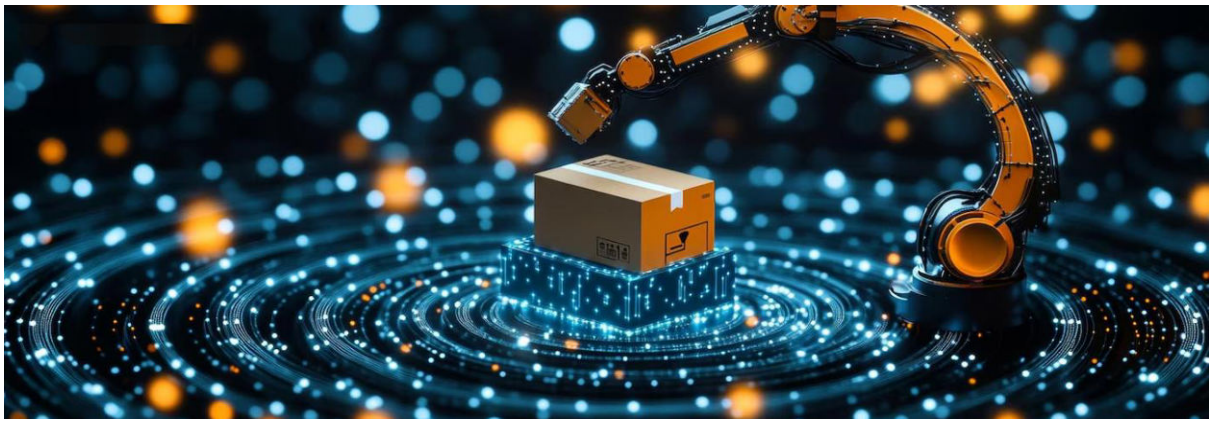


# AI FOR PROCUREMENT

**Certificate of Completion: AI for Procurement**

**Course Code: IT_HM_I_001/25**

**Duration:** 20 Hours (10 sessions × 2 hours each or 5 sessions × 4 hours each)

**Delivery Format:** Hybrid

**Target Audience:**

- Graduates / Undergraduates with minimal prior AI experience.

**Program Objectives:**

- Build a foundational understanding of procurement processes and their challenges.
- Introduce basic concepts of Artificial Intelligence (AI) and Machine Learning (ML).
- Demonstrate how AI/ML techniques can be applied to procurement to optimize cost, improve supplier relations, and manage risks.
- Provide hands-on experience with tools, data sets, and case studies that mirror real-world procurement scenarios.
- Help learners confidently discuss AI applications in procurement and recommend simple solutions.

**Detailed Syllabus**

**Session 1 (2 hours): Procurement Foundations & Course Overview**

**Objective:** To provide a basis in procurement processes and introduce the course.

**Topics:**

Procurement 101

- Key steps: sourcing, purchase orders, supplier management, spend categories.

- Main objectives: cost savings, quality, risk management.

Where AI Fits in Procurement (High-Level)

- What is AI? Simple business examples (automation & insights).
- Types of procurement problems AI can address (forecasting spend, supplier risk).

Course Roadmap

- What to expect from upcoming sessions.

**Activities:**

- Activity (15 mins): Brainstorm in small groups: "Which procurement challenges seem most ripe for AI solutions?"

**Session 2 (2 hours): Data Basics for Procurement**

**Objective:** To introduce procurement data and basic data handling.

**Topics:**

Common Procurement Data

- Spend data, supplier details, pricing/contract info.

Data Quality & Cleaning

- Identifying missing values, duplicates, inconsistent formats.

Tools and Demonstration

- Using Excel or Google Sheets for basic data cleaning.

**Activities:**

- Hands-on Exercise (45 mins): Clean a simple procurement dataset. Learners practice finding and fixing errors.

