SUB-COURSE AIDD-MS-3 · DP-800 DOMAIN 3

20 Lessons
DP-800 DOMAIN 3

AI Capabilities

The differentiating sub-course — embeddings, vector search, hybrid retrieval, and RAG inside the database.

This is the sub-course that distinguishes DP-800 from older SQL exams. Build AI features directly into your database: external models, embeddings, DiskANN vector search, hybrid RRF, and end-to-end RAG in T-SQL.

WHAT YOU'LL BE ABLE TO DO

- **Evaluate AI models.** Modality, language, size, latency, structured output.
- **Manage embeddings at scale.** Generation, chunking, maintenance.
- **Implement intelligent search.** Full-text, vector, and hybrid retrieval with RRF.
- **Tune for production.** Distance metrics, DiskANN indexes, measurement.
- **Build working RAG.** End-to-end RAG in T-SQL stored procedures.
- **Know when not to.** Identify RAG anti-patterns and trade-offs.

PREREQUISITES

AIDD-MS-1 and MS-2 or entry-diagnostic pass · the hardened FieldNote project · comfort with DAB, Functions, and Managed Identity.

DP-800 COVERAGE

Domain 3: Implement AI capabilities. Weight 25–30% — the most differentiated content, defining the modern DP-800.

AI-ENABLE — FIELDNOTE V3

Managed Identity secures the LLM calls, the Functions trigger maintains embeddings, and DAB+MCP exposes the RAG procedure — AI features on a production system.

LESSONS	TIME	FORMAT	EXAM
20	~16–20h	Hybrid	Domain 3

Ready to put AI inside the database?
Cohort dates and enrollment at doctaco.academy/aidd

MODULE DETAIL

Inside AIDD-MS-3

Module 3A · Models & Embeddings

7 LESSONS · ~6 HOURS

Evaluating external models. CREATE EXTERNAL MODEL. Deciding what to embed and how to chunk. AI_GENERATE_EMBEDDINGS with batch patterns and error handling. The six embedding-maintenance options with a decision framework.

CREATE EXTERNAL MODEL · AI_GENERATE_EMBEDDINGS · Chunking · Azure OpenAI · Ollama

Module 3B · Intelligent Search

8 LESSONS · ~6.5 HOURS

Search-strategy framework. Full-text search. The vector type, VECTOR_DISTANCE, VECTORPROPERTY. Distance metrics. ENN vs ANN with VECTOR_SEARCH and DiskANN. Hybrid search with RRF. An evaluation harness producing precision@10, recall@10, and latency.

Full-text · VECTOR_DISTANCE · VECTOR_SEARCH · DiskANN · RRF · Measurement

Module 3C · RAG in SQL

5 LESSONS · ~4 HOURS

When RAG is right — and the anti-patterns. sp_invoke_external_rest_endpoint. Building prompts and converting SQL results to JSON. End-to-end RAG as stored procedures. RAG quality measurement and observed failure modes.

sp_invoke_external_rest_endpoint · Prompts · JSON · RAG quality · Failure modes

Module 3D · Mini-Capstone — Make FieldNote AI-Native

12–16 HOURS

Add an embedding pipeline with maintenance, all three search strategies including hybrid+RRF, and an "ask FieldNote" RAG procedure exposed via MCP. Quality evaluation with the provided harness and a failure-mode analysis are required, with a 5–7 page design document.