SYLLABUS FOR BOARD OF STUDIES ADOPTION — generated from the live catalogue record

MLOps: Taking Models to Production

S-10A · 3 days (configurable 1–5 days) · Informatics · AI · Years: 2nd, 3rd, PG

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OVERVIEW

Versioning, containerised serving, monitoring and a model deployed behind an API.

Most machine-learning models never reach production; MLOps skills close that gap and are in acute demand as organisations operationalise AI.

HOURS AND CREDIT POSITION

Contact hours: 24 Guided project: 6 Self-study: 0 Notional total: 30

Credit claim: 1
30 notional hours ÷ 30 hours per credit (NSQF track, UGC Micro-credentials Guidelines §5.3.3) = 1 credits.

COURSE OUTCOMES

CO1. Describe the MLOps lifecycle and common failure modes (K2)
CO2. Apply versioning to data, code and models for reproducibility (K3)
CO3. Package and serve a model behind an API (K3)
CO4. Build a reproducible training-to-deployment pipeline (K3)
CO5. Monitor a deployed model for drift and performance (K4)

COURSE CONTENT — MODULES

Hours shown are the recommended format; module time scales proportionally when the engagement runs 1–5 days.

Module 1 — MLOps foundations (4h recommended)
Theory: The ML lifecycle, why models fail in production
Lab: Map the lifecycle and its failure points
Output: Lifecycle map

Module 2 — Versioning (4h recommended)
Theory: Data, code and model versioning
Lab: Version a dataset, code and model
Output: Versioned project

Module 3 — Packaging and serving (4h recommended)
Theory: Containerised model serving behind an API
Lab: Serve a model behind an API
Output: Served model

Module 4 — Pipelines (4h recommended)
Theory: Reproducible training and deployment pipelines
Lab: Build a reproducible pipeline
Output: Pipeline definition

Module 5 — Monitoring (4h recommended)
Theory: Performance, drift, alerting
Lab: Add monitoring and alerts
Output: Monitoring dashboard

Module 6 — MLOps capstone (4h recommended)
Theory: A model deployed behind a monitored API
Lab: Deploy the capstone model
Output: Monitored deployed model

ASSESSMENT SCHEME (100 MARKS)

Continuous lab exercises — 40 marks
Capstone project & demonstration — 40 marks
Quiz & viva voce — 20 marks

CO–PO MAPPING

CO1 !' PO1 (strength 2)
The MLOps lifecycle is foundational knowledge.

CO2 !’ PO5 (strength 2)
Versioning tools are modern-tool usage.
CO3 !’ PO5 (strength 2)
Serving infrastructure is modern-tool usage.
CO4 !’ PO3 (strength 2)
A reproducible pipeline is a developed solution.
CO5 !’ PO4 (strength 2)
Drift monitoring is ongoing investigation.

EVERY PARTICIPANT RECEIVES

- Certificate of completion
- Course material
- LMS access
- Interview question bank
- Mock interview & viva practice
- Optional nasscom NSQF assessment (priced per candidate on your quotation)

FEE

¹900 per student, incl. GST
Excludes the optional nasscom assessment where offered. Final pricing on your college's quotation.

DESIGNED BY

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