**Session 3 (2 hours): Descriptive Analytics & Spend Analysis**

**Objective:** To analyze procurement data and derive insights.

**Topics:**

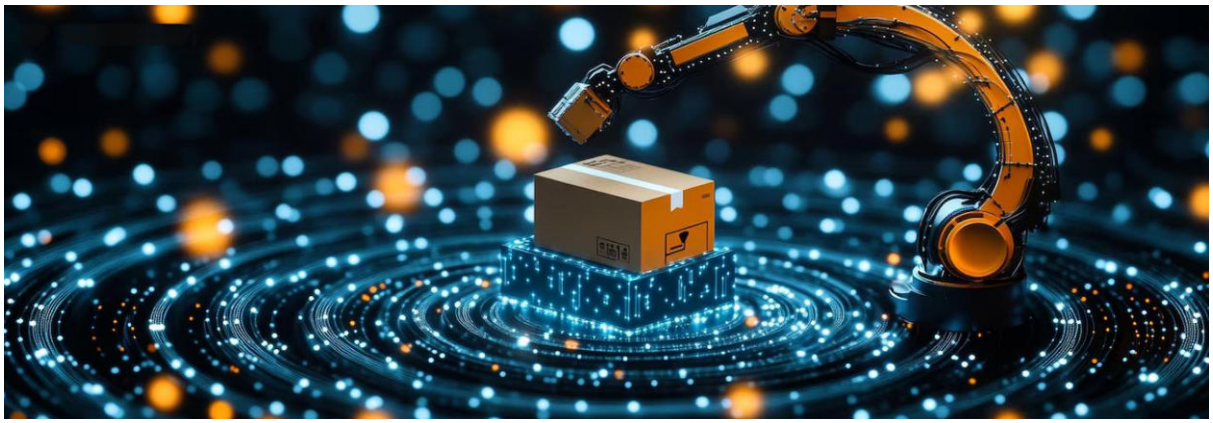
Spend Analysis Fundamentals

- Categorizing spends, identifying key trends, top suppliers.

Dashboard Creation

- Pivot tables, basic charts (bar, line) to visualize spend and supplier performance.

Interpretation of Results



- Spotting trends (cost reduction, supplier consolidation).

**Activities:**

- Hands-on Exercise (1 hour): Build a basic spend analysis dashboard from the cleaned dataset. Identify trends to discuss.

**Session 4 (2 hours): Introduction to AI & ML**

**Objective:** To explain AI/ML concepts relevant to procurement.

**Topics:**

Demystifying AI and Machine Learning

- Simple definitions: supervised vs. unsupervised learning.
- Avoid deep technical detail, focus on concepts.

Business Context

- AI in finance, marketing, and supply chain - how procurement can learn from these.

Revisiting Procurement Examples

- Supplier segmentation, demand forecasting, risk alerts.

**Activities:**

- Group Discussion (30 mins): In teams, one procurement challenge – discuss how a simple AI or analytics approach could help.

**Session 5 (2 hours): Building a Basic Predictive Model**

**Objective:** To provide a foundational understanding of predictive modeling in a procurement context.

**Topics:**

Predictive Modeling Fundamentals

- Concept: train/test split (concept only), a simple regression or classification example.

Tool Setup (Beginner-Friendly)

- Could use Excel's Analysis ToolPak or a free online ML tool.

Demo & Hands-On

- Step-by-step building of a small forecasting model (e.g., predict next months' spend based on historical data).

**Activities:**

- Hands-on Exercise (45 mins): Students plug a provided dataset into a simple tool, generate a forecast, and interpret the results.

**Session 6 (2 hours): Supplier Risk & Realistic Considerations**

**Objective:** To explore how AI can aid in supplier risk management while considering real-world constraints.

**Topics:**

Supplier Risk Indicators

- Financial stability, on-time delivery, quality issues.

AI in Risk Identification

- Basic anomaly detection or classification approaches.

Real-World Constraints

- Data limitations, organizational buy-in, ROI.

Short Case Study

- Example of a local or global company reducing supplier failures with analytics.

**Activities:**

- Activity (30 mins): Scenario about a supplier's unexpected failure – Learners brainstorm how early detection could have happened with AI-based risk scoring.

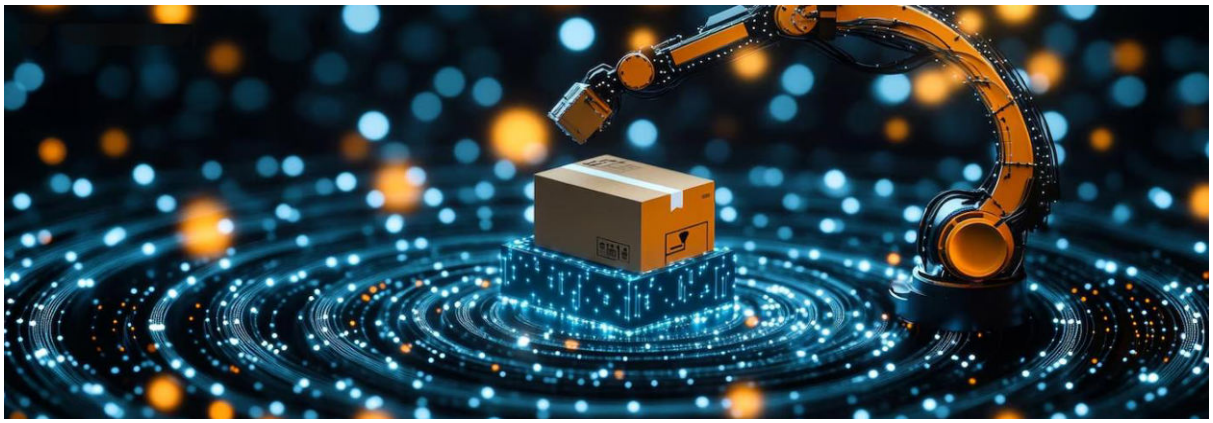
**Session 7 (2 hours): Putting It All Together – Capstone Project Introduction**

**Objective:** To introduce the capstone project and guide initial planning.

**Topics:**

Mini-Project Setup

- Teams form around a simplified procurement challenge (e.g., forecasting spend, identifying at-risk suppliers or analyzing spend categories for cost savings).



