



SCIENS ACADEMY
A DIVISION OF SCIENS TECHNOLOGIES

Forward Deployment Engineering Fellowship

Curriculum, Standards, and Regulations

VOLUME I · EDITION MMXXVI
Issued under the authority of the Office of the Dean

*Be it known that the following pages set forth the course of study,
the standards of assessment, and the credentials conferred by
Sciens Academy upon its Fellows.*

THE OFFICE OF THE DEAN
Sciens Technologies · sciens.app/academy

PREAMBLE

Of the Fellowship and its Purpose

Sciens Academy convenes this Fellowship to prepare engineers who deploy, operate, and extend sovereign artificial intelligence within the regulated institutions of finance, health, energy, defense, and government. The programme is taught upon live systems and under authentic constraints. Its instruments of instruction are the runbook and the deployment; its instrument of certification is demonstrated practice.

Article I

The Forward Deployment Engineer

The role of the Forward Deployment Engineer, first named at Palantir and now established at OpenAI, Anthropic, and every serious enterprise, artificial-intelligence vendor, is that of a practitioner embedded within the client institution. The Forward Deployment Engineer commits to the client's repository, joins its on-call rotation, and answers to its change-advisory board. It is the office of this practitioner to convert model capability into an operating system within a regulated environment, and to mediate between the vendor's platform team, the client's platform team, and the frontline users who will depend upon the workload.

Article II

Programme at a Glance

Duration	Nine weeks, three hundred and twenty contact hours.
Structure	Two weeks of preparatory study, one week of on-site residency, and six weeks of supervised practicum.
Cohort	Eight Fellows, admitted by invitation. Instruction is delivered in English at a ratio of one instructor to eight Fellows.
Credential	The Associate tier of the Certified Sciens Artificial-Intelligence Forward Deployment Engineer (CSAI-FDE) is conferred upon completion; the Professional tier upon two live, signed-off client deployments.
Continuing education	Approximately thirty-two continuing education units, or sixty continuing professional education credits, eligible for self-report to ISACA and (ISC) ² .
Admissions	By invitation of the Dean, upon nomination by a sponsor at the level of Vice-President or above, and against a scoped production workload.

Article III

Curriculum

The programme is ordered in five modules, taught upon live systems and not from slides. Each module concludes with a written and a demonstrated examination, marked by the lead instructor and countersigned by a non-teaching examiner.

MODULE I

Deployment topology and hardware

The physical and logical form of a sovereign artificial-intelligence stack. Fellows conclude the module able to justify a topology before an architecture review board.

- § Single-node, high-availability cluster, and air-gapped reference architectures.
- § Planning of graphics-processing units, thermal budgets, redundancy, and power.
- § Segmentation of networks, control of egress, and design of audit boundaries.
- § Change management, backup, disaster recovery, and the collection of evidence.

MODULE II

Model lifecycle in a regulated environment

The selection, validation, and versioning of open-weight models under model-risk oversight.

- § Selection against workload, licensing, and jurisdictional constraints.
- § Quantization, distillation, and inference optimization upon constrained hardware.
- § Evaluation harnesses, drift detection, and the discipline of champion and challenger.
- § Preparation of SR 11-7 aligned artefacts and independent validation packages.

MODULE III

Retrieval architecture and data governance

The bringing of enterprise knowledge to the model without the removal of the data.

- § Chunking, embedding, and re-ranking pipelines for regulated corpora.
- § Row and column level access, inheritance of entitlements, and tenant isolation.
- § Records management, classification of data, and right-to-be-forgotten workflows.
- § Retrieval evaluation, scoring of faithfulness, and provenance of answer.

MODULE IV

Security, identity, and operations

The operation of the platform within the client's identity, control, and audit fabric.

- § Federation of identity, single sign-on, provisioning, and least privilege.
- § Management of secrets, integration with key-management and hardware security modules.
- § Observability, service-level discipline, incident response, and the integrity of the audit trail.
- § Red-team playbooks: prompt injection, jailbreaks, and exfiltration of data.

MODULE V

Capstone: production deployment

A signed, live workload within the client's environment. This is the certifying artefact of the Fellowship.

- § Statement of scope, countersigned by the client sponsor and the Academy Dean.
- § Design review, security review, and change-advisory approval.
- § Live cutover, on-call rotation, and thirty days of operational hardening.
- § Runbook, evidence pack, and hand-back to the client platform team.

Article IV

Assessment and Certification

Fellows are assessed across five competencies. The pass mark is eighty per cent, weighted, with no single competency permitted to fall below seventy.

COMPETENCY	WEIGHT	MATTER OF ASSESSMENT
Architecture and deployment	25%	Topology justification; design of hardware and network; disaster-recovery posture.
Model lifecycle discipline	20%	Model selection; validation package; drift; champion and challenger.
Retrieval and data governance	20%	Ingestion; entitlements; tenant isolation; provenance.
Security and operations	20%	Identity; secrets; observability; incident response; red-team.
Capstone delivery	15%	Live deployment; runbook; hand-back to the client.

Article V

Credential Tiers

TIER	AWARDED WHEN	SCOPE OF PRACTICE
CSAI-FDE, Associate	Upon completion of the Fellowship and sign-off of the capstone.	Practises under senior supervision within a Sciens pod or a client platform team.
CSAI-FDE, Professional	Upon two live, signed-off client deployments in the field.	Leads a workstream within a regulated production environment.
CSAI-FDE, Senior	Upon portfolio review by the Academy Dean.	Owns end-to-end deployment across multiple regulated institutions.

Article VI

Admissions and Prerequisites

§ Three or more years in platform, data, machine-learning operations, or security engineering, with fluency in Linux, containers, and Python.

§ A named executive sponsor at the level of Vice-President or above, and a scoped production workload against which the Fellow shall deploy.

§ A graded preparatory examination in model risk, retrieval, and identity; pass mark eighty per cent; one retake permitted.

§ A background check and mutual non-disclosure. Admission is open to qualified engineers regardless of jurisdiction.



Attestation

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authority of the Office of the Dean.*

Given this year, of the twenty-first century,
at the seat of Sciens Technologies.

DEAN

Sciens Academy

REGISTRAR

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