Meteor
Propel Your Potential

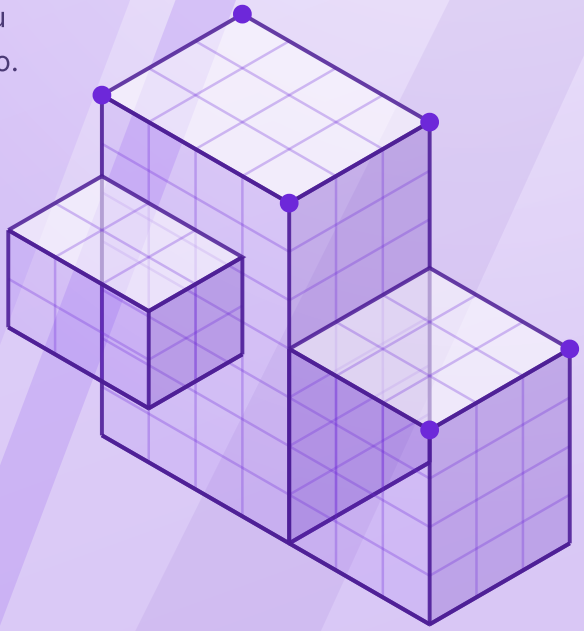
COURSE SYLLABUS

20-WEEK LIVE PROGRAM

Advanced BIM Program

for Civil & Structural Engineers

A software-driven, instructor-led program that takes you from BIM fundamentals to a job-ready capstone portfolio.



20	109	11	39
WEEKS	LIVE HOURS	MODULES	LIVE CLASSES*

Revit • Revit Structure • STAAD.Pro • BIM 360 • Navisworks • Dynamo • Primavera P6 • Civil 3D

*Students choose one of three Module 9 electives, so 39 classes are attended.

Program at a glance

63
hours · Core modules 1–8

6
hours · One elective (Module 9)

40
hours · Career + Capstone (Modules 10–11)

Your learning journey

Understand
What is BIM
Wk 1

Model
Revit modelling
Wk 2–3

Engineer
Concrete & steel
Wk 4–6

Document
Sheets & schedules
Wk 7

Analyse
STAAD.Pro
Wk 8–9

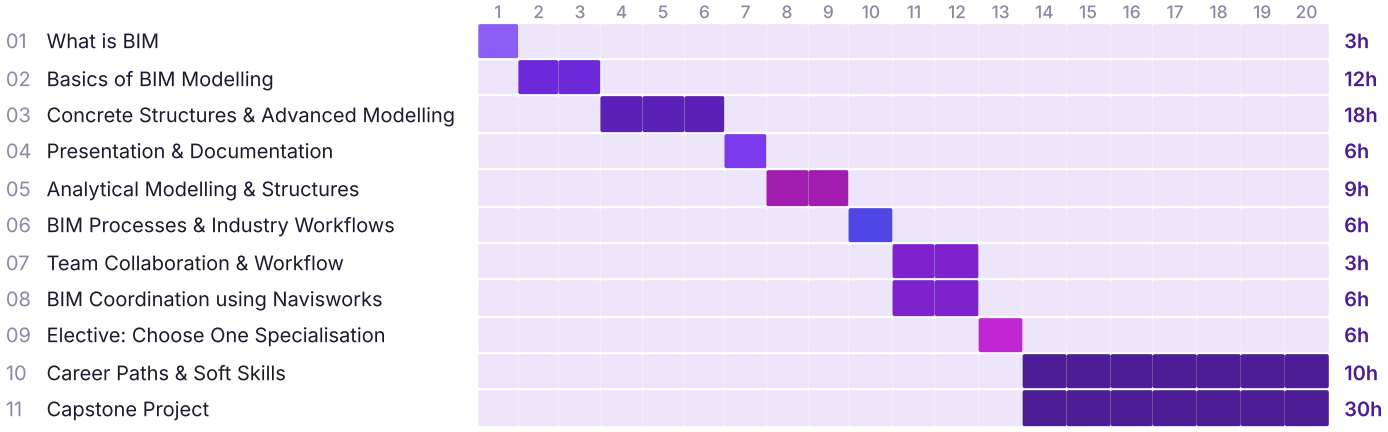
Manage
BIM processes & CDE
Wk 10

Coordinate
Collaboration & clashes
Wk 11–12

Specialise
Elective
Wk 13

Deliver
Career + Capstone
Wk 14–20

20-week roadmap



Modules 7 and 8 run together in Weeks 11–12. Career & Soft Skills (Module 10) and the Capstone Project (Module 11) run side by side in Weeks 14–20. Program length is 20 weeks; module durations overlap and are not added together.

