TOPENGINEER - COURSE PROGRAMME

Level 4 - System customisation and template creation

Two programme parts. Timing and practical work depend on the selected 2-, 5- or 10-day format.

Part 1 - Template Editor fundamentals

Template Editor, file formats and file locations

1.1 Understanding the role of Template Editor (TplEd) in Tekla Structures

1.2 Distinguishing report templates, drawing tables and mark templates

1.3 Understanding textual (.rpt) and graphical (.tpl) templates

1.4 Overview of .html.rpt and .xlsx.rpt report formats

1.5 Opening Template Editor from Tekla Structures

1.6 Exploring the interface: work area, Content Browser and toolbars

1.7 Setting editor preferences and file locations

1.8 Making working copies of system templates safely

1.9 Finding templates in model, project, firm and environment folders

Template structure and page layout

1.10 Creating a new textual template

1.11 Creating a new graphical template

1.12 Saving templates and choosing file names

1.13 Setting page size, margins and measurement units

1.14 Configuring the work area and snapping settings

1.15 Understanding template structure: Header, Page Header, Row, Page Footer and Footer

1.16 Creating a report Header

1.17 Creating a Page Header

1.18 Creating a data Row

1.19 Creating a report Footer for overall totals

1.20 Creating a Page Footer

1.21 Adding static text and column headings

1.22 Positioning and aligning template objects

1.23 Modifying row width, height and properties

1.24 Understanding row content types

Row content types and template attributes

1.25 Using PART rows to report part information

1.26 Using ASSEMBLY rows to report assembly information

1.27 Using BOLT rows to report bolt information

1.28 Using DRAWING rows to report drawing information

1.29 Exploring content types for concrete, reinforcement and other objects

1.30 Adding a value field and selecting a data attribute

1.31 Using standard Tekla Structures template attributes

1.32 Outputting part position, name, profile and material

1.33 Outputting geometric properties and weight

1.34 Displaying project information in the report header

1.35 Outputting user-defined attributes (UDAs)

Value field formatting and a practical part list

1.36 Setting a value field’s name and length

1.37 Choosing data types: text, whole numbers and decimal numbers

1.38 Setting measurement units and decimal places

1.39 Formatting length, area, volume and weight values

1.40 Setting alignment and multiline output

1.41 Writing simple formulas with GetValue()

1.42 Handling empty and zero values

1.43 Practical exercise: creating a part list from scratch

1.44 Checking reports for selected objects and for the entire model

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Part 2 - Rules, drawing tables and report export

Sorting, combining rows and totals

2.1 Reviewing Part 1 results and checking the part list for errors

2.2 Understanding row sort types: None, Combine and Distinct

2.3 Sorting value fields in ascending and descending order

2.4 Setting the sorting priority of multiple value fields

2.5 Combining identical rows and preventing duplicate output

2.6 Calculating quantities and total weights for combined rows

2.7 Using hidden fields for sorting and supporting calculations

2.8 Using Sum(), Total() and Count() for summaries

2.9 Creating group subtotals and overall totals

2.10 Working with ASSEMBLY rows and nested PART rows

2.11 Modifying and checking the row hierarchy

Row rules and conditional output

2.12 Controlling row output with row rules

2.13 Creating rules with Rule Wizard

2.14 Writing conditional expressions with if / then / else / endif

2.15 Using comparison operators and logical conditions

2.16 Filtering parts by profile and material

2.17 Controlling row processing with Output(), StepOver() and StepOut()

2.18 Identifying the first and last rows with IsFirst() and IsLast()

2.19 Comparing adjacent rows with PreviousValue() and NextValue()

2.20 Outputting subtotals when a group changes

2.21 Saving and reusing row rules (.pdr)

Formulas, formatting and additional UDAs

2.22 Checking formula syntax and data types in the formula editor

2.23 Working with strings using find(), mid() and length()

2.24 Finding text with FindAny() in Tekla Structures 2026

2.25 Concatenating strings to build composite identifiers

2.26 Converting numeric strings and using them in calculations

2.27 Rounding and formatting calculated values

2.28 Changing measurement unit formatting conditionally

2.29 Making additional UDAs available through objects.inp and contentattributes_*.lst

Practical reports and graphical drawing tables

2.30 Controlling report headers, footers and page breaks

2.31 Creating an assembly list with a breakdown of its parts

2.32 Creating a bolt and fastener list

2.33 Creating a drawing list with drawing identifiers and dates

2.34 Using graphical tables in drawing layouts

2.35 Creating a title block and a revision table

2.36 Adding a graphical template to a drawing layout

2.37 Adding logos, lines, symbols and other graphics

2.38 Using graphical templates in drawing marks

HTML, Excel and the final project

2.39 Creating an HTML report (.html.rpt)

2.40 Preparing an Excel layout template (.xltx) in Microsoft Excel for Tekla Structures 2026

2.41 Defining an Excel report’s data structure in an .xlsx.rpt template

2.42 Mapping columns and exporting the final .xlsx file

2.43 Checking Cyrillic text and UTF-8 encoding, and transferring templates between models

2.44 Final project: producing a set of reports, checking the results and troubleshooting with AI assistance