

# Curriculum outline

105 self-study lessons in 14 tracks. Minutes are planning estimates, not measured completion times.

Content version 2026.10-2 · 2026-10-09

Each line shows the lesson number, title and planned minutes (reading + practice). Lesson data reviewed 2026-10-03. Every lesson is free to read at [vetslearn.com/curriculum/](https://vetslearn.com/curriculum/).

## Foundations

7 lessons · 32 + 135 min (2 hr 47 min)

|    |                                           |         |
|----|-------------------------------------------|---------|
| 01 | What AI actually is                       | 10 + 15 |
| 02 | Five useful prompts and how to check them | 3 + 20  |
| 03 | Prompt like an Operator                   | 6 + 15  |
| 04 | When AI is wrong                          | 3 + 20  |
| 05 | AI for your transition                    | 3 + 25  |
| 06 | AI vocabulary for choosing a workflow     | 4 + 20  |
| 07 | Where to go from here                     | 3 + 20  |

## Intermediate

10 lessons · 165 + 1515 min (28 hr)

|    |                                              |           |
|----|----------------------------------------------|-----------|
| 01 | Python for AI work                           | 16 + 30   |
| 02 | AI API requests and safe response handling   | 14 + 30   |
| 03 | Data fundamentals                            | 18 + 30   |
| 04 | Prompt engineering at scale                  | 18 + 30   |
| 05 | Retrieval-augmented generation, from scratch | 20 + 45   |
| 06 | Vector databases and embeddings              | 16 + 30   |
| 07 | Agents and tool use                          | 18 + 45   |
| 08 | Evaluation and observability                 | 16 + 45   |
| 09 | Cost, latency, and trade-offs                | 15 + 30   |
| 10 | Capstone: ship something real                | 14 + 1200 |

## Expert

10 lessons · 169 + 2805 min (49 hr 34 min)

|    |                                                             |           |
|----|-------------------------------------------------------------|-----------|
| 01 | ML and deep learning: enough to be dangerous                | 18 + 45   |
| 02 | LLM internals: how transformers work                        | 18 + 45   |
| 03 | Fine-tuning, post-training, and alignment                   | 17 + 45   |
| 04 | Production deployment patterns and infrastructure           | 18 + 45   |
| 05 | Monitoring, observability, and incident response            | 17 + 45   |
| 06 | AI security: prompt injection, model risk, supply chain     | 18 + 45   |
| 07 | Federal AI compliance: NIST AI RMF from the engineer's seat | 16 + 45   |
| 08 | ATO and FedRAMP for AI systems                              | 16 + 45   |
| 09 | Procurement from the engineer's chair                       | 15 + 45   |
| 10 | Capstone: production AI in a federal context                | 16 + 2400 |

## Annex A · Cleared Track

7 lessons · 102 + 190 min (4 hr 52 min)

|    |                                           |         |
|----|-------------------------------------------|---------|
| 01 | What cleared AI work actually means       | 14 + 20 |
| 02 | OPSEC for AI tools                        | 15 + 20 |
| 03 | On-prem and air-gapped AI                 | 16 + 30 |
| 04 | The cleared AI role landscape             | 15 + 30 |
| 05 | The certs that count                      | 14 + 30 |
| 06 | Talking about your work without violating | 15 + 30 |
| 07 | Where to go from here                     | 13 + 30 |

## Annex B · Leadership Track

7 lessons · 106 + 200 min (5 hr 6 min)

|    |                                                     |         |
|----|-----------------------------------------------------|---------|
| 01 | What you actually need to know about AI as a leader | 15 + 20 |
| 02 | Vendor evaluation that doesn't get gamed            | 16 + 30 |
| 03 | Writing AI requirements into a contract             | 16 + 30 |
| 04 | Risk management at the leader's altitude            | 15 + 30 |
| 05 | The budget cycle and color of money                 | 15 + 30 |
| 06 | Building and managing an AI team                    | 15 + 30 |

07 The first 180 days as an AI leader 14 + 30

## Academy · Orientation & Placement

3 lessons · 9 + 270 min (4 hr 39 min)

|    |                                           |        |
|----|-------------------------------------------|--------|
| O1 | Mission, roles, and the learning contract | 3 + 90 |
| O2 | Data handling and tool authorization gate | 3 + 90 |
| O3 | Diagnostic and safe workspace setup       | 3 + 90 |

## Academy · AI-Aware Operator

8 lessons · 24 + 960 min (16 hr 24 min)

|    |                                                             |         |
|----|-------------------------------------------------------------|---------|
| F1 | What modern AI systems do                                   | 3 + 90  |
| F2 | Safe use before prompting                                   | 3 + 90  |
| F3 | Prompt like an operator: Context, Task, Standards, Evidence | 3 + 120 |
| F4 | Verification, sources, and calibrated confidence            | 3 + 120 |
| F5 | Research, summarization, and drafting                       | 3 + 120 |
| F6 | Decision support and human oversight                        | 3 + 120 |
| F7 | Tools, multimodal inputs, and agent boundaries              | 3 + 120 |
| F8 | Foundations field exercise                                  | 3 + 180 |

## Academy · Applied AI Practitioner

8 lessons · 24 + 1740 min (29 hr 24 min)

|    |                                                     |         |
|----|-----------------------------------------------------|---------|
| A1 | Workflow audit and use-case selection               | 3 + 180 |
| A2 | Reusable CTSE workflows and quality standards       | 3 + 180 |
| A3 | Data preparation, provenance, and records           | 3 + 180 |
| A4 | Source-grounded research and retrieval              | 3 + 240 |
| A5 | Documents, spreadsheets, and multimodal work        | 3 + 240 |
| A6 | Workflow evaluation and operational metrics         | 3 + 240 |
| A7 | Team rollout, change control, and incident handling | 3 + 240 |
| A8 | Applied workflow capstone                           | 3 + 240 |

