

Type Anatomy

Ascender

The lowercase character stroke which extends above the x-height.

Ascender Line

The invisible line from where the ascender rises. It marks the height of the ascender.

Aperture

Opening at the end of an open counter.

Apex

The portion of letters A, M, and N where two strokes meet to form a peak. The point created by joining two diagonal stems (apex above, vertex below).

Arm

The diagonal or horizontal stroke that is not connected at one or both ends. Examples would be top of the capital T, the horizontal strokes of the F and the diagonal strokes in K.

Axis

An imaginary line drawn from top to bottom of a glyph bisecting the upper and lower strokes is the axis. Also known as stress, angle of stress, design axis.

Baseline

The imaginary horizontal line to which the body, or main component, of characters rest.

Beak Terminal or Beak

A decorative stroke at the end of the arm of a letter. Found in Serif typefaces particularly on the f, and also often on a, c, j, r and y bottom of cap E

Body Size

The height of the face of the type, which in letterpress terms is the depth of the body of the type. Originally, this was the height of the face of the metal block .

Bowl

The fully closed curved or circular part of a character like B, e, g, o.

Bracket

A curved line connecting the serif to the stroke. The joining of the stem of a letter to the serif. This is also referred to as a fillet.

Cap Height

Height of the capital letter from the baseline.

Cap Line

A line marking the height of uppercase letters within a font.

Characters

The basic typographic element is called a character, which is any individual letter, numeral, or punctuation mark. The capital letters are called caps, or uppercase (u.c.) characters. Small letters are called lowercase (l.c.) characters. Numbers are called numerals or figures.

Character components

Typographic characters have basic component parts. The easiest way to differentiate characteristics of type is by comparing the structure of these components.

Chin

The angled terminal of a "G".

Contrast

The amount of variation in between thick and thin strokes.

Crossbar

The horizontal stroke in a letter like A, 'H', 'T', 'e', 'f', 't'. Also called bar

Cross Stroke

The horizontal stroke that intersects the stem in t and f.

Crotch

Acute angle made on the inside where 2 strokes meet.

Counter

The completely or partially enclosed area within a letter. Letters A, B, D, O, P, Q, R, a, b, d, e, g, o, p, and q. Letters containing open counters include c, f, h, i, s etc.

Descender

The lowercase character stroke which extends below the baseline.

Descender Line

The invisible line that marks the end of the descender. It marks the maximum height of the descender.

Diacriticals

The accent marks used on some characters ~`´

Ear

Ear is a decorative stroke projecting out from the upper bowl of lowercase g.

Eye

In side counter space of a lowercase e.

Finial

The tapered curved end of the letter as in c and e.

Font

A selection of characters of one size and design of type.

Glyph

All the written characters representing one specific letter lower case, cap, italic etc.

Italic

A sloped or cursive variation of roman. Not a just slanted version of the roman face, a true italic font is drawn from scratch and has unique features not found in the roman face. Also called oblique, tilted, slanted.

Jot

A small round mark on top of i, j, also called tittle, dot

Hairline

The thin strokes of a serif typeface.

Hook

A curved, protruding stroke in a terminal. Usually found on a lowercase f.

Leg

Short, descending portion of a letter. The lower, down sloping stroke of K, k, is called a leg.

Ligature

Two or more letters tied into a single character.

Link

A stroke connected the loop and the bowl of a g.

Lobe

Rounded projecting stroke attached to the main structure of a letter,, p, b.

Loop

The counter below the baseline. It is connected to the bowl with a link. The bottom part of the lowercase roman 'g'.

Lowercase

The little letters or non-capital letters of the alphabet are lowercase glyphs. Also called small letters, or more formally minuscule.

Meanline

Half the distance from the baseline to the cap height. This may or may not be the x-height, depending on the design of the lower case letters.

Old-Style Figures

Numbers with varying heights, some aligning to the baseline and some below.

Overshoot

Ascenders extending into the space of a following character like cap F, T.