Hours by module



Full class timetable

All live classes in order, with the module timing and approximate session length. Module 9 lists all three electives; students attend one.

01	Studio 1: What is BIM	Wk 1	3h
02	Studio 1: Setting up a project	Wk 2–3	2h
03	Studio 2: System families	Wk 2–3	2h
04	Studio 3: Editing system families	Wk 2–3	2h
05	Studio 4: Creating families	Wk 2–3	2h
06	Studio 5: Hosted and nested families	Wk 2–3	2h
07	Studio 6: Mass modelling in Revit	Wk 2–3	2h
08	Studio 1: Introduction to structural engineering	Wk 4–6	3h
09	Studio 2: Understanding concrete structures and elements	Wk 4–6	3h
10	Studio 3: Structural engineers in the BIM environment	Wk 4–6	3h
11	Studio 4: Steel structures: concepts	Wk 4–6	3h
12	Studio 5: Structural modelling: foundations and trusses	Wk 4–6	3h
13	Studio 6: Structural modelling and documentation	Wk 4–6	3h
14	Studio 1: Views and graphics	Wk 7	1.5h
15	Studio 2: Documentation and presentation: 2D sheets	Wk 7	1.5h
16	Studio 3: Annotation, details and keynotes	Wk 7	1.5h
17	Studio 4: Scheduling and the collaborative process	Wk 7	1.5h
18	Studio 1: Introduction to structural analysis	Wk 8–9	3h
19	Studio 2: Analysis of frames and beams	Wk 8–9	3h
20	Studio 3: Analysis of multi-storey structures	Wk 8–9	3h
21	Studio 1: BIM strategy	Wk 10	1.5h
22	Studio 2: BIM Execution Plan (BEP)	Wk 10	1.5h
23	Studio 3: BIM-enabled design and construction	Wk 10	1.5h
24	Studio 4: Common data environment	Wk 10	1.5h
25	Studio 1: Collaboration and multidisciplinary workflows	Wk 11–12	1.5h
26	Studio 2: Interference check, linking and collaboration	Wk 11–12	1.5h
27	Studio 1: Navisworks: introduction	Wk 11–12	3h
28	Studio 2: Clash detection in Navisworks	Wk 11–12	3h
29	Elective A: Dynamo (Cosmic Pulse: Algorithmic Logic)	Wk 13	6h
30	Elective B: Primavera P6 (Chronos Orbit: 4D Time Simulation)	Wk 13	6h
31	Elective C: Civil 3D (Terraforming: Civil Infrastructure)	Wk 13	6h
32	Class 1: Career paths in BIM	Wk 14–20	2.5h
33	Class 2: Professional soft skills	Wk 14–20	2.5h
34	Class 3: Resume craft and portfolio	Wk 14–20	2.5h
35	Class 4: Interview preparation and mock interviews	Wk 14–20	2.5h
36	Capstone Session 1: Brief, BEP and CDE	Wk 14–20	5h
37	Capstone Session 2: Spine models	Wk 14–20	5h
38	Capstone Session 3: Reinforcement and analysis	Wk 14–20	5h
39	Capstone Session 4: Construction sheets	Wk 14–20	5h
40	Capstone Session 5: Coordination	Wk 14–20	5h
41	Capstone Session 6: Portfolio and tender presentation	Wk 14–20	5h

01

STAGE · UNDERSTAND

What is BIM

TIMING	LIVE HOURS	SESSIONS	SESSION LENGTH	SOFTWARE
Week 1	**3 hrs**	**1 session**	**3 hrs each**	**Concept (no software)**

What we will teach

- BIM tools and processes
- BIM workflows
- Stages of BIM
- Uses of BIM
- Industry gaps between industry needs and graduate skills

What you will be able to do

- Explain BIM processes, advantages and model uses across project stages
- Describe how a shared information model replaces siloed, discipline-by-discipline documents

Class-by-class plan

01 Studio 1: What is BIM — 3 hrs

What is BIM | Tools and processes | BIM workflows | Stages of BIM | Uses of BIM | Industry gaps

SKILL UNLOCKED

BIM processes, advantages and model uses in different stages

STUDENTS WILL BE ABLE TO

- Understand BIM processes, advantages and model uses across project stages

Hands-on assignment: Compare a CAD workflow with a BIM workflow on a sample project (1 page) and map 8 BIM uses to project stages.

