

Credits Data

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Introduction

Document Contents

The present document will provide a data model for the transfer of completed credits.

The credits may be awarded on completion of a course unit, study module, degree programme or degree.

The data model enables describing the completed study units in such a way that enough information is provided e.g. to allow the recognition of studies taken outside one's home institution.

Purpose of the Document

The *Credits Data* specification creates preconditions for the development of inter-university information exchange services in order to better accommodate the needs occasioned by the student mobility.

The more concrete uses of the present specification include 1) credit transfer from the target university to one's home institution as a part of JOO ('flexible study right') studies, 2) credit transfer from the open university to the university the degree is taken in, and 3) credit transfer between institutions in case of transferring from one university to another.

The present specification may also be utilized in the universities' internal eHOPS (individual study plan) systems but that is not the primary purpose of the specification.

About Using the Specification

The use cases taken into account during the production of the *Credits Data* specification and the use cases primarily supported by the specification are described (in Finnish) in the separate Use Case Descriptions of the M Specifications document maintained at the M specification homepage <http://www.vy.fi/standardit/M1/>.

Relationship to Other Specification and Standards

The data model is based on the *Degree, Study Module and Course Unit Data* [M1] specification and on the *Course Unit Realisation Data* [M2] specification.

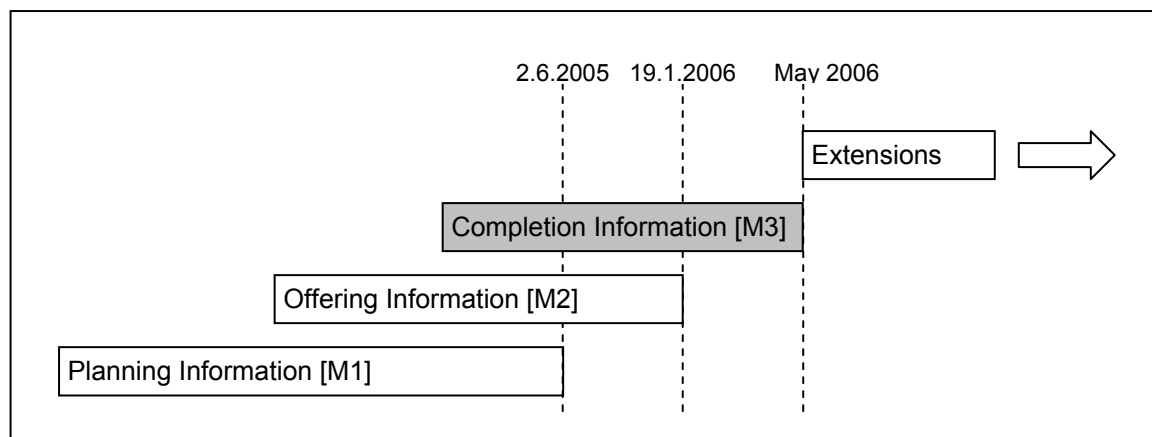


Figure 1. The drafting schedule of the M specifications.

The following specifications and standardisation efforts have been taken into account during the production of the current specification:

- | | |
|--------|--|
| M1 | Degree, Study Module and Course Unit Data:
http://www.vy.fi/standardit/M1/ |
| M2 | Course Unit Realisation Data:
http://www.vy.fi/standardit/M2/ |
| ECTS | European Credit Transfer and Accumulation System:
http://europa.eu.int/comm/education/programmes/socrates/ects_fi.html |
| ECTS-G | ECTS users' guide:
http://europa.eu.int/comm/education/programmes/socrates/usersg_en.html |
| DC | SFS 5895 Standard, the Finnish version of the Dublin Core Metadata Format, 2001 |

In addition, the following specification work has been closely monitored and applied to current specification where relevant:

- | | |
|------|---|
| MACE | MACE – eduCourse and eduPerson
http://middleware.internet2.edu/dir/ |
|------|---|

Application Instructions

Encoding of the Data

The technical application method of the *Credits Data* specification may be flexible in details. The bindings (e.g. xml-bindings) created from the present specification document do not absolutely have to follow the structure (e.g. field = element) presented in the following tables but attributes may also contain the field data if that seems functional.

