



Veldra Masterclass

LOD 400–450 — Fabrication Edition

Architecture · Structural/Steel · MEP/ELV · Interiors/Envelope
Formats: 12×2h · ~80% labs / 20% outputs & data

Common skills across all tracks

- Family stability (rigs, reporting params, conditional geometry, LOD-aware visibility).
- Coordinates & origins sanity; sleeves & openings; hangers/supports; spooling & assemblies.
- Navisworks clash flow (sets/tests/tolerances); publishing presets (PDF/DWG).
- Light data: shared params, COBie, IFC profiles; automation with Dynamo micro-tools.

Program map (12×2h)

M1 — Family Editor Mastery (All trades)

- Stable starter template; subcategories/materials; type catalogs & lookup tables; symbol/3D decoupling.

M2 — Architecture + AI

- Use ChatGPT to draft Dynamo DesignScript/Python for repetitive tasks (view naming, parameter mapping, formula scaffolds).
- Turn prompts into Dynamo graphs and perform real model actions; generate BCF/QA text & keynotes from PDFs.

M3 — Architecture: Parametric Façades & Assemblies

- Adaptive/pattern curtain panels; unitized/GFRC kits; panel schedules; install sequencing views.

M4 — Architecture: Revit 2026 Site, Grading & Earthworks

- Toposolid 2026 upgrades: subdivisions for recessed roads; control graphics and schedule subdivisions.
- Cut/Fill via Graded Region (to schedule) and via Excavate (2025+) for excavation around pads/footprints.
- Roads & curbs without paid tools: negative subdivision depths; curbs/gutters with railings/sweeps; spot elevations.
- Deliver: earthworks schedule (Cut/Fill/Net), road & curb details, clean PDF/DWG.

M5 — Structural/Steel I: Baseplates, Anchors, Embeds

- Baseplates with grout; cast-in embeds; opening framing; assembly sheets & setting-out.

M6 — Structural/Steel II: Connections & Assemblies (FREE add-in)

- Native steel connections + Autodesk Connection Automation for Revit (free) for rule-based batch placement; assemblies & cut lists.

M7 — Structural: Precast with Autodesk Precast Tools

- Panelization rules; segmentation; lifter/bracing placeholders; automatic shop drawings; numbering & exports.

M8 — Interiors/Envelope: Ceilings, Joinery, Unitized/GFRC

- Ceiling systems with access panels; parametric casework; façade panel kits; install sequencing views.

M9 — MEP I: Custom Selected Families (decided live)

- Chosen items; connectors; clearances; tags/schedules; basic spools & hangers.

M10 — MEP II: Routing, Slopes, Supports & Spooling

- Routing preferences; slope-aware modeling; hanger arrays; auto sleeves; spools & assembly sheets.

M11 — MEP III: Revit Fabrication Parts (ITM)

- Service templates; mapping; transition from design parts to fabrication parts; spools & reports.

M12 — Federation & Publishing: Clash + PDFs/DWG + Light Data

- Export rules; Navisworks sets/tests/tolerances; BCF/CSV/HTML reports; PDF print sets; DWG layer mapping (A/S/MEP/I).
- COBie essentials; IFC exporter JSON; Dynamo micro-pack.

Standards & QA (quick and practical)

- ISO 19650 + Level of Information Need (EN 17412-1).
- BIMForum LOD Spec; NBIMS-US v4 references.
- Autodesk BIM Interoperability Tools (free): Model Checker + Configurator, Standardized Data Tool, COBie Extension.
- IFC for Revit Exporter (free on GitHub) with slim JSON profiles.

Take-home kit

- Family templates + shared parameters; lookup tables & type catalogs; façade/ceiling/panel starters.
- Navisworks search sets & clash test templates; PDF presets + DWG layer maps (A/S/MEP/I).
- Dynamo micro-scripts (auto hanger/sleeve/numbering/QA).
- Fabrication presets: ITM service template, spool & steel assembly titleblocks, precast drawing template.
- Site pack: earthworks schedule template, curb/road sample, and a step-by-step cut/fill recipe.