02 STAGE · MODEL
Basics of BIM Modelling

TIMING	LIVE HOURS	SESSIONS	SESSION LENGTH	SOFTWARE
Weeks 2–3	**12 hrs**	**6 sessions**	**2 hrs each**	**Autodesk Revit**

What we will teach

- Project setup, linking CAD, grids, levels, views, location
- Revit interface and project browser; plan, section, elevation, 3D
- System families: floors, walls, roofs, stairs, ramps, ceilings, curtain elements, doors, columns
- Editing system families and adding materials
- Loadable and parametric families, formulas, nested and hosted families, model-in-place, groups
- Mass modelling: in-place and loadable masses, walls and roofs by face

What you will be able to do

- Set up levels, grids, location coordinates and views in Revit
- Model basic walls, floors, curtain walls, stairs and roofs
- Create loadable, parametric and nested families
- Create conceptual masses and convert them to building elements with Model by Face

Class-by-class plan

02 Studio 1: Setting up a project — 2 hrs

Setting up a project · Linking CAD · Grids and levels, views, location · Project browser structure · Switching between plan, section, elevation, 3D

SKILL UNLOCKED
Setting up a project; modifying project settings

STUDENTS WILL BE ABLE TO
- Understand the Revit interface
- Set up levels, grids, location coordinates and views

Hands-on assignment: Link a supplied CAD plan; create grids, levels, location and an organised set of views. Submit the .rvt.

03 Studio 2: System families — 2 hrs

Floors, shafts, walls, doors, columns · Stairs, roofs, ceilings · Curtain elements, ramps

SKILL UNLOCKED
Creating system families

STUDENTS WILL BE ABLE TO
- Understand system families
- Model basic walls, floors, curtain walls, stairs and roofs

Hands-on assignment: Model a small two-storey shell with walls, floors, roof, stair, doors and a curtain wall.

04 Studio 3: Editing system families — 2 hrs

Editing floors, walls, curtain walls · Adding new materials to floors, ceilings and curtain walls · Categories, families, types and instances

SKILL UNLOCKED
Modifying system families

STUDENTS WILL BE ABLE TO
- Modify system families
- Model curtain walls

Hands-on assignment: Create custom layered wall and floor types with new materials; build a curtain-wall façade with panels and mullions.

Class-by-class plan (continued)

05 Studio 4: Creating families — 2 hrs

Family trees (concept) | Introduction to parametric modelling | Loadable families | Create a family (example: a table) | Family creation in session

SKILL UNLOCKED

Creating and modifying loadable families; creating parametric families

STUDENTS WILL BE ABLE TO

- Create loadable families in Revit
- Create parametric families

Hands-on assignment: Build a parametric table family with length, width, height and material parameters; flex-test it.

06 Studio 5: Hosted and nested families — 2 hrs

Model-in-place components | Groups | Formula building

SKILL UNLOCKED

Creating hosted and nested families

STUDENTS WILL BE ABLE TO

- Create nested and parametric families
- Model in-place components

Hands-on assignment: Build a nested window family with a formula-driven sill and frame, host it in a wall, and model one in-place component.

07 Studio 6: Mass modelling in Revit — 2 hrs

Introduction to mass modelling | Building a mass family | Walls and roofs by face

SKILL UNLOCKED

Modelling conceptual masses; creating loadable mass families; organic modelling

STUDENTS WILL BE ABLE TO

- Create in-place and loadable masses
- Model complex geometry using Model by Face

Hands-on assignment: Model a conceptual tower mass, apply walls, roofs and floors by face, and schedule floor areas.