The data will be coded in such a way that the same document may include several completed study units by one student. If one wants to transfer data on more than one student, a separate document should be created for each. In a similar manner, there can only be one target and source organisation per document.

Language Versions

Each data structure on completed credits to be transferred must contain information on the language or languages used to complete text fields according to the following rule: if the field contents are available in one language, they must be available in other languages listed as well. In addition, the structure may contain text fields in other languages where necessary. (For example, all text fields of the structure are in Finnish and, in addition, the course name is available in English).

Extensions

When exchanging data between different organisations, the fields and vocabularies of the present specification CANNOT be extended. The fields in the present data model should be used for the data interchange and modified (mapping) the potential university-specific vocabularies to match the vocabulary of the present data model. Within universities' internal systems extensions are possible.

The website supporting this specification is maintained in the FVU (Finnish Virtual University) portal at the address: <http://www.vy.fi/standardit/M3/>. The portal contains information (in Finnish) about the university-specific instructions for implementation, FAQ as well as procedures concerning the maintenance and updates of the present specification.

Specification of the Data Structure Terminology

Completed Study Unit

The data on completed study units transferred between different student records systems.

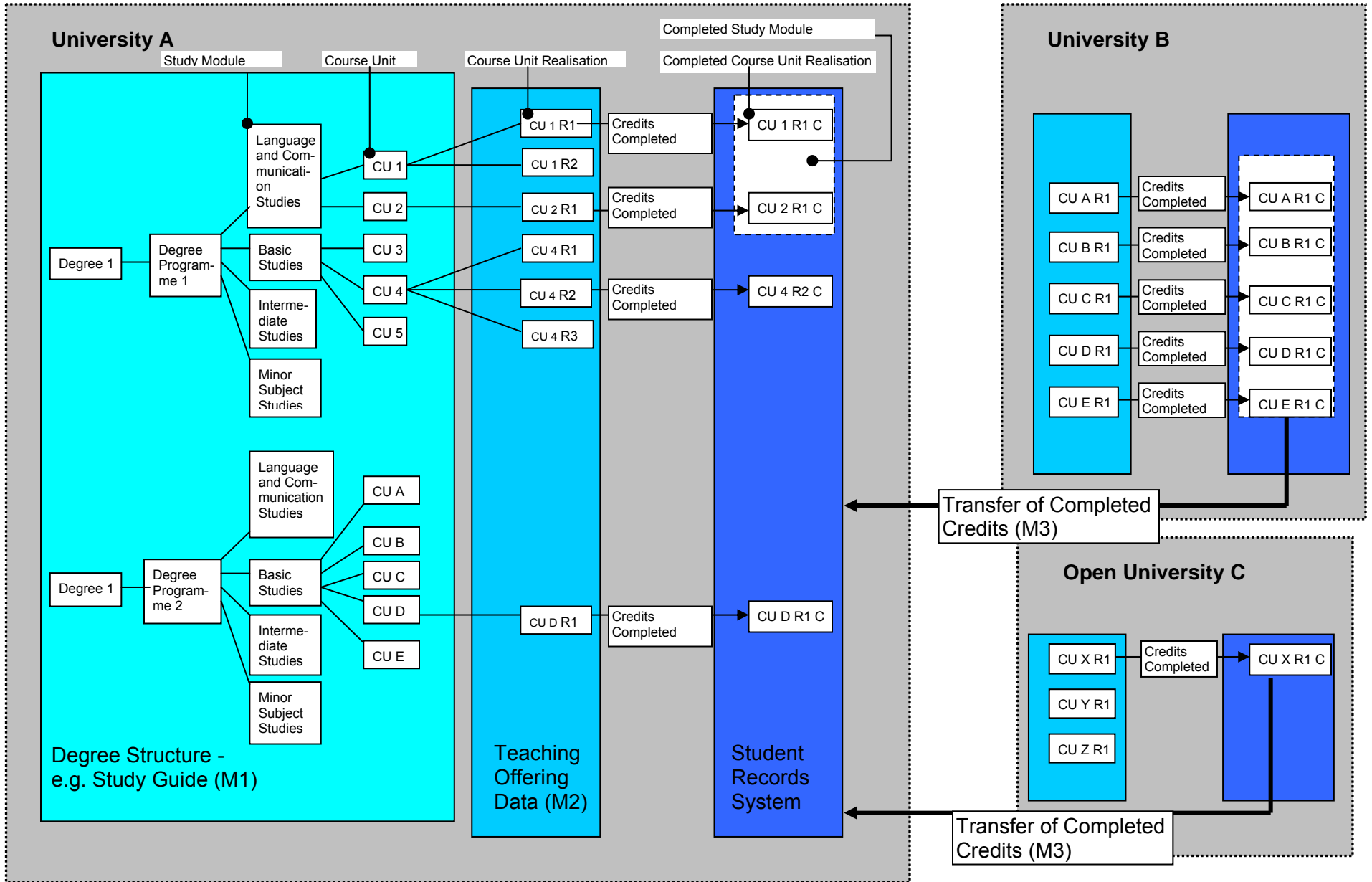


Figure 2. Transfer of data on completed credits

Grouping of the Fields

