
**Date and time — Representations for
information interchange —**

**Part 1:
Basic rules**

Date et heure — Représentations pour l'échange d'information —

Partie 1: Règles de base

ITeH Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 8601-1:2019](https://standards.iteh.ai/catalog/standards/iso/b42c90ed-008a-40be-b79a-27e15c0de2dc/iso-8601-1-2019)

<https://standards.iteh.ai/catalog/standards/iso/b42c90ed-008a-40be-b79a-27e15c0de2dc/iso-8601-1-2019>



iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 8601-1:2019](https://standards.iteh.ai/catalog/standards/iso/b42c90ed-008a-40be-b79a-27e15c0de2dc/iso-8601-1-2019)

<https://standards.iteh.ai/catalog/standards/iso/b42c90ed-008a-40be-b79a-27e15c0de2dc/iso-8601-1-2019>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	v
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms, definitions and symbols	1
3.1 Terms and definitions	1
3.1.1 Basic concepts	1
3.1.2 Time and date units	5
3.1.3 Representations and formats	8
3.2 Symbols	10
3.2.1 General	10
3.2.2 Time scale component symbols	10
3.2.3 Composite component symbols	11
3.2.4 Symbols used in place of digits or signs	11
3.2.5 Designator symbols	12
3.2.6 Separator symbols	13
4 Fundamental principles	13
4.1 Basic rules	13
4.2 Time scales	13
4.2.1 The Gregorian calendar	13
4.2.2 The week calendar	14
4.2.3 The 24-hour clock	15
4.3 Time scale components and units	15
4.3.1 General	15
4.3.2 Calendar year and years duration	15
4.3.3 Calendar month and months duration	16
4.3.4 Calendar week number and weeks duration	16
4.3.5 Calendar day of month and days duration	16
4.3.6 Calendar day of week	16
4.3.7 Calendar day of year	17
4.3.8 Clock hour and hours duration	17
4.3.9 Clock minute and minutes duration	17
4.3.10 Clock second and seconds duration	17
4.3.11 Decade	18
4.3.12 Century	18
4.3.13 Time shift	18
4.4 Expansion	18
4.5 Leading zeros	19
5 Date and time representations	19
5.1 General	19
5.2 Date	19
5.2.1 General	19
5.2.2 Calendar date	19
5.2.3 Ordinal date	21
5.2.4 Week date	21
5.3 Time of day	22
5.3.1 Local time of day	22
5.3.2 Beginning of the day	24
5.3.3 UTC of day	24
5.3.4 Local time scale and UTC	24
5.3.5 Omissions of time designator	25
5.4 Date and time of day	25

5.4.1	General.....	25
5.4.2	Complete representations	26
5.4.3	Representations other than complete.....	27
5.5	Time interval.....	27
5.5.1	Means of specifying time intervals.....	27
5.5.2	Duration.....	28
5.5.3	Complete representations	29
5.5.4	Representations other than complete.....	30
5.6	Recurring time interval.....	30
5.6.1	Means of specifying recurring time intervals	30
5.6.2	Separators and designators.....	30
5.6.3	Complete representations	30
5.6.4	Representations other than complete.....	31
Annex A (informative) Example date and time expressions and representations		32
Bibliography		38

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 8601-1:2019](https://standards.iteh.ai/catalog/standards/iso/b42c90ed-008a-40be-b79a-27e15c0de2dc/iso-8601-1-2019)

<https://standards.iteh.ai/catalog/standards/iso/b42c90ed-008a-40be-b79a-27e15c0de2dc/iso-8601-1-2019>

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).

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

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 154, *Processes, data elements and documents in commerce, industry and administration*.

This first edition of ISO 8601-1, together with ISO 8601-2, cancels and replaces ISO 8601:2004, which has been technically revised.

The main changes compared to ISO 8601:2004 are as follows:

- conversion of the content as Part 1 with the Part title “Basic rules” due to the addition of another Part 2 “Extensions” of ISO 8601;
- replacement of the term “midnight” with “beginning of day”, disallowing the value “24” for hour;
- update of terms and definitions:
 - “time point” is now “time”;
 - “local time” is now “local time of day”;
 - added definition for “time of day” and “local time scale”;
 - updated definitions for “standard time of day”, “local time of day” and “UTC of day” to rely on “time of day”;
 - combined two “day” terms in different domains for consistency;
 - change of the representation of “leap seconds”;
- clarification of “calendar day” expressions intended to mean “calendar day of week” (etc.);
- amendment of the recurring time interval ([3.1.1.11](#)) to provide a link to ISO 8601-2:2019 which contains in Clause 5 the “repeat rules for recurring time intervals”.

A list of all parts in the ISO 8601 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[ISO 8601-1:2019](https://standards.itih.ai/catalog/standards/iso/b42c90ed-008a-40be-b79a-27e15c0de2dc/iso-8601-1-2019)

<https://standards.itih.ai/catalog/standards/iso/b42c90ed-008a-40be-b79a-27e15c0de2dc/iso-8601-1-2019>