03 STAGE · ENGINEER
Concrete Structures & Advanced Modelling

TIMING	LIVE HOURS	SESSIONS	SESSION LENGTH	SOFTWARE
Weeks 4–6	**18 hrs**	**6 sessions**	**3 hrs each**	**Autodesk Revit (Revit Structure)**

What we will teach

- Reading structural drawings, abbreviations, key plans and general notes
- Bar bending schedules (BBS) and material take-off (MTO)
- Concrete elements: foundations, columns, beams, slabs, stairs, retaining walls, water tanks
- Revit Structure template, project settings, view templates, industry workflows
- Steel structures: stability, base plates, bracing, connections, purlins and girts
- Modelling foundations, trusses, plinth beams, piers and pilasters
- Rebar and reinforcement, structural documentation
- Producing the analytical model

What you will be able to do

- Read standard structural drawings and understand BBS and MTO
- Identify the function of each concrete structural element
- Model columns, beams, bracing, slabs, foundations and trusses in Revit Structure
- Add reinforcement to structural elements
- Produce an analytical model ready for structural analysis

Class-by-class plan

08 Studio 1: Introduction to structural engineering — 3 hrs

Standard drawings · Abbreviations · Key plans · General notes · Bar bending schedule (BBS) · Material take-off (MTO)

SKILL UNLOCKED

Reading structural drawings and schedules

STUDENTS WILL BE ABLE TO

- Read standard structural drawings, abbreviations, key plans and notes
- Understand BBS and MTO

Hands-on assignment: Drawing-reading worksheet: identify abbreviations, element types, notes and key-plan references on a supplied sheet.

09 Studio 2: Understanding concrete structures and elements — 3 hrs

Foundations, columns, beams · Slabs, stairs · Retaining walls, water tanks

SKILL UNLOCKED

Concrete structural elements

STUDENTS WILL BE ABLE TO

- Identify the function of each concrete element within a structure

Hands-on assignment: Annotate a sectional sketch of an RCC building, naming each element and its function; short quiz.

Class-by-class plan (continued)

10 Studio 3: Structural engineers in the BIM environment — 3 hrs

Revit Structure template, project settings | Views and view templates | Industry workflows, user interface | Superstructure: columns, beams, slabs, bracing, openings, walls, retaining walls

SKILL UNLOCKED
Setting up a project and modifying settings (structure template)

STUDENTS WILL BE ABLE TO
- Understand workflows between disciplines
- Set up levels, grids, location and views in the structural template

Hands-on assignment: Set up a structural template project and model the columns, beams and slab of one floor.

11 Studio 4: Steel structures: concepts — 3 hrs

Structural arrangement and stability | Base plates and columns | Beams (bracing, torsional buckling, composite) | Bracing and connections | Grating, chequered plates, purlins and girts

SKILL UNLOCKED
Modelling structural elements; creating an analytical model (studios 4 to 6)

STUDENTS WILL BE ABLE TO
- Model columns, beams, bracings, slabs and foundations
- Produce an analytical model (studios 4 to 6)

Hands-on assignment: Model one steel frame bay with base plates, beams, bracing and purlins; add short stability notes.

12 Studio 5: Structural modelling: foundations and trusses — 3 hrs

Trusses | Foundations | Plinth beams | Piers and pilasters

SKILL UNLOCKED
Modelling structural elements (studios 4 to 6)

STUDENTS WILL BE ABLE TO
- Model structural elements such as foundations and trusses

Hands-on assignment: Model a steel roof truss with foundations, plinth beams, piers and pilasters from a supplied drawing.

13 Studio 6: Structural modelling and documentation — 3 hrs

Rebar and reinforcement | Structural documentation

SKILL UNLOCKED
Creating an analytical model (studios 4 to 6)

STUDENTS WILL BE ABLE TO
- Add reinforcement
- Produce an analytical model for structural analysis

Hands-on assignment: Reinforce a footing, a beam and a slab; extract concrete volumes and compare with a hand-calculated MTO.

04 STAGE · DOCUMENT
Presentation & Documentation

TIMING	LIVE HOURS	SESSIONS	SESSION LENGTH	SOFTWARE
Week 7	**6 hrs**	**4 sessions**	**1.5 hrs each**	**Autodesk Revit**

What we will teach

- Views and graphics: browser organisation, filters, view templates, view range, scope boxes, crop regions
- Sheets, sorting, revisions and phasing
- Annotation families, tagging, drafting views, filled regions, keynotes
- Worksets and links
- Schedules and bar bending schedules

What you will be able to do

- Modify visibility and graphics, create view templates and use filter overrides
- Create and sort sheets, and manage revisions and phasing
- Annotate views and draw 2D construction details
- Create worksets and generate schedules, including bar bending schedules

Class-by-class plan

14 Studio 1: Views and graphics — 1.5 hrs

Organisation of views, browser organisation | Scope boxes, filters | View templates, view range, crop region | Visibility and graphics

SKILL UNLOCKED

Modifying visibility and graphics

STUDENTS WILL BE ABLE TO

- Modify browser organisation
- Create custom project parameters
- Create view templates and use filter overrides

Hands-on assignment: Build a view-template set and filters that colour elements by concrete grade; organise the browser by a custom parameter.