A listing of how the fields are divided into groups. A more detailed specification of each field is to be found in Appendix 1. Obligatory fields have been marked in bold text. The optionality of certain fields within a subgroup depends on the optionality of the subgroup i.e. the field is obligatory only within the subgroup.

General Information Group

The General Information group includes the following subgroups (■) and fields (○):

- 1.1 **Student**
 - 1.1.1 **Personal Identification Number** (obligatory, if 1.1.2 is not used)
 - 1.1.2 **Identifier In Target** (obligatory, if 1.1.1 is not used)
 - 1.1.3 Identifier In Source
 - 1.1.4 First Name
 - 1.1.5 Last Name
- 1.2 **Source** (obligatory, if 1.1.3 determined)
 - 1.2.1 Person
 - 1.2.2 Organisation
- 1.3 **Target** (obligatory if 1.1.2 determined)
 - 1.3.1 Person
 - 1.3.2 Organisation

Completed Study Unit Group

The Completed Study Unit group includes the following subgroups (■) and fields (○):

- 2.1 **Completed Study Unit**
 - 2.1.1 **Identifiers**
 - 2.1.1.1 **Organisation**
 - 2.1.1.2 **Completed Study Unit**
 - 2.1.2 "Full" Information
 - 2.1.2.1 Course Unit Realisation
 - 2.1.2.2 Course Unit
 - 2.1.2.3 Study Module
 - 2.1.2.4 Free Study Module
 - 2.1.2.5 Degree Programme
 - 2.1.2.6 Degree
 - 2.1.3 **Completion Languages**
 - 2.1.3.1 **Language**
 - 2.1.3.2 Explanation
 - 2.1.4 **Status**
 - 2.1.5 **Credits**
 - 2.1.5.1 **Method of Measurement**
 - 2.1.5.2 **Value**
 - 2.1.5.3 Explanation

- 2.1.6 **Evaluation**
 - 2.1.6.1 **Grading Scale**
 - 2.1.6.2 **Grade**
 - 2.1.6.3 Explanation
- 2.1.7 **Name**
- 2.1.8 Mode of Study
- 2.1.9 **Date Completed**
- 2.1.10 **Acceptor**
- 2.1.11 **Organisation Responsible**
- 2.1.12 Content
- 2.1.13 Further Information
- 2.1.14 Included Completion

Persons Group

The Persons group contains the following subgroups (■) and fields (○):

