788-2:2011::DES0700 (date)

Example(s)	<p>1. 2015-01-27T17:07:36/2015-03-27T24:00 (time interval starting at 7 min and 36 s past 17 h on 27 January 2015 and ending at midnight on 27 March 2015)</p> <p>2. 2015-01-27/06-30 (time interval starting at 27 January 2015 and ending on 30 June 2015)</p> <p>3. 2015-01-27T17:07:36/P1Y2M5DT12H23M47S (time interval of 1 year, 2 months, 5 days and 12 h, 23 min and 47 s, beginning on 27 January 2015 at 7 min and 36 s past 17 h)</p> <p>4. 2015-01-27T17/P6W (time interval of 6 weeks, beginning on 27 January 2015 at 17 h)</p>
Note(s)	The set of values of data elements conforming to this DES is a subset of the values of the element <i>date</i> described in ISO 15836:2009, Table 1.
Best practice(s)	“time interval” is a generic property; if available, more specific refinements of the time interval property should be used. Otherwise, the default interpretation of the value is as the “availability period” of the learning resource.

ID : RS_DES0201	
Rule_ID	Rule statement / Example(s) and Note(s)
01	Is a MLR STRING (ISO_IEC_19788-1:2011::PRS0001)
02	A string constructed according to “ISO 8601:2004, 4.4, using the extended format for the date and time and the format with designators (see 4.4.3.2) for duration.

### 8.3 Content Type (MLR-3/DES0301)

<b>Data element specification</b>	
Identifier	ISO_IEC_19788-3:2011:AMD.1:2016::DES0301
<b>Data element attributes</b>	
Property name	content type
Definition	nature or genre of the learning resource
Linguistic indicator	linguistic
Domain	<i>Learning Resource</i> (ISO_IEC_19788-1:2011::RC0002)
Codomain	<i>literal</i>
Content value rules	RS_DES0301
Refines	ISO_IEC_19788-2:2011::DES0800 (type)
Example(s)	<p>1. interactive resource (English)</p> <p>2. ressource interactive (French)</p> <p>3. интерактивный ресурс (Russian)</p>
Note(s)	<p>1. The set of values of data elements conforming to this DES is a subset of the values of the element <i>type</i> described in ISO 15836:2009, Table 1.</p> <p>2. The value of this element is about content type. For format information, such as MIME Media Types,<sup>[3]</sup> use ISO_IEC_19788-2:2011::DES0900 Format data element.</p> <p>3. Refines property <a href="http://purl.org/dc/elements/1.1/type">http://purl.org/dc/elements/1.1/type</a></p>
Best practice(s)	—