Quaint

An antiquated sort or glyph, used to recreate the typographic flavor of a bygone age.

Sans Serif

From the French, meaning "without serif". A typeface which has no serifs. Sans serif typefaces are typically uniform in stroke width.

Serif

Tapered corners on the ends of the main stroke. Serifs originated with the chiseled guides made by ancient stonemasons as they lettered monuments. Some serif designs may also be traced back to characteristics of hand calligraphy. Note that serif type is typically thick and thin in stroke weight. Usually added at the beginning and end of the stroke.

San Serif

From the Latin sans serif without serifs. Typeface with no serifs.

Shoulder

This is the transitional section a curved stroke coming from the stem.

Slope

The angle of inclination of the stems and extenders of letters. Not to be confused with axis.

Special characters

Math signs Punctuation marks Accented characters Reference marks.

Spine

The main stem stroke that is curved or angled, diagonal of the letter s.

Spur

A small projection from a rounded stroke. Bottom right corner of capital G , end of a C. Smaller than a serif

Stem

A main stroke which is vertical or diagonal from which all strokes branch out from.

Stress

The direction in which a curved stroke changes weight. Look at a serif of to see where thin strokes align. Types of stress:

Oblique, or angled, stress

Semi-oblique stress

Vertical stress

Stroke

Typeface component which defines the typeface structure. The straight (vertical, horizontal, diagonal) and rounded strokes.

Swash

A flourish addition replacing a terminal or serif.

Typographical flourish on a glyph, like an exaggerated serif.

Tail

The decorative stroke that descends downwards in Q .

Terminal

The end of a stroke which does not terminate in a serif. tear-drop terminal, bulbous terminal.

Tittle

A small round mark on top of i, j, also called jot, dot.

Uppercase

Capital letters of the alphabet are uppercase glyphs. Also called capital letters, capitals, caps, large letters, or more formally majuscule.

Vertex

The outside point at the bottom or top of a character where two strokes meet.

X-height

The height of the body, minus ascenders and descenders, which is equal to the height of the lowercase 'x'. Varies among typefaces in the same point size and strongly effect readability and gray value of text blocks.