- 3.1 **Person**
 - 3.1.1 **Identifier**
 - 3.1.2 **Title**
 - 3.1.3 First Name
 - 3.1.4 Last Name
 - 3.1.5 E-mail
 - 3.1.6 Web Page
 - 3.1.7 Phone
 - 3.1.7.1 Number
 - 3.1.7.2 Explanation
 - 3.1.8 Organisations
 - 3.1.9 Further Information

Organisations Group

The Organisations group contains the following subgroups (■) and fields (○):

- 4.1 **Organisation**
 - 4.1.1 **Identifier**
 - 4.1.2 **Organisation Name**
 - 4.1.3 **Unit**
 - 4.1.4 Name Explanation
 - 4.1.5 Postal Address
 - 4.1.6 Street Address
 - 4.1.7 **Phone**
 - 4.1.7.1 **Number**
 - 4.1.7.2 Explanation
 - 4.1.8 Fax
 - 4.1.9 E-mail
 - 4.1.10 Web Page
 - 4.1.11 Persons
 - 4.1.12 Further Information

Vocabulary

A complete vocabulary of the terms used is to be found in Appendix 1. In addition, the terms introduced in the M3 specification have been listed here so that their conceptualization would be easier. The other terms listed in the vocabulary are to be found in M1 and M2 specifications.

Table 1:

Student.Identifier In Target (1.1.2)

Student's identifier in the target organisation

Student.Identifier In Source (1.1.3)

Student's identifier in the source organisation

Status (2.1.4)

The status of the study unit completed study: Fail, Pass, Incomplete

Method of Measurement (2.1.5.1)

ECTS credit
Credit

Evaluation.Grading Scale (2.1.6.1)

Pass
Numerical scale 0 - 5
Good/Satisfactory
Sufficient/Excellent
Approbatur/Laudatur

If some other grading scale is to be used that should be described with free-text account in field 2.1.6.3 Explanation.

Included Completion (2.1.14)

Information on the completed study units, for example, a course unit completed as a part of a study module

Table 3:

Reference.Role (1.1)

- Teacher
- Teacher responsible
- Tutor
- Student
- Support person
- Contact person
- Other person

One person may have several roles in which case more than one term should be chosen from the vocabulary. For example, a support person may be a network administrator, technical support or a teaching nurse. A person's role may be described also using free-text account in field 1.3 Explanation (Table 3).

Table 4:

Reference.Role (1.1)

- Principal organisation

Appendix 1: Tables

The Appendix contains tables presenting a data model for the transfer of completed credits. The basic structure of the specification is illustrated in Table 1. Tables 2 – 4 describe certain data types individually in an effort to limit the amount of data presented in Table 1.

The tables have certain 'grouping' groups that contain only fields or subgroups. A dark grey background colour marks **groups** and lighter grey **subgroups**.

The 'Nr' column contains the digital identifier of the group or a field.

The 'Name' column contains the group or a field name.

The 'Explanation' column contains a short description of the group or field contents.

The 'Size' column contains information on the number of groups or fields the data structure allows.

The 'Optionality' column contains information on whether the group or a field is obligatory within the data structure. The obligatory groups and fields must be completed, but some groups or fields are alternative to other groups or fields.

The 'Order' column contains information on whether the order of groups or fields included in the data structure is relevant.

The 'Value Space' column contains the potential qualifiers of the datatype.

The 'Datatype' column contains information on the datatype of field contents.

The 'Examples' column contains examples of the field contents.

The 'Annotations' column contains possible further information on the field in question.

