SYLLABUS 2025-2026

Data Management and Cybersecurity

MODULE SPECIFICATION

Module Code	2526_TFB_1_EN_003
Campus	Oxford
Department(s)	Tech for Business
Level / Semester	Undergraduate Year 2 (U2); Equivalent to FHEQ level 5 Semester 03
Language of Instruction	English
Teaching Method	☒ In-person (face-to-face) ☐ Distance learning (live online) ☐ e-Learning (asynchronous) ☐ Hybrid: _____
Pre-requisite(s)?	None
ECTS *Reminder: 1 ECTS = between 20 and 30hr- student workload*	4
Equivalent FHEQ credits	8
Study Hours	80 hours which comprise of 30 directed learning and 50 independent learning/assessment hours

MODULE DESCRIPTION

Module Aims	This module introduces students to data classification, analysis, and visualisation for informed decision-making. Students use tools like Power BI and explore the role of emerging technologies in managing data. The module also covers cybersecurity practices to ensure secure digital environments.
Teaching Arrangement	More than 1/3 of this module will be hands-on learning. As such, it will

	be a "blended"/mixed" module combining face-to-face teaching with the realisation of practical activities (IOT workshop, exercises, games, etc.) and e-learning (practice on the PIX platform)
Learning Outcomes	By the end of this module, students should be able to: 1. Analyse and classify data based on their characteristics, sources, and relevance for decision-making. 2. Use Power BI and other tools to collect, analyse, and visualise data for business insights. 3. Evaluate the role of emerging technologies such as IoT and AI in data management and decision-making. 4. Apply cybersecurity best practices to protect data and mitigate cyber risks in digital environments.
Competency Goals *(Knowledge, expertise and interpersonal skills)*	PGE_U_CG05 - Innovate to adapt to its environment
	PGE_U_CG07 - Improve performance through digitalisation
Alignment with Programme Learning Goals	PGE_U_CG05_LO02 - Create and maintain a culture of innovation
	PGE_U_CG07_LO02 - Protect data and make data-driven decisions

SESSION TOPICS / MODULE SCHEDULE

(Please note, a session/sequence may be more than one scheduled class)

Session 1: Module Presentation

Content:

- Presentation of Khan Academic MOOC
- Presentation of continuous assessments
- Data
    - Types of data
    - Source of data
    - Other "data"
    - Big data
    - Metadata
    - Open data
- Context: the new oil of the XXI century
    - Big players in the data world (GAFAM - BATX)

Assignments:

- Read: Morrow, J. (2021) *Be data literate: The data literacy skills everyone needs to succeed*. Kogan Page. (Chapters 1 & 3)

Session 2: Data Storage

Content:

- Data storage (files, databases, Cloud)
- Power BI introduction

Assignments:

- Read: Morrow, J. (2021) *Be data literate: The data literacy skills everyone needs to succeed*. Kogan Page. (Chapters 2, 5, & 9)
- *Collections: Get Started Using Power BI* (2021) *Microsoft Learn: Build skills that open doors in your career*. Available at: https://learn.microsoft.com/en-us/collections/k8xidwwnzk1em.
    - Do modules

Session 3: Power BI Desktop

Content:

- Collect, analyse and visualise data (Power BI)

Assignments:

- *Create and use analytics reports with power BI* (no date) *Training: Microsoft Learn*. Available at: https://learn.microsoft.com/en-us/training/paths/create-use-analytics-reports-power-bi/.
    - Do modules 1 and 2

Session 4: Power BI Desktop (cont.)

Content:

- Collect, analyse and visualise data (Power BI) - cont.
- Introduction to Part 1 of the continuous assessment (Case on Power BI) - due Session 5

Assignments:

- *Create and use analytics reports with power BI* (no date) *Training: Microsoft Learn*. Available at: https://learn.microsoft.com/en-us/training/paths/create-use-analytics-reports-power-bi/.
    - Do modules 3, 4, 5, and 6
- *Power BI Overview* (no date) *Training: Microsoft Learn*. Available at: https://learn.microsoft.com/en-us/training/powerplatform/power-bi.
    - Do modules

Session 5: Telecommunications

Content:

- Sharing data
- Introduction to networks and telecommunications
- Submit result PIX Part 1
- Submit work on Power BI case

Assignments:

- Finish and submit work on Power BI case

Session 6: Some Data Technologies

Content:

- Some data technologies: IOT, AI, blockchain

Assignments:

- Read: Morrow, J. (2021) *Be data literate: The data literacy skills everyone needs to succeed*. Kogan Page. (Chapter 10)

Session 7: Some Data Technologies (cont.)