Blackletter 1450~



Old Style 1475~



Script 1550~



Transitional 1750~



Modern 1775~



Egyptian 1825~



Monoweight 1930~



The Anatomy of Type

H v 5 f ê n t o g k

Stem / Stroke Arm Flag Terminal Diacritic Eye Spur Counter Ear Link Ascender

Vortex Serif Aperture Final Leg

Ascent Line

Cap Line

Cap height

Mean Line / x-line

x-Height

Baseline

Descent line

T y p o g r a p h y

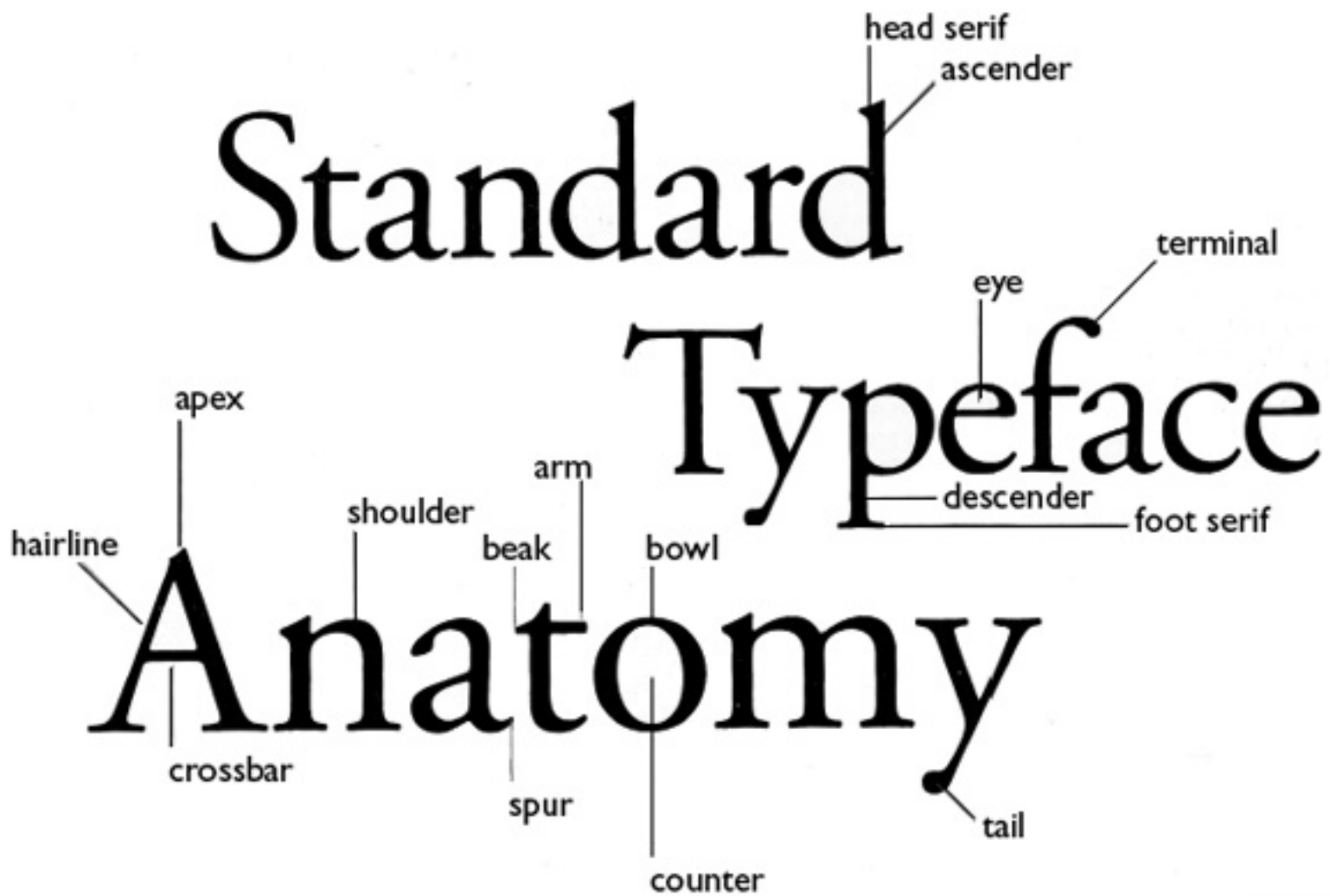
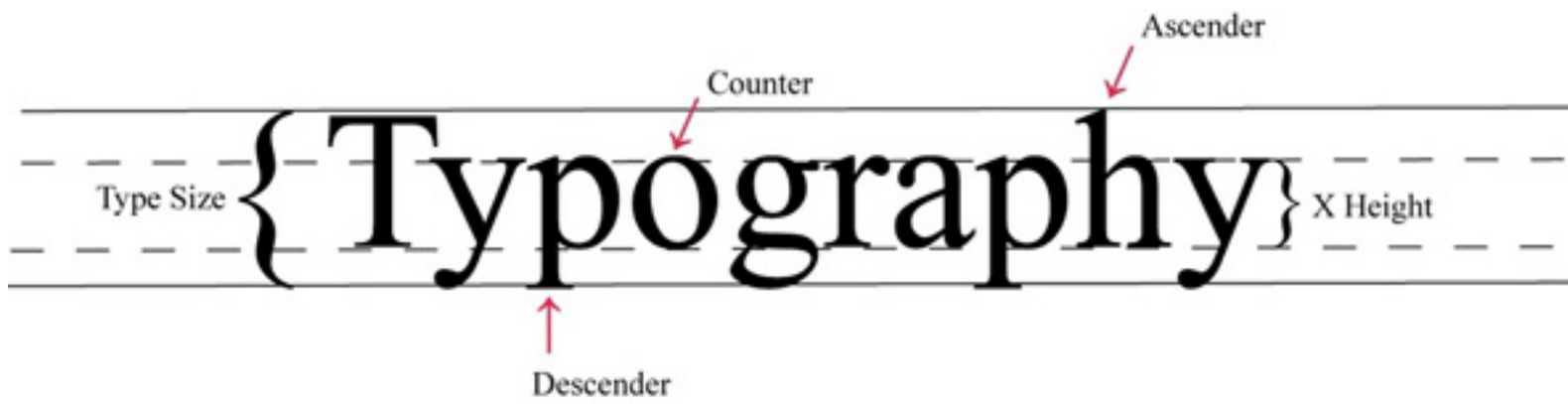
Arm Beak Axis Loop Drop Arc of Stem Arc Crotch