Table 1 – Basic Structure**Table 1 – Basic Structure**

Nr	Name	Explanation	Size	Optionality	Order	Value Space	Datatype	Example	Annotations
1	General Information	General information on the completed study units.	1	Obligatory group		-	-	-	
1.1	Student		1	Obligatory subgroup					
1.1.1	Personal Identification Number		0 – 1	Obligatory, if 1.1.2 is not used		HETU (Finnish personal identification number)	Text		
1.1.2	Identifier In Target	Student's identifier in the target organisation 1.3.2	0 – 1	Obligatory, if 1.1.1 is not used			Text		
1.1.3	Identifier In Source	Student's identifier in the source organisation 1.2.2	0 – 1				Text		
1.1.4	First Name		0 – 1				Text		
1.1.5	Last Name		0 – 1				Text		
1.2	Source	Information on the source (organisation).	0 – 1	Obligatory, if identifier in source 1.1.3 is used					
1.2.1	Person		0 – 1			See Person Reference (Table 3)	Person Reference		
1.2.2	Organisation		1	Obligatory		See Organisation Reference (Table 4)	Organisation Reference		
1.3	Target	Information on the target (organisation).	0 – 1	Obligatory, if identifier in target 1.1.2 is used					
1.3.1	Person		0 – 1			See Person Reference (Table 3)	Person Reference		
1.3.2	Organisation		1	Obligatory		See Organisation Reference (Table 4)	Organisation Reference		

Appendix 1

Nr	Name	Explanation	Size	Optionality	Order	Value Space	Datatype	Example	Annotations
2	Completed Study Units	Information on the completed study units	1	Obligatory group		-	-	-	-
2.1	Completed Study Unit	Information on the completed study unit	1 – n	Obligatory	No		-	-	-
2.1.1	Identifiers	A unique identifier of the study unit and references to different study units.	1	Obligatory subgroup		-	-	-	-
2.1.1.1	Organisation	The source of the identifier.	1	Obligatory		Identifiers of the Statistics Finland	Digit	"05"	-
2.1.1.2	Completed Study Unit	The identifier of the completed study unit.	1	Obligatory			Text	-	-
2.1.2	"Full" information		0 – 1					-	-
2.1.2.1	Course Unit Realisation	Information on the course unit realisation.	0 – 1			See Data Table (Table 2)	Data	-	The field enables referring to a course unit realisation presented in the teaching offering information.
2.1.2.2	Course Unit	Information on the course unit.	0 – 1			See Data Table (Table 2)	Data	-	
2.1.2.3	Study Module	Information on the study module.	0 – 1			See Data Table (Table 2)	Data	-	The field enables referring to a study module presented in the degree structure.
2.1.2.4	Free Study Module	Information on the free study module.	0 – 1			See Data Table (Table 2)	Data	-	-
2.1.2.5	Degree Programme	Information on the degree programme.	0 – 1			See Data Table (Table 2)	Data	-	-
2.1.2.6	Degree	Information on the degree	0 – 1			See Data Table (Table 2)	Data	-	-
2.1.3	Completion Languages	The language(s) used in completing the study unit	1 – n	Obligatory	No		-	-	-
2.1.3.1	Language	The language code.	1	Obligatory		ISO 639	Text	"fin", "eng"	-

Appendix 1

Nr	Name	Explanation	Size	Optionality	Order	Value Space	Datatype	Example	Annotations
2.1.3.2	Explanation	A textual explanation of the language.	0 – 1				Text	-	-
2.1.4	Status	The status of the study unit.	1	Obligatory		Fail Pass Incomplete	Vocabulary	-	For example, the status of the study module is 'incomplete' if only part of the necessary course units have been completed. Credits awarded may be determined in field 2.1.14. Study units whose status remains 'fail' may be transferred to prove attendance.
2.1.5	Credits	Credits/ECTS credits awarded for the study unit.	1 – 2	Obligatory subgroup if value in field 2.1.4 is 'Pass'	Yes	-	-	-	Credits awarded are primarily determined as ECTS credits but also Finnish credit units may be included during the transition period.
2.1.5.1	Method of Measurement	The method of measurement applied.	1	Obligatory		ECTS credit Credit	Vocabulary	-	-
2.1.5.2	Value	Numerical value of the credits awarded.	1	Obligatory		-	Decimal number (two decimals)	-	-
2.1.5.3	Explanation	A textual explanation of the credits.	0 – 1				Text	-	-
2.1.6	Evaluation	The evaluation criteria and the grading scale applied.	1	Obligatory subgroup if value in field 2.1.4 is 'Pass'		-	-	-	-
2.1.6.1	Grading Scale	The grading scale used.	0 – 1	Obligatory, if one of the grading scales of the present vocabulary is used.		Pass Numerical scale 0 - 5 Good / Satisfactory Sufficient / Excellent Approbatur / Laudatur	Vocabulary	-	-
2.1.6.2	Grade		1	Obligatory		Pass 0-5 Good / Satisfactory VT/TT/HT/ET Approbatur/.../Laudatur Free-text account, if no grading scale is used.	Text	-	-
2.1.6.3	Explanation	A textual explanation of the grading scale and the evaluation criteria applied.	0 – 1	Obligatory, if one of the grading scales listed in 2.1.6.1 is not used.		-	Text	"University's own grading scale X".	-