## Academy · AI Application Builder

12 lessons · 60 + 8460 min (142 hr)

|     |                                                             |          |
|-----|-------------------------------------------------------------|----------|
| B1  | Command line, Git, Python, and environments                 | 5 + 475  |
| B2  | HTTP, JSON, APIs, secrets, and failure handling             | 5 + 475  |
| B3  | Provider-neutral generation APIs                            | 5 + 475  |
| B4  | Data engineering for AI applications                        | 5 + 535  |
| B5  | Software quality, testing, and safe telemetry               | 5 + 535  |
| B6  | Structured outputs and bounded tools                        | 5 + 475  |
| B7  | Retrieval baseline from first principles                    | 5 + 535  |
| B8  | Production RAG: authorization, hybrid search, and grounding | 5 + 715  |
| B9  | Evaluation design and release gates                         | 5 + 595  |
| B10 | Agents and tool use under control                           | 5 + 715  |
| B11 | Deployment, operations, and cost evidence                   | 5 + 535  |
| B12 | Builder capstone and technical defense                      | 5 + 2395 |

## Academy · Production AI Engineer

12 lessons · 60 + 12060 min (202 hr)

|    |                                                       |         |
|----|-------------------------------------------------------|---------|
| P1 | Machine learning foundations for system builders      | 5 + 595 |
| P2 | Transformer and inference internals                   | 5 + 715 |
| P3 | Adaptation, fine-tuning, and post-training decisions  | 5 + 715 |
| P4 | Production architecture and inference serving         | 5 + 715 |
| P5 | AI threat modeling and adversarial testing            | 5 + 835 |
| P6 | Identity, authorization, privacy, and data protection | 5 + 715 |
| P7 | Evaluation engineering and statistical evidence       | 5 + 835 |

|     |                                                    |          |
|-----|----------------------------------------------------|----------|
| P8  | Observability, safe logging, and incident response | 5 + 835  |
| P9  | Reliable workflows and agents                      | 5 + 835  |
| P10 | Performance, reliability, and resource governance  | 5 + 715  |
| P11 | Secure supply chain and continuous delivery        | 5 + 715  |
| P12 | Production capstone, incident exercise, and board  | 5 + 3835 |

### Academy · Federal AI Mission Practitioner

9 lessons · 55 + 6185 min (104 hr)

|    |                                                                |          |
|----|----------------------------------------------------------------|----------|
| G1 | Mission, information, and authorization boundaries             | 6 + 354  |
| G2 | OPSEC and approved AI use                                      | 6 + 354  |
| G3 | FedRAMP 20x, cloud impact levels, and authorization boundaries | 6 + 594  |
| G4 | RMF and the Authority to Operate                               | 6 + 594  |
| G5 | Continuous authorization and DevSecOps evidence                | 6 + 534  |
| G6 | Federal AI governance and high-impact use                      | 6 + 594  |
| G7 | On-premises, disconnected, and open-weights operations         | 6 + 594  |
| G8 | Federal acquisition artifacts for engineers                    | 6 + 534  |
| G9 | Federal specialization capstone and board                      | 7 + 2033 |

### Academy · AI Program Leader

7 lessons · 44 + 3076 min (52 hr)

|    |                                                          |         |
|----|----------------------------------------------------------|---------|
| L1 | Leader's model of AI capability and accountability       | 7 + 353 |
| L2 | Use-case portfolio, value, and stop decisions            | 6 + 414 |
| L3 | Vendor evaluation and mission bake-off                   | 6 + 474 |
| L4 | Requirements, test strategy, and acceptance              | 6 + 474 |
| L5 | AI risk governance and incident leadership               | 6 + 474 |
| L6 | Funding, lifecycle resources, and fiscal role discipline | 6 + 414 |
| L7 | Team, operating model, and 180-day leadership practicum  | 7 + 473 |

### Academy · AI Career Evidence

4 lessons · 25 + 1415 min (24 hr)

|    |                                                          |         |
|----|----------------------------------------------------------|---------|
| T1 | Role families and evidence-based gap analysis            | 6 + 294 |
| T2 | Resume, profile, and interview translation with OPSEC    | 6 + 354 |
| T3 | Portfolio, technical narrative, and credential selection | 6 + 414 |
| T4 | Career campaign and evidence defense                     | 7 + 353 |

### Workspace

1 lesson · 4 + 30 min (34 min)

|    |                                         |        |
|----|-----------------------------------------|--------|
| 01 | Set up a workspace your AI can navigate | 4 + 30 |
|----|-----------------------------------------|--------|

### How self-review and quizzes work

- Each lesson has a practice exercise. The learner reviews their own work against the lesson. No instructor sees it or grades it.
- 42 of the 105 lessons have a knowledge check. It is open-book and checks recall. It is not a secure exam or an independent assessment.
- Practice uses made-up or public examples. Learners should not paste classified, controlled or personal data into an AI tool.

### What a completion record means

- It means the learner marked the lesson complete. Completion is self-reported.
- It does not mean a skill was tested, and it is not a certification.
- With an optional free account, completions in these tracks are saved to the account: Foundations; Intermediate; Expert; Annex A · Cleared Track; Annex B · Leadership Track. Academy and Workspace progress stays in the learner's own browser.
- VetsLearn has no team reporting and no LMS integration. It does not send an organization any record about a learner.

Questions: [agencies@soldierdata.com](mailto:agencies@soldierdata.com)

VetsLearn is operated by Soldier Data LLC, Lacey, Washington. Content version 2026.10-2 · 2026-10-09. Current copy: [vetslearn.com/org/curriculum-outline/](https://vetslearn.com/org/curriculum-outline/)