Bracket Descender Stress Spur Bowl

Apex Counter Shoulder Arc Tie

A x f f i G i R Q s t

Crossbar / Hairline Bracket / Fillet Crossbar / Hairline Ligature Chin Tittle Juncture / Joint Tail Spine Discretionary Ligature



Typography basics: Anatomy of letterforms

Understanding the fundamental principles and concepts of typography is the first step to being a successful typographer. The most basic component of typography is the letter, and each letter of the alphabet is distinguished by its unique shape, or letterform. This technical guide includes definitions for and illustrations of the individual parts that compose letterforms, as well as the boundaries by which letterforms are delineated.

Boundaries

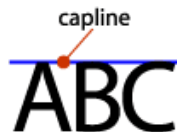
baseline

The imaginary horizontal line upon which the majority of the characters in a typeface sit.



capline

The imaginary horizontal line resting upon the tops of the uppercase letters.



meanline

The imaginary horizontal line that designates the height of lowercase letters.



x-height

Traditionally, the height of the lowercase letter x. As a general rule, x-height is the height of the body of lowercase letters of a typeface, excluding the [ascenders](#) and [descenders](#). Some lowercase letters may extend a little bit above or below the x-height as part of their design, even without ascenders and descenders. X-height can vary considerably among typefaces with the same point size, which is based on the width of certain uppercase letters.



Letterform parts

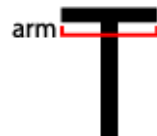
apex

The peak of an uppercase A.



arm

A horizontal portion of a letterform, one or both ends of which are unattached to the vertical portion(s).



ascender

The portion of a lowercase letterform (e.g., k, b, or d) that ascends above the [x-height](#) of the typeface. Contrast [descender](#).



cross stroke

The horizontal part of a letterform that intersects the vertical part.



descender

The portion of a lowercase letterform (e.g., y, p, or q) that descends below the [baseline](#) in a typeface. In some typefaces, the uppercase J and Q also descend below the baseline. Contrast [ascender](#).



ear

The small decorative projection from the upper right side a lowercase g.



eye

The enclosed portion of a lowercase e. Similar to a [counter](#).



hairline

The thinnest line of a typeface made of varying line weights.



spur

The projection that extends from the end point of the curved portion of a letterform (e.g., from the top or bottom of an uppercase or lowercase S or C). A spur is smaller than a [serif](#).



stem

The main vertical or near vertical portion of a letterform.



stroke

The main diagonal portion of a letterform, though this term is often used to refer to any of the main portions—vertical, near vertical, or diagonal—of a letterform.



tail

The [stroke](#) or [loop](#) at the end of a letterform, such as the tail of an uppercase Q or the stroke on an uppercase R.



terminal

The end, or termination, of a [stem](#) or [stroke](#) with no [serif](#).



beak

Akin to a [spur](#), but slightly larger, the projection that extends from the end points of an uppercase L, T, or E.



bowl

A curved portion of the letterform that encloses a [counter](#). The exception in the lower curved part of a lowercase g (see [loop](#)).



bracket

The curve that connects the serif to the [stem](#) or [stroke](#). May also be referred to as a fillet.



counter

The negative space of a letterform. A counter may be either fully or partially enclosed.



crossbar

The horizontal part of a letterform that connects, for example, a [stem](#) to a [hairline](#).



leg

The lower, angled **stroke** of a k.



link

The part of a lowercase g that connects the **loop** to the **bowl**.



loop

The curved part of a lowercase g that encloses the lower **counter**. Similar to a **bowl**.



serif

Small decorative lines added to the end of a letterforms's **stem** and **stroke**. Serifs improve readability by leading the eye along a line of type.