15 Studio 2: Documentation and presentation: 2D sheets — 1.5 hrs

Sheets and sorting sheets | Revisions | Phasing

SKILL UNLOCKED

Creating and sorting sheets; managing revisions and phasings

STUDENTS WILL BE ABLE TO

- Create and sort sheets
- Manage revisions and phasings and add them to sheets

Hands-on assignment: Produce a sheet set with title block; issue Revision B after a design change and update all affected sheets.

Class-by-class plan (continued)

16 Studio 3: Annotation, details and keynotes — 1.5 hrs

Annotation families, annotating views | Drafting views, filled regions | Tagging parameters, phasing

SKILL UNLOCKED

Adding annotations and keynotes; drafting 2D details

STUDENTS WILL BE ABLE TO

- Annotate small-scale projects
- Create construction details in drafting views
- Create phases

Hands-on assignment: Draft three typical details (beam-column junction, slab edge, footing) with keynotes and tags.

17 Studio 4: Scheduling and the collaborative process — 1.5 hrs

Managing worksets and links | Schedules | Bar bending schedules

SKILL UNLOCKED

Creating and managing worksets and links; creating schedules

STUDENTS WILL BE ABLE TO

- Understand worksharing
- Create worksets
- Generate schedules, including bar bending schedules

Hands-on assignment: Set up worksets and links; produce column, beam and footing schedules plus a bar bending schedule.

05 STAGE · ANALYSE
Analytical Modelling & Structures

TIMING	LIVE HOURS	SESSIONS	SESSION LENGTH	SOFTWARE
Weeks 8–9	**9 hrs**	**3 sessions**	**3 hrs each**	**STAAD.Pro**

What we will teach

- Introduction to structural analysis and exploring STAAD.Pro
- Structural analysis vs hand calculation
- Cantilever and continuous beams
- 2D and 3D portal frames
- Multi-storey frames, 2D and 3D
- Frames with deck slab and concrete structures

What you will be able to do

- Navigate STAAD.Pro and explain how software analysis compares with hand calculation
- Analyse cantilever and continuous beams
- Analyse 2D and 3D portal frames
- Analyse multi-storey frames, frames with deck slabs and concrete structures

Class-by-class plan

18 Studio 1: Introduction to structural analysis — 3 hrs

Exploring STAAD.Pro | Structural analysis vs hand calculation | Structural analysis of beams

SKILL UNLOCKED
Structural analysis of beams in STAAD.Pro

STUDENTS WILL BE ABLE TO
- Navigate STAAD.Pro
- Explain how software analysis compares with hand calculation
- Analyse beams

Hands-on assignment: Analyse a simply supported beam in STAAD and by hand; tabulate reactions, moments, deflection and % difference.

19 Studio 2: Analysis of frames and beams — 3 hrs

Cantilever beam | Continuous beam | Portal frame: 2D and 3D

SKILL UNLOCKED
Structural analysis of beams and portal frames

STUDENTS WILL BE ABLE TO
- Analyse cantilever and continuous beams
- Analyse 2D and 3D portal frames

Hands-on assignment: Analyse a cantilever, a continuous beam and 2D/3D portal frames; report support reactions and maximum moments.

20 Studio 3: Analysis of multi-storey structures — 3 hrs

Multi-storey frames: 2D and 3D | Frames with deck slab | Concrete structures

SKILL UNLOCKED
Structural analysis of multi-storey concrete structures

STUDENTS WILL BE ABLE TO
- Analyse 2D and 3D multi-storey frames, frames with deck slabs and concrete structures

Hands-on assignment: Analyse a G+4 RC frame under dead, live and wind combinations; report storey drift and critical member forces in a one-page summary.

