Scripting for Architects (Python / Dynamo) Training Course

Professional Development Training Course Outline

Category	Architectural Engineering	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Scripting for Architects (Python & Dynamo) Training Course is designed to empower architects, BIM professionals, and design technologists with computational design, automation, and parametric scripting skills. In today's rapidly evolving AEC (Architecture, Engineering & Construction) industry, mastery of Python programming, Dynamo visual scripting, and BIM automation workflows is essential for improving design efficiency, reducing repetitive tasks, and enabling data-driven decision-making. This course bridges the gap between traditional architectural design and advanced computational design technologies, equipping learners with practical coding skills tailored for real-world architectural workflows.

Through hands-on exercises, real-world projects, and industry-based case studies, participants will learn how to integrate Revit automation, generative design, parametric modeling, and algorithmic design strategies into their daily practice. The course focuses on enhancing productivity using Dynamo for Revit, Python scripting for BIM automation, and API-based architectural customization, making it ideal for professionals aiming to stay competitive in the era of AI-driven architecture, smart buildings, and digital construction workflows.

Programme Curriculum

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Course Duration

5 days

Course Objectives

1. Master Python for Architecture Automation
2. Develop Dynamo Visual Programming Skills for Revit
3. Implement Parametric Design Workflows
4. Build BIM Automation Scripts for Repetitive Tasks
5. Apply Generative Design Techniques in Architecture
6. Integrate Revit API with Python Scripting
7. Optimize Workflow Efficiency in AEC Projects
8. Create Data-Driven Design Solutions
9. Automate 3D Modeling and Documentation Processes
10. Use Algorithmic Design for Complex Geometry
11. Enhance Computational Thinking in Architectural Design
12. Develop Smart Building Design Workflows
13. Implement AI-Assisted Design Automation Concepts

Target Audience

1. Architects and Architectural Designers
2. BIM Modelers and BIM Coordinators
3. Urban Designers and Planners
4. Interior Designers using Revit
5. Engineering Consultants (MEP/Structural)
6. Architecture Students & Graduates
7. Computational Design Enthusiasts
8. AEC Industry Digital Transformation Teams

Course Modules

Module 1: Introduction to Computational Design in Architecture

- Basics of computational thinking
- Role of scripting in modern architecture
- Overview of Python & Dynamo
- BIM integration fundamentals
- Industry digital transformation trends
- **Case Study:** Automating floor plan generation for a residential project using parametric rules

Module 2: Python Fundamentals for Architects

- Python syntax and logic building
- Data types and structures
- Control flow for design logic
- Functions for reusable scripts
- Working with Revit-compatible scripts
- **Case Study:** Automating room area calculations in a multi-storey building

Module 3: Dynamo for Revit Essentials

- Dynamo interface and workspace
- Nodes and connections
- Geometry creation
- Data management in Dynamo
- Revit integration workflows
- **Case Study:** Automatic furniture placement in office layouts

Module 4: Parametric & Algorithmic Design

- Rule-based design systems
- Parametric families in Revit
- Adaptive components
- Algorithmic geometry generation
- Design optimization strategies
- **Case Study:** Parametric façade system for a commercial tower

Module 5: Revit API with Python

- Introduction to Revit API
- Python scripting inside Revit
- Element manipulation
- Project data extraction
- Custom tool creation
- **Case Study:** Automated door tagging and scheduling system

Module 6: Generative Design & Optimization

- Generative design principles
- Design iteration techniques
- Performance-based modeling
- Optimization algorithms
- Sustainable design integration
- **Case Study:** Optimizing building massing for daylight and energy efficiency

Module 7: Advanced BIM Automation Workflows

- Batch processing in Revit
- Automated documentation
- Sheet creation workflows
- Clash detection automation
- Data-driven BIM coordination

- **Case Study:** Automated construction drawing set generation for high-rise project

Module 8: AI Integration & Future of Architectural Scripting

- AI-assisted design workflows
- Machine learning in architecture
- Smart building automation
- Cloud-based BIM scripting
- Future trends in computational architecture
- **Case Study:** AI-driven layout optimization for urban housing development

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com