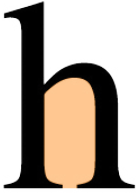
spine

The main portion of the letter S—both lowercase and uppercase—that curves from left to right.



Anatomy of a font

aperture



arm



bar



bowl



counter



cross stroke



descender



ear



leg



serif



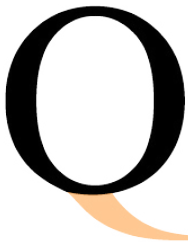
spur



stem



tail



bracketed/unbracketed

CROSSBAR : the straight horizontal stroke of a letter .
All of these arrows point to **crossbars**.



ARMS & LEGS : when in doubt, use a body part!
Arms move diagonally up and **legs** move diagonally down. These arrows point to both arms and legs.



TITTLE : the dot that is part of a letter
All of these arrows point to **tittles**.



TAIL : the part that hangs down or moves away from the letterform.
All of these arrows point to **tails**.

CROTCH : an interior join of a letter.
All of these arrows point to **crotches**.



SHOULDER : the top 'hump' of a letter.
All of these arrows point to **shoulders**.



SPINE : a stem that is curved or angled.
All of these arrows point to **spines**.



COUNTER : the interior space of a letter, sometimes closed, sometimes open. All of these arrows point to **counters**.



STEM : the straight part of a letter, the part from which things 'grow' out of. All of these arrows point to **stems**.



