PRAXIS AI

ENGINEERING INTELLIGENCE INSTITUTE

OFFICIAL CURRICULUM

Applied Artificial Intelligence Training
Civil • Mech • Elec • Struct • Pet • Marine • Aero

The **Praxis AI Training Program** is structured into three progressive tiers, allowing engineers and technologists to start with essential AI productivity tools and advance toward custom AI micro-tool development and enterprise automation.

1. PRAXIS AI BASIC: AI Productivity & Spec Intelligence

Duration: 4 Days Intensive

Target: All engineering disciplines looking to fast-track daily workflow efficiency.

- **Day 1 — AI Foundations for Engineering:** Overview of LLMs, prompt engineering tailored for technical accuracy, avoiding hallucinations.
- **Day 2 — Spec & Code Assistant Setup:** Ingesting Eurocodes, BS, ACI, and NSE standards into AI knowledge bases for rapid querying.
- **Day 3 — Automated Technical Writing & Reports:** Generating site logs, client progress reports, and automated risk matrix documentation.
- **Day 4 — Basic Math & Spreadsheet Automation:** Using AI to generate robust formulas, clean site data, and double-check structural/MEP calculations.

2. PRAXIS AI INTERMEDIATE: Applied Engineering AI & Safety Analytics

Duration: 2 Weeks (Cohort-based)

Target: Mid-level engineers, site managers, and design leads seeking technical automation.

- **Week 1 — Computer Vision for Site Safety (HSE):** Deploying YOLOv8 & Roboflow for real-time PPE detection and site zone hazard analysis.
- **Week 2 — Automated BOQ & Design Optimization:** AI-driven quantity extraction, generative layout checks (Forma/TestFit), and Python script generation for load path checks, well-log trends, and circuit analysis.

3. PRAXIS AI ADVANCED: Micro-Tools, Vibe Coding & API Integrations

Duration: 4 Weeks (Advanced Mastery)

Target: Senior engineers, consultants, tech leads, and specialized practitioners.

- **Module 1 — Vibe Coding Internal Tools:** Building custom standalone web apps (Cursor/Replit) for structural, marine, petroleum, and electrical modeling.
- **Module 2 — CAD/BIM API Automation:** Automating Revit, AutoCAD, and FEA tools using AI-generated scripts (Dynamo, LISP, Python).
- **Module 3 — Enterprise AI Deployment & Governance:** IP protection, secure local models, and capstone enterprise project defense.

PROGRAM DISCIPLINE MATRIX

DISCIPLINE	CORE AI PROBLEM SOLVED	PRIMARY TOOL STACK
Civil & Structural	FEA verification, generative layout, automated BOQs	ChatGPT, Python (OpenSees), TestFit
Electrical & Mechanical	Load optimization, HVAC scripting, predictive maintenance	Ansys Discovery, Copilot, Cursor
Site Safety & HSE	Automated image/video hazard & PPE detection	Roboflow, YOLOv8, Custom GPTs

DISCIPLINE	CORE AI PROBLEM SOLVED	PRIMARY TOOL STACK
Petroleum, Marine & Aero	Well-logs, vessel hydrodynamics, flight path optimization	Python (Pandas, PyTorch), Open-Source AI

WhatsApp: 0815 544 6413, 07031086965 **Email: praxis_ai@gmail.com** **Port Harcourt, Rivers State**