06

STAGE · MANAGE

BIM Processes & Industry Workflows

TIMING	LIVE HOURS	SESSIONS	SESSION LENGTH	SOFTWARE
Week 10	**6 hrs**	**4 sessions**	**1.5 hrs each**	**BIM 360 (CDE)**

What we will teach

- BIM strategy, digital twin, information requirements, project planning
- Government and international BIM approaches
- BIM Execution Plan (BEP): types, components, deliverables, file strategy, collaboration procedures
- Levels of Development (LOD 100 to 500) and quality control
- 4D scheduling and 5D quantity take-off
- Common Data Environment: folder structures, tags, metadata, BIM 360
- BIM supply chain and BIM during operation

What you will be able to do

- Understand BIM strategies, information requirements and stakeholders per ISO 19650
- Understand the types and contents of a BEP
- Understand the different LODs and quality control
- Understand CDE, folder structures and tags

Class-by-class plan

21 Studio 1: BIM strategy — 1.5 hrs

Uses of BIM | Government BIM strategy | International BIM approaches

SKILL UNLOCKED

Digital twin, BIM strategies, information requirements and project planning

STUDENTS WILL BE ABLE TO

- Understand digital twins, BIM strategies, information requirements and project planning

Hands-on assignment: One-page comparison of two countries' government BIM strategies; outline information requirements for a sample project.

22 Studio 2: BIM Execution Plan (BEP) — 1.5 hrs

BEP components, deliverables | BIM file strategies | Model content requirements | Collaboration procedures | Hardware and software requirements

SKILL UNLOCKED

Types and contents of BEP, BIM file strategies, hardware and software requirements

STUDENTS WILL BE ABLE TO

- Understand stakeholders per ISO 19650
- Understand BEP types and contents, file strategies and collaboration procedures

Hands-on assignment: Draft a BEP for a mid-size commercial building: roles, deliverables, file naming, software and collaboration rules.

Class-by-class plan (continued)

23 Studio 3: BIM-enabled design and construction — 1.5 hrs

Model authoring, level of detail | 3D coordination | 4D schedule sequencing, 5D quantity take-off | Common data environment | Level of development, BIM supply chain

SKILL UNLOCKED

LODs and quality control

STUDENTS WILL BE ABLE TO

- Understand the different LODs and quality control

Hands-on assignment: Build a LOD matrix (100 to 500) for key elements by project stage; outline one 4D or 5D use case.

24 Studio 4: Common data environment — 1.5 hrs

Metadata | CDE using BIM 360 | BIM uses during operation | BIM-enabled operation | Supply chain evaluation

SKILL UNLOCKED

CDE, folder structures and tags

STUDENTS WILL BE ABLE TO

- Understand CDE, folder structures and tags

Hands-on assignment: Set up a CDE folder structure with naming convention and metadata tags in a BIM 360 sandbox project.

07 STAGE · COORDINATE
Team Collaboration & Workflow

TIMING	LIVE HOURS	SESSIONS	SESSION LENGTH	SOFTWARE
Weeks 11–12	**3 hrs**	**2 sessions**	**1.5 hrs each**	**BIM Collaborate**

What we will teach

- Disciplines and roles in a multidisciplinary team
- Information sharing and collaboration
- Revit linking and interference check
- BIM 360 design collaboration
- Clash detection basics

What you will be able to do

- Understand coordination, collaboration and clash detection
- Perform interference checks and clash detection in Revit
- Work on BIM 360 / BIM Collaborate

Class-by-class plan

25 Studio 1: Collaboration and multidisciplinary workflows — 1.5 hrs

Disciplines and roles | Information sharing | Collaboration | 3D coordination, clash detection

SKILL UNLOCKED

Coordination, collaboration and clash detection

STUDENTS WILL BE ABLE TO

- Understand coordination, collaboration and clash detection

Hands-on assignment: For a sample project, list each discipline's inputs and outputs and write information-sharing rules.

26 Studio 2: Interference check, linking and collaboration — 1.5 hrs

Revit linking and interference check | BIM 360 design collaboration | Clash detection

SKILL UNLOCKED

Performing interference checks and clash detections; design collaboration

STUDENTS WILL BE ABLE TO

- Perform interference checks and clash detection in Revit
- Work on BIM 360

Hands-on assignment: Link architecture and structure models, run a Revit interference check, and log and assign five issues.