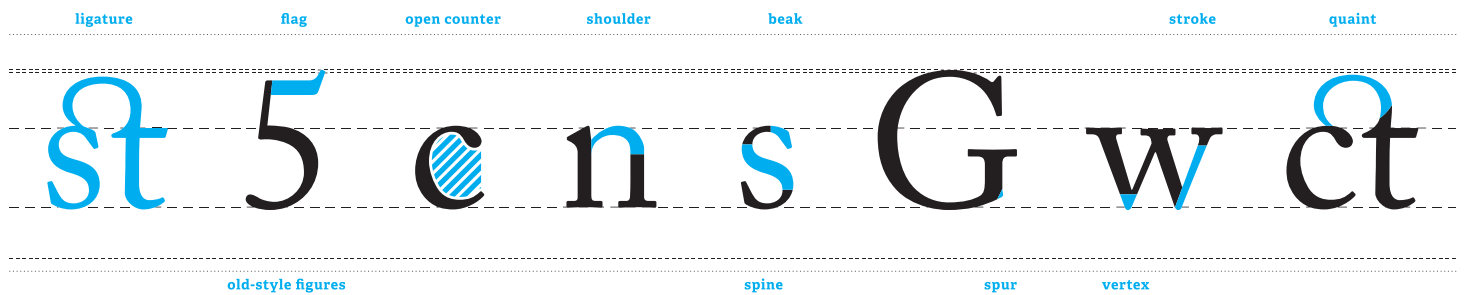
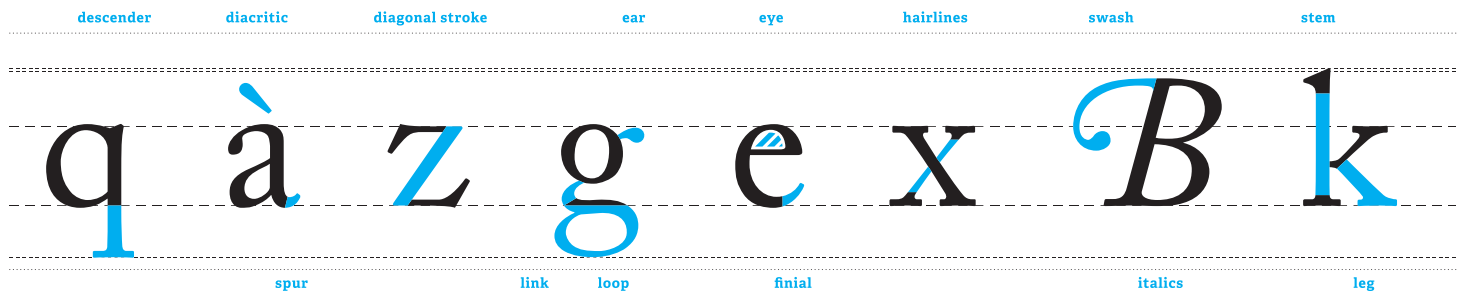
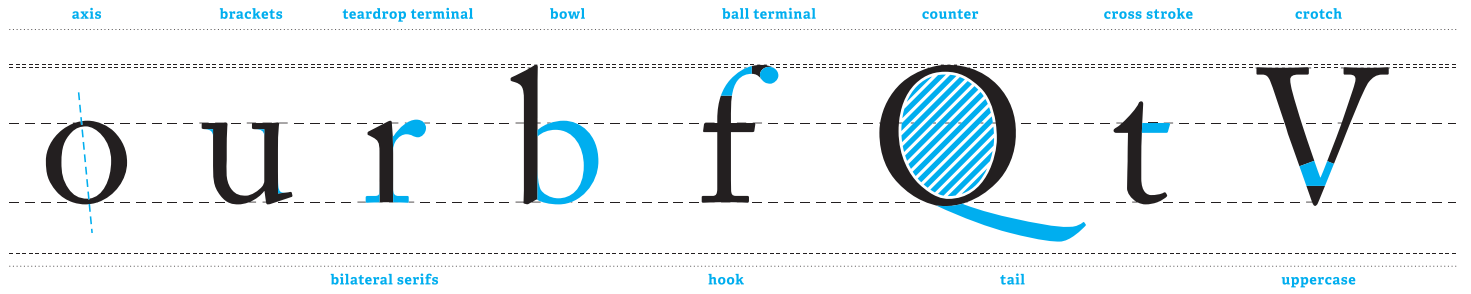
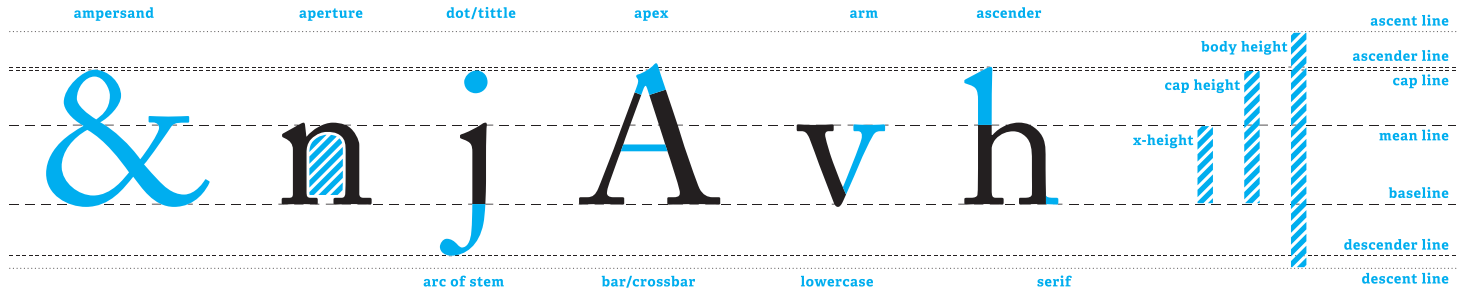
APERTURE : the opening of a letter, usually leading to a counter. All of these arrows point to **apertures**.



BOWL : the round part of a letter, can be open or closed. All of these arrows point to **bowls**.