Appendix 1

Nr	Name	Explanation	Size	Optionality	Order	Value Space	Datatype	Example	Annotations
2.1.7	Name	The name of the completed study unit.	1	Obligatory		-	Text	"Introduction to Philosophy"	
2.1.8	Mode of Study	The mode of study applied.	0 – 1			-	Text	-	Possible further information on the mode of study.
2.1.9	Date Completed	The date the credits were awarded for the completed study unit.	1	Obligatory		ISO 8601	Text	"2006-05-05"	-
2.1.10	Acceptor	The person who accepted the credits awarded.	1 – n	Obligatory	Yes	See Person Reference (Table 3)	Person Reference	-	-
2.1.11	Organisation Responsible	The organisation(s) responsible for the study unit.	1 – n	Obligatory	Yes	See Organisation Reference (Table 4)	Organisation Reference	-	-
2.1.12	Content	A description of the contents of the study unit.	0 – 1			-	Text	-	Possible further information on the content.
2.1.13	Further Information	Additional information in text format that cannot be expressed using other fields.	0 - 1			-	Text	-	-
2.1.14	Included Completion	Information on the completed study unit, for example, a course unit completed as a part of a study module	0 - n		Yes	Information on the completed study units as determined in the present specification	M3, Table 1, Subgroup 2.1	-	Data on the completed study units will not repeat the same information as the upper level. For example, the source and target organisations are mentioned only on the upper level.
3	Persons	The group contains information on the persons involved.	1	Obligatory group		-	-	-	-
3.1	Person	An individual person's information.	1 - n	Obligatory	No	-	-	-	-
3.1.1	Identifier	A unique identifier for the person within the current data structure. N.B! The purpose of the identifier is only to enable internal references within the data structure.	1	Obligatory		-	ID	-	-
3.1.2	Title	Title or position.	1	Obligatory	-	-	Text	-	-

Appendix 1

Nr	Name	Explanation	Size	Optionality	Order	Value Space	Datatype	Example	Annotations
3.1.3	First Name	First name or first names.	0 - 1		-	-	Text	-	-
3.1.4	Last Name	Last name.	0 - 1		-	-	Text	-	-
3.1.5	E-mail	An e-mail address.	0 - 1		-	-	Text	-	-
3.1.6	Web Page	A home page or other web page containing information on the person.	0 - 1		-	-	URL	-	-
3.1.7	Phone	Phone numbers	0 - 3		No	-	-	-	-
3.1.7.1	Number	Phone number	1	Obligatory		-	Text	-	-
3.1.7.2	Explanation	A textual explanation of the phone number.	0 - 1		-	-	Text	"Work"	
3.1.8	Organisations	The organisation(s) the person works in.	0 - n		Yes	See Organisation Reference (Table 4)	Organisation Reference	-	-
3.1.9	Further Information	Information on the person that cannot be expressed using other fields.	0 - 1		-	-	Text	-	-
4	Organisations	The group contains information on the organisation(s) involved.	1	Obligatory group		-	-	-	-
4.1	Organisation	An individual organisation's information.	1 - n	Obligatory	No	-	-	-	-
4.1.1	Identifier	A unique identifier of the organisation within the current data structure. N.B! The purpose of the identifier is only to enable internal references within the data structure.	1	Obligatory		-	ID	-	-
4.1.2	Organisation Name	University or other organisation.	1	Obligatory		-	Text	"University of Tampere"	-
4.1.3	Unit	Faculty or other information on the organisation name.	1	Obligatory		-	Text	"Faculty of Medicine"	-

