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

Data Analytics with Excel, SQL and Power BI

C-03 · 3 days (configurable 1–5 days) · Informatics · Data & Analytics · Years: 2nd, 3rd, PG

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OVERVIEW

Students clean a messy dataset, query it in SQL and publish a working Power BI dashboard.

The most employable single skill a degree student can leave with, and it works just as well for Commerce and Management cohorts.

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. Profile a raw dataset and identify structural defects — duplicates, type errors, missing values (K4)
CO2. Transform an unnormalised table into a queryable relational structure (K3)
CO3. Construct SQL queries using joins, aggregates and window functions (K3)
CO4. Design a Power BI data model with defined relationships and DAX measures (K5)
CO5. Evaluate a dashboard against its intended decision and justify each visual choice (K5)

COURSE CONTENT — MODULES

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

Module 1 — Spreadsheet engineering (4h recommended)
Theory: Tables, absolute references, named ranges, lookup functions, pivot tables
Lab: Rebuild a messy sheet into an analysis-ready table
Output: Clean workbook with pivots

Module 2 — Data cleaning discipline (4h recommended)
Theory: Duplicates, type errors, missing values, outliers, documentation of decisions
Lab: Profile and clean a genuinely dirty dataset
Output: Cleaning log + clean dataset

Module 3 — SQL foundations (4h recommended)
Theory: SELECT, WHERE, ORDER BY, aggregate functions, GROUP BY
Lab: Query drills against a seeded database
Output: Twenty working queries

Module 4 — SQL that answers questions (4h recommended)
Theory: Joins, subqueries, window functions for running totals and ranks
Lab: Translate five business questions into SQL
Output: Question-to-query workbook

Module 5 — Power BI modelling (4h recommended)
Theory: Data model, relationships, DAX measures, calculated columns
Lab: Model the cleaned dataset with defined relationships
Output: Power BI data model

Module 6 — Dashboards that decide (4h recommended)
Theory: Visual selection, interactivity, publishing; capstone build
Lab: Capstone: a dashboard answering one stated decision
Output: Published dashboard + walkthrough

ASSESSMENT SCHEME (100 MARKS)

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

CO–PO MAPPING

CO1 !' PO2 (strength 2)
Profiling defects is the analytical core of data work.

CO2 !’ PO3 (strength 2)
Normalisation is the design step between mess and meaning.
CO3 !’ PO5 (strength 2)
SQL is the industry's shared analytical tool.
CO4 !’ PO5 (strength 2)
Modelling in Power BI is applied tool mastery.
CO5 !’ PO10 (strength 2)
Defending visual choices is analytical communication.

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

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

DESIGNED BY

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