TYPOGRAPHY *DECONSTRUCTED* A comprehensive guide to the anatomy of type.



ampersand

A stylized character of the Latin et used to represent the word and.

aperture

The partially enclosed, somewhat rounded, negative space in some characters.

apex

A point at the top of a character where two strokes meet.

arc of stem

A curved stroke that is continuous with a straight stem.

arm

A horizontal, or upward, sloping stroke that does not connect to a stroke or stem on one or both ends.

ascender

The part of a letter that extends above the x-height.

ascender line

The invisible line marking the height of ascenders within a font.

ascent line

The invisible line marking the farthest distance between the baseline and the top of the glyph.

axis

An imaginary line drawn from top to bottom of a glyph, bisecting the upper and lower strokes.

ball terminal

A circular form at the end of the arm in letters.

bar/crossbar

The horizontal stroke in letters.

baseline

The invisible line where all characters sit.

beak

A sharp spur, found particularly at the top of letters in some 20th century Romans.

bilateral serifs

A serif extending to both sides of a main stroke.

body height

The complete area covered by all of the characters in a font.

bowl

The fully closed, rounded part of a letter.

bracket

A curved or wedge-like connection between the stem and serif of some fonts. Not all serifs are bracketed serifs.

cap height

The height of a capital letter measured from the baseline.

cap line

A line marking the height of uppercase letters within a font.

counter

The open space in a fully or partially closed area within a letter.

cross stroke

A horizontal stroke that intersects the stem of a lowercase 't' or 'f'.

crotch

An acute, inside angle where two strokes meet.

descender

The part of a letter that extends below the baseline.

descender line

The invisible line marking the lowest point of the descenders within a font.

descent line

The invisible line marking the farthest distance between the baseline and the bottom of the glyph.

diacritic

A ancillary mark or sign added to a letter.

diagonal stroke

An angled stroke.

dot/tittle

A small distinguishing mark, such as an diacritic on a lowercase 'i' or 'j'.

ear

A small stroke extending from the upper-right side of the bowl of lowercase 'g'; also appears in the angled or curved lowercase 'r'.

eye

Much like a counter, the eye refers specifically to the enclosed space in a lowercase 'e'.

finial

A tapered or curved end.

flag

The horizontal stroke present on the numeral 5.

hairline

A thin stroke usually common to serif typefaces.

hook

A curved, protruding stroke in a terminal. Usually found on a lowercase 'f'.

italics

A cursive alphabet which is matched with a roman font and used chiefly for emphasis.

mean line

An imaginary line running along the top of non-ascending, lowercase letters.

leg

The short, descending portion of a letter.

ligature

Two or more letters are joined together to form one glyph or character.

link

A stroke that connects the top and bottom bowls of a lowercase double-story 'g'.

lobe

A rounded projecting stroke attached to the main structure of a letter.

loop

The enclosed or partially enclosed counter below the baseline of a double-story 'g'.

lowercase

The smaller form of letters in a typeface.

old-style figures

Numbers with varying heights, some aligning to the baseline and some below.

open counter

The partially open space within a character that is open on one end.

overshoot

Ascenders extending into the space of a following character.

quaint

An antiquated sort or glyph, used to recreate the typographic flavor of a bygone age.

serif

A stroke added as a stop to the beginning and end of the main strokes of a character.

shoulder

The curved stroke aiming downward from a stem.

spine

The main curved stroke of a lowercase or capital 'S'.

spur

A small projection off a main stroke.

stem

A vertical, full-length stroke in upright characters.

stroke

A straight or curved diagonal line.

swash

A flourish addition replacing a terminal or serif.

tail

A descending stroke, often decorative.

teardrop terminal

The teardropped ends of strokes in letters of some typefaces.

terminal

The end of a stroke that does not include a serif.

uppercase

A letter or group of letters of the size and form generally used to begin sentences and proper nouns. Also known as "capital letters".

vertex

The outside point at the top or bottom of a character where two strokes meet.

x-height

The height of lowercase letters based on the height of lowercase 'x'; does not include ascenders or descenders.