Content:

- Practice/workshop related to IOT
- Introduction to MOOC on AI
    - Part 2 of continuous assessment due Session 8

Last reviewed: 18/07/2025

Assignments:

- Submit PowerBI case part 2

Session 8: Some Data Technologies (cont.)

Content:

- Practice/workshop on AI and blockchain
- Submit result from AI MOOC

Assignments:

- Finish activities from Session 7 (if not finished in class)

Session 9: Cybersecurity

Content:

- Data security and its context
- Securing data (context, profiles, and motivation of hackers, cyberspace and cyber threats)
- Reminder of internet safety test

Assignments:

- Finish activities from Session 8 (if not finished in class)
- Read: George, H. (2020) *Cybersecurity: Essential guide for beginners to learn basic methods of cybersecurity*. Independently Published. (Chapters 1, 2, &3)

Session 10: Cybersecurity (cont.)

Content:

- Everyday security and how to manage risk
- Good practices and frameworks (Cloud security/IOT security, etc.)

Assignments:

- Watch Khan Academy's MOOC "Internet Safety"
- Read: George, H. (2020) *Cybersecurity: Essential guide for beginners to learn basic methods of cybersecurity*. Independently Published. (Chapters 4, 5, 7, & 8)
- GDPR case part 1

Session 11: Cybersecurity (cont.)

Content:

- General Data Protection Regulation (GDPR)

Assignments:

- Read: (2024) *General Data Protection Regulation (GDPR)*. Available at: https://gdpr-info.eu/. (Chapters 1, 2, & 3)
- GDPR case part 2

Session 12: Data Issues

Content:

- Other issues associated with data (data governance, data ownership, quality of data, etc.)
- Module closure with information related to the exam

Assignments:

- Prepare review questions
- Read: Morrow, J. (2021) *Be data literate: The data literacy skills everyone needs to succeed*. Kogan Page. (Chapter 4)
- Pass internet safety test (questions related to Khan Academy MOOC)

Last reviewed: 18/07/2025

KEY TEXTS

1. Morrow, J. (2021) *Be data literate: The data literacy skills everyone needs to succeed*. Kogan Page.
2. Taal, A. (ed.) (2021) *The GDPR challenge: Privacy, technology, and compliance in an age of accelerating change*. CRC Press.
3. Priyadarshini, I. and Cotton, C. (2022) *Cybersecurity: Ethics, legal, risks, and policies*. Apple Academic Press.

SUPPLEMENTARY TEXTS / ADDITIONAL RESOURCES

1. (2024) *General Data Protection Regulation (GDPR)*. Available at: https://gdpr-info.eu/.
2. *Collections: Get Started Using Power BI* (2021) *Microsoft Learn: Build skills that open doors in your career*. Available at: https://learn.microsoft.com/en-us/collections/k8xidwwnzk1em.
3. *Create and use analytics reports with power BI* (no date) *Training: Microsoft Learn*. Available at: https://learn.microsoft.com/en-us/training/paths/create-use-analytics-reports-power-bi/.
4. *Power BI Overview* (no date) *Training: Microsoft Learn*. Available at: https://learn.microsoft.com/en-us/training/powerplatform/power-bi.

MODES OF ASSESSMENT

Continuous Assessment (40%)	Case design	20%
	Group work	20%
Final Exam (60%)	Closed book written exam	

MODULE DESIGN TEAM

- Author: *Pierrick Harant*
- Reviewer: *David Oparah*
- External Reviewer: *Marios Tsatsos*

Last reviewed: 18/07/2025