Appendix 1

Nr	Name	Explanation	Size	Optionality	Order	Value Space	Datatype	Example	Annotations
4.1.4	Name Explanation	Additional information on the organisation name.	0 - 5		No	-	Text	"Department of Pathology"	-
4.1.5	Postal Address	Postal address	0 - 1			-	Text	-	-
4.1.6	Street Address	Street address	0 - 1			-	Text	-	-
4.1.7	Phone	Phone numbers	0 - 3	Obligatory	No	-	Text	-	-
4.1.7.1	Number	Phone number	1			-	Text	-	-
4.1.7.2	Explanation	A textual explanation of the phone number.	0 - 1			-	Text	"Office"	-
4.1.8	Fax	A fax number.	0 - 1			-	Text	-	-
4.1.9	E-mail	An e-mail address.	0 - 1	Obligatory, if no Web Page or Persons are provided.		-	Text	-	-
4.1.10	Web Page	A home page or other web page containing information on the organisation.	0 - 1	Obligatory, if no E-mail or Persons are provided.		-	URL	-	-
4.1.11	Persons	Contact persons or other organisation personnel.	0 - n	Obligatory, if no E-mail or Web Page are provided.	Yes	See Person Reference (Table 3)	Person Reference	-	-
4.1.12	Further Information	Information on the organisation that cannot be expressed using other fields.	0 - 1			-	Text	-	-

Table 2 - Data**Table 2 - Data**

Nr	Name	Explanation	Size	Optionality	Order	Value Space	Datatype	Example	Annotations
1	Data		1		No				
1.1	Format	In what format	1	Obligatory		MIME type (RFC2048:1996)	Text	"text/html", MIME-type of M1-data or M2-data	-
1.2	Link to data	URL (from link)	0-1	Either		-	URL	-	MIME type of the resource as determined in 1.1
1.3	Data	(in this instance)	0-1	or		-	Text	-	MIME type of the text as determined in 1.1

Table 3 – Person Reference**Table 3 – Person Reference**

Nr	Name	Explanation	Size	Optionality	Order	Value Space	Datatype	Example	Annotations
1	Reference	A reference to a person.	1		No		-	-	-
1.1	Role	The role of the object referred to.	1 - 6	Obligatory		Teacher Teacher responsible Tutor Student Support person Contact person Other person	Vocabulary	-	-
1.2	Object	The object referred to. N.B! The identifiers referred to are listed in field 3.1.1 (Table 1).	1	Obligatory		-	IDREF	-	-
1.3	Explanation	A textual explanation of the reference. This field may be used e.g. for describing the role of 'Other person' in 1.1.	0 - 1			-	Text	-	-

Table 4 – Organisation Reference

Table 4 – Organisation Reference

Nr	Name	Explanation	Size	Optionality	Order	Value Space	Datatype	Example	Annotations
1	Reference	A reference to an organisation.	1		No	-	-	-	-
1.1	Role	The role of the object referred to.	0 - 1			Principal organisation	Vocabulary	-	-
1.2	Object	The object referred to. N.B! The identifiers referred to are listed in field 4.1.1 (Table 1).	1	Obligatory		-	IDREF	-	-
1.3	Explanation	A textual explanation of the reference. This field may be used for describing the other potential roles of the organisation except the bearer of the principal responsibility as suggested by the vocabulary.	0 - 1			-	Text	-	-