08 STAGE · COORDINATE
BIM Coordination using Navisworks

TIMING	LIVE HOURS	SESSIONS	SESSION LENGTH	SOFTWARE
Weeks 11–12	**6 hrs**	**2 sessions**	**3 hrs each**	**Navisworks**

What we will teach

- Revit to Navisworks export and settings
- Navisworks file types and interface
- Selection sets, search sets and Appearance Profiler
- Clash detection matrix and performing clash tests
- BIMTrack and Switchback to Revit

What you will be able to do

- Export Revit files to Navisworks and understand its file types
- Work with Appearance Profiler, selection sets and search sets
- Perform clash detection in Navisworks
- Resolve clashes through the Switchback workflow

Class-by-class plan

27 Studio 1: Navisworks: introduction — 3 hrs

Revit and Navisworks: export and settings | Navisworks file types | Selection and search sets | Appearance Profiler

SKILL UNLOCKED

Exporting Revit files to Navisworks; selection and search sets; Appearance Profiler

STUDENTS WILL BE ABLE TO

- Understand the Navisworks interface and file types
- Export Revit files
- Use Appearance Profiler and search sets

Hands-on assignment: Export Revit models, federate them in Navisworks, colour by discipline and build search sets.

28 Studio 2: Clash detection in Navisworks — 3 hrs

Clash detection matrix | Clash detection overview | Performing a clash test | BIMTrack | Switchback

SKILL UNLOCKED

Performing clash detection in Navisworks

STUDENTS WILL BE ABLE TO

- Perform clash detection in Navisworks

Hands-on assignment: Build a clash matrix, run tests and issue a report; resolve the top five clashes via Switchback and re-run to show before and after counts.

09 STAGE · SPECIALISE
Elective: Choose One Specialisation

TIMING	LIVE HOURS	SESSIONS	SESSION LENGTH	SOFTWARE
Week 13	**6 hrs**	**1 of 3 electives**	**6 hrs**	**Dynamo / Primavera P6 / Civil 3D (choose one)**

Choose **one** of the three specialisations below. Each is a 6-hour live studio in Week 13.

What we will teach

- Dynamo: visual programming, geometry, data structures, creating and editing Revit elements, automation flows
- Primavera P6: planning stages, project management and BIM, data exchange, 4D parameters, 4D simulation
- Civil 3D: scope and uses, BIM in infrastructure, styles, layers, points, surfaces, interoperability, drawing production

What you will be able to do

- Dynamo: build scripts that automate repetitive Revit tasks; audit and sync BIM data with Excel
- Primavera P6: exchange data between Revit and Primavera; create a 4D simulation
- Civil 3D: work with styles, layers, points and surfaces; connect infrastructure with building BIM workflows

Class-by-class plan

29 Elective A: Dynamo (Cosmic Pulse: Algorithmic Logic) — 6 hrs

Understanding visual programming · Geometry in computational design · Elements and data structures · Revit connections, editing elements and parameters · Automation flows

SKILL UNLOCKED

Computational design and visual scripting

STUDENTS WILL BE ABLE TO

- Build scripts that automate repetitive Revit tasks
- Create and edit elements and parameters
- Audit and sync BIM data with Excel

Hands-on assignment: Script to auto-number rooms or columns, and export Revit parameters to Excel and write them back.

30 Elective B: Primavera P6 (Chronos Orbit: 4D Time Simulation) — 6 hrs

What is Primavera · Project management and planning, stages of a construction project · Interface and glossary · Data exchange · 4D parameters in Revit and Primavera · Creating a 4D simulation

SKILL UNLOCKED

4D time simulation

STUDENTS WILL BE ABLE TO

- Understand planning stages and how BIM supports them
- Exchange data between Revit and Primavera
- Create a 4D simulation

Hands-on assignment: Build a short construction schedule, link it to Revit elements and simulate the sequence; report one bottleneck.

Class-by-class plan (continued)

31 Elective C: Civil 3D (Terraforming: Civil Infrastructure) — 6 hrs

Introduction to Civil 3D, uses and scope | BIM in infrastructure and residential projects | Styles, layers, points, surfaces | Interoperability, drawing production

SKILL UNLOCKED

Civil infrastructure modelling

STUDENTS WILL BE ABLE TO

- Understand scope and uses of Civil 3D
- Work with styles, layers, points and surfaces
- Understand interoperability and produce drawings

Hands-on assignment: Create a surface from points, apply styles and labels, and produce a simple site drawing.

10 STAGE · DELIVER
Career Paths & Soft Skills

TIMING	LIVE HOURS	SESSIONS	SESSION LENGTH	SOFTWARE
Weeks 14–20	**10 hrs**	**4 sessions**	**2.5 hrs each**	**Career module (no software)**

What we will teach

- Career paths in BIM
- Professional soft skills
- Resume craft
- Interview preparation and mock interviews
- Portfolio building and industry networking

What you will be able to do

- Identify target BIM roles and the skills they require
- Present themselves with a strong resume and portfolio
- Perform confidently in technical and HR interviews

Class-by-class plan

32 Class 1: Career paths in BIM — 2.5 hrs

Career paths in BIM

SKILL UNLOCKED
Career direction

STUDENTS WILL BE ABLE TO
- Identify target BIM roles and the skills they require

Hands-on assignment: Target-role map: chosen role, skill gaps and a 90-day learning plan.

