
**Graphic notations for concept
modelling in terminology work and its
relationship with UML —**

**Part 1:
Guidelines for using UML notation in
terminology work**

*Notations graphiques pour la modélisation des concepts en
terminologie et ses relations avec UML —*

*Partie 1: Lignes directrices pour l'application de la notation UML dans
le travail terminologique*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 ISO documents 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 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).

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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/TC 37, *Terminology and other language and content resources*, Subcommittee SC 1, *Principles and methods*.

This first edition of ISO 24156-1 cancels and replaces ISO/TR 24156:2008, which has been technically revised.

ISO 24156 consists of the following parts, under the general title *Graphic notations for concept modelling in terminology work and its relationship with UML*:

— *Part 1: Guidelines for using UML notation in terminology work*

Introduction

Terminology work combines elements from many theoretical approaches which concern the processing, ordering, and presentation of knowledge. The basic method of terminology work is concept analysis, which aims to achieve a comprehensive description and presentation of concepts in a subject field. Traditionally, the results of concept analysis in terminology are presented in the form of one or more concept diagrams and a set of terms with textual definitions.

In object-oriented programming, graphic techniques are used to describe entity types which are characterized by certain properties and behaviour. The Unified Modeling Language (UML) is a widely used formal language which can be used for all kinds of object modelling (information modelling, data modelling, etc.).

This part of ISO 24156 describes the application of UML symbols by providing a user-defined UML profile for presenting the results of concept analysis. This UML profile re-uses UML symbols independent of their normal UML semantics to represent terminological concept diagrams in accordance with the principles of ISO 1087-1 and ISO 704. The use of UML symbols is not meant to become a replacement for traditional concept diagrams, but is intended to be an alternative and supplementary notation. This part of ISO 24156 is meant to promote the use of concept analysis when developing concept diagrams (including concept models), information models, and data models.

The core text describes in which way a user-defined UML profile represents concept diagrams. [Annex A](#) contains a table of correspondence between concepts of ISO 1087-1 and suggested representations in UML.

ISO/IEC 19505-1 and ISO/IEC 19505-2 are referenced in this part of ISO 24156. In ISO/IEC 19505-1 and ISO/IEC 19505-2, there is no “Terms and definitions” clause. Instead, every UML concept is described in the normative text. When a reference to ISO/IEC 19505-2 is given in the “Terms and definitions” clause, the definition given in this part of ISO 24156 is adapted from the descriptive text in ISO/IEC 19505-2. Therefore, the definition is noted “Adapted from ISO/IEC 19505-2”.

Graphic notations for concept modelling in terminology work and its relationship with UML —

Part 1: Guidelines for using UML notation in terminology work

1 Scope

This part of ISO 24156 gives guidelines for using a subset of UML symbols independent of their normal UML meaning, to represent concepts in concept models that result from concept analysis. It describes how UML symbols can be used for that. A UML profile designed for this purpose is used to represent concepts and concept relations in terminology work.

This part of ISO 24156 does not describe UML and its general use in depth. These matters are covered in ISO/IEC 19505-1 and ISO/IEC 19505-2.

This part of ISO 24156 does not describe the principles and methods of terminology work. This is covered in ISO 704.

This part of ISO 24156 does not define the fundamental concepts of terminology work. This is covered in ISO 1087-1.

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 704:2009, *Terminology work — Principles and methods*

ISO 1087-1:2000, *Terminology work — Vocabulary — Part 1: Theory and application*

ISO 10241-1, *Terminological entries in standards — Part 1: General requirements and examples of presentation*

ISO/IEC 19505-1:2012, *Information technology — Object Management Group Unified Modeling Language (OMG UML) — Part 1: Infrastructure*

ISO/IEC 19505-2:2012, *Information technology — Object Management Group Unified Modeling Language (OMG UML) — Part 2: Superstructure*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1087-1 and the following apply.

3.1

concept diagram

graphic representation of a concept system

[SOURCE: ISO 1087-1:2000, 3.2.12]

3.2

concept model

concept diagram (ISO 1087-1:2000, 3.2.12) formed by means of a *formal language* (3.6)