Project Expectations

- Use the steps learned so far: data cleaning, descriptive analysis, a basic predictive method.

Planning Time

- Teams outline how they'll approach their mini project, what dataset they'll use, and what outcome they aim for.

**Assessments:**

- Deliverable: Team “project outline" and feedback.

**Session 8 (2 hours): Capstone Project Work – Hands-On**

**Objective:** To provide dedicated time for teams to work on their capstone projects.

**Topics:**

Team Work Time

- Each group cleans or refines their chosen dataset, performs initial analytics.
- Knowledge sharing to provide guidance.

Mid-Session Checkpoint

- Teams share early insights or challenges encountered.

**Assessments:**

- Goal: By the end of this session, teams should have initial findings or a draft analysis ready.

**Session 9 (2 hours): Capstone Project Refinement**

**Objective:** To guide teams in refining their analysis and preparing their final presentations.

**Topics:**

Dig Deeper

- Teams finalize descriptive analytics, attempt a simple predictive model if applicable.
- Prepare slides/visuals for final presentation.

Instructor Q&A

- Advice on clarifying findings, linking analysis to real-world ROI or risk reduction.

**Assessments:**

- Output: Teams complete their final project materials.

**Session 10 (2 hours): Presentations, Wrap-Up & Next Steps**

**Objective:** To allow teams to present their projects and to conclude the course with key takeaways and future learning paths.

**Topics:**

Team Presentations (Approx. 10-15 mins each)

- Show data analysis approach, key findings, potential ROI or improvement areas.
- Emphasize how the solution could be applied in a real procurement setting.

Summary & Q&A

- Recap major takeaways from the entire course.
- Quick discussion: how to continue learning AI for procurement.

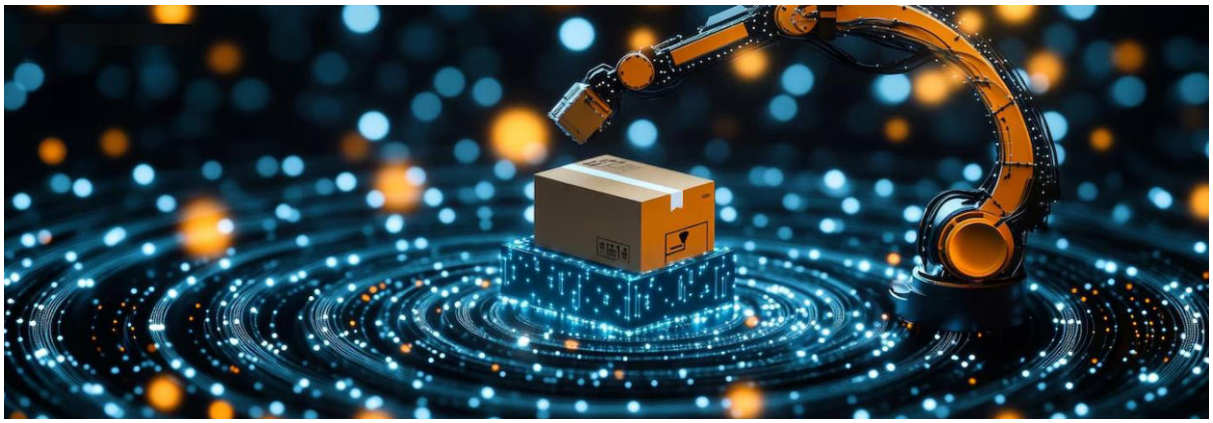
Feedback & Certificates

- Collect course feedback; provide completion certificates (if applicable).

**Learning Objectives:**

By the end of this course, learners should be able to:

- Explain core procurement processes and identify common pain points that can be tackled via AI.
- Describe the foundational concepts of AI and basic Machine Learning techniques.
- Understand the data requirements for AI-driven procurement (e.g., spend data, supplier data, contract data).
- Analyze real industry case studies, extracting lessons on how AI is deployed successfully.
- Propose potential AI solutions or improvements in procurement scenarios, demonstrating knowledge of best practices, ROI considerations and ethical aspects.



**Teaching Methodology:**

- Engaging Lectures: Each concept introduced briefly, followed by examples.
- Hands-On Emphasis: Frequent practice with data cleaning, spend analysis, and a single predictive method.
- Group Projects: Fosters teamwork, problem-solving, and communication skills.
- Real-World Orientation: Simple case studies and final project link classroom learning to practical procurement scenarios.

**Assessment & Retention:**

- Quizzes: Quick check-ins to reinforce key points (data cleaning steps, spend analysis concepts).
- Hands-On Exercises: Evaluate how well learners can apply the techniques.
- Capstone Project: Demonstrates learners' ability to perform basic AI/analytics in a procurement context.
- Feedback & Reflection: End-of-session reflections to improve retention and ensure concepts are understood.