33 Class 2: Professional soft skills — 2.5 hrs

Professional soft skills

SKILL UNLOCKED
Professional communication

STUDENTS WILL BE ABLE TO
- Communicate technical findings clearly to a project team

Hands-on assignment: Present a clash report to a mock design team and collect peer feedback.

Class-by-class plan (continued)

34 Class 3: Resume craft and portfolio

2.5 hrs

Resume craft | Portfolio building

SKILL UNLOCKED

Resume and portfolio

STUDENTS WILL BE ABLE TO

- Present skills through a strong resume and portfolio

Hands-on assignment: Resume and LinkedIn profile draft, reviewed by a mentor.

35 Class 4: Interview preparation and mock interviews

2.5 hrs

Interview preparation | Mock interviews

SKILL UNLOCKED

Interview readiness

STUDENTS WILL BE ABLE TO

- Perform confidently in technical and HR interviews

Hands-on assignment: Recorded mock interview (technical and HR) with written feedback.

11

STAGE · DELIVER

Capstone Project

TIMING	LIVE HOURS	SESSIONS	SESSION LENGTH	SOFTWARE
Weeks 14–20	**30 hrs**	**6 sessions**	**5 hrs each**	**Capstone (builds on Revit and Navisworks outputs)**

What we will teach

- End-to-end project simulating a live industry tender
- Spine models in Revit, structural documentation and construction sheets
- Clash reports from Navisworks
- Compiling models, reports and sheets into a job-winning portfolio

What you will be able to do

- Take ownership of a full BIM project from brief to delivery
- Produce models, construction sheets and clash reports to a tender standard
- Present a compiled portfolio to an industry panel

Class-by-class plan

36 Capstone Session 1: Brief, BEP and CDE — 5 hrs

Tender brief | BEP and CDE set-up

SKILL UNLOCKED
Project initiation

STUDENTS WILL BE ABLE TO
- Plan a BIM project from a tender brief

Hands-on assignment: Milestone 1: project brief, BEP and CDE folder structure.

37 Capstone Session 2: Spine models — 5 hrs

Spine models in Revit and Revit Structure

SKILL UNLOCKED
Spine modelling

STUDENTS WILL BE ABLE TO
- Build architecture and structure models for a tender project

Hands-on assignment: Milestone 2: Revit architecture and structure models.

38 Capstone Session 3: Reinforcement and analysis — 5 hrs

Reinforcement | Analytical model and STAAD analysis

SKILL UNLOCKED
Engineering validation

STUDENTS WILL BE ABLE TO
- Reinforce key elements and validate the structure by analysis

Hands-on assignment: Milestone 3: reinforcement, analytical model and a short STAAD analysis summary.

Class-by-class plan (continued)

39 Capstone Session 4: Construction sheets — 5 hrs

Construction sheets and schedules

SKILL UNLOCKED
Documentation

STUDENTS WILL BE ABLE TO
- Deliver construction-ready sheets and schedules

Hands-on assignment: Milestone 4: sheet set, details and schedules.

40 Capstone Session 5: Coordination — 5 hrs

Navisworks clash reports | Resolution log

SKILL UNLOCKED
Coordination

STUDENTS WILL BE ABLE TO
- Run, report and resolve clashes across models

Hands-on assignment: Milestone 5: clash report and resolution log.

41 Capstone Session 6: Portfolio and tender presentation — 5 hrs

Compiled portfolio | Tender presentation

SKILL UNLOCKED
Delivery

STUDENTS WILL BE ABLE TO
- Present a job-winning portfolio to an industry panel

Hands-on assignment: Final: portfolio and 10-minute presentation, marked with a rubric (model quality, documentation, coordination, standards, presentation).

Meteor
Propel Your Potential

Finish with a job-winning portfolio

The Capstone simulates a live industry tender. You deliver a full BIM project: Revit models, construction sheets, STAAD analysis and Navisworks clash reports, then present to an industry panel.

Model quality | Documentation | Coordination | Standards | Presentation