

FIN306: Course Introduction

Financial Technology and Data Science with Bloomberg

Welcome

- ▶ **FIN306: FinTech and ~~Disruptive Innovation~~ Data Science**
- ▶ **Level 5 (BSc FinTech, Semester 2)**

i Note on Module Name

The official module name in university systems is “FinTech and Disruptive Innovation” (administrative). The course content focuses on **Financial Technology and Data Science** with Bloomberg Terminal expertise. This reflects the module’s evolution and will be updated in university systems next academic year.



Who I Am

- ▶ Professor of Finance and Financial Technology, Ulster University Business School
- ▶ Background: applied econometrics and financial markets; interested in how AI/ML are reshaping finance
- ▶ Prior industry: currency trading and liquidity management
- ▶ Teaches: quantitative finance, econometrics, and data science for finance
- ▶ Focus:
 - ▶ Applied econometrics + ML for finance (forecasting, anomaly detection)
 - ▶ Portfolio optimisation and risk
 - ▶ Digital finance adoption/infrastructure and regulation

Who I Am

- ▶ Emphasis: ethical data use, reproducibility, and building confidence, curiosity, and resilience
- ▶ Software: tsfe (Time Series Econometrics), fml (Financial ML)
- ▶ Recent work: IEEE Internet of Things Journal (2025); IEEE TEC (2024)
- ▶ Professional: Chartered Statistician (RSS); Advanced Data Science Professional (Alliance for Data Science Professionals)
- ▶ Office hours: by appointment · Email: b.quinn1@ulster.ac.uk

Course at a Glance

- ▶ 12-week module combining statistical foundations with practical Bloomberg Terminal expertise
- ▶ **Weeks 1-3:** Foundations (statistical inference, data science principles)
- ▶ **Weeks 4-6:** FinTech applications (platforms, robo-advisors)
- ▶ **Weeks 7-9:** Machine learning and validation
- ▶ **Weeks 10-12:** Advanced topics and synthesis
- ▶ See: Module Overview for complete schedule

Lab Structure

From **Week 2 onwards**, labs follow a **Homework → In-Class** structure:

- ▶ **Homework** (Colab notebooks): Learn concepts with accessible tools
 - ▶ Complete before class
 - ▶ Accessible from any device
 - ▶ Prepares you for Bloomberg work
- ▶ **In-Class** (Bloomberg Terminal): Apply with professional data
 - ▶ ~20 terminals available in Belfast Campus Bloomberg Room
 - ▶ Instructor support during sessions
 - ▶ Efficient use of limited terminal access

Week 1: Foundation lab uses Colab only (no Bloomberg yet)

Assessments

- ▶ **Coursework 1 : Responsible Data Science in FinTech (30%)**
 - ▶ Week 6: Submission deadline (recorded 5-min presentation + 6–8 slides + data risk register 1–2 pp, 8–12 risks, one ZIP via Blackboard)
 - ▶ Brief on Blackboard; topic confirmation by Week 5
 - ▶ Focus: Data quality, selection bias, and responsible practice evaluation
- ▶ **Coursework 2 : Applied Data Science with Critical Reflection (70%)**
 - ▶ Week 13: Due date (see Blackboard)
 - ▶ Brief released: Week 7
 - ▶ Format: Technical report (2,500 words) + completed scaffold notebook
 - ▶ Focus: Critical analysis and reflection on methodology

Full details: Module Handbook on Blackboard

How We Work

▶ **Student workflow:**

- ▶ Review chapter → Complete homework lab (Colab) → Attend in-class Bloomberg session
- ▶ Run notebooks, tweak parameters, document learning
- ▶ Ask questions early (office hours, lab sessions)

▶ **Course materials:**

- ▶ Chapters: Context and theory
- ▶ Slides: Lecture previews
- ▶ Labs: Hands-on practice (Colab + Bloomberg)
- ▶ All available on course website

Expectations : From You

- ▶ **Come prepared:** Review chapter and complete homework lab before in-class Bloomberg session
- ▶ **Practise actively:** Modify code, experiment with parameters, document what changed and why
- ▶ **Ask early:** Use office hours and raise questions during lab sessions
- ▶ **Academic integrity:** Cite sources, explain reasoning, submit original work

Expectations : From Me

- ▶ Clear weekly structure with runnable examples
- ▶ Timely feedback on assessments
- ▶ Office hours and active support during labs
- ▶ Transparent rubrics and realistic, assessment-aligned tasks
- ▶ Professional standards with approachable delivery

Resources

- ▶ **Course Website:** <https://quinfer.github.io/financial-data-science>
 - ▶ All chapters, slides, and labs
 - ▶ Module-specific schedule and assessments
- ▶ **Colab Notebooks:** <https://github.com/quinfer/fin510-colab-notebooks/labs/>
 - ▶ Homework labs (Weeks 1+)
 - ▶ One-click access via “Open in Colab” buttons
- ▶ **Bloomberg Terminal:**
 - ▶ Belfast Campus Bloomberg Room (~20 terminals)
 - ▶ Bloomberg Market Concepts (BMC) certification recommended
 - ▶ In-class sessions begin Week 2
- ▶ **Module Handbook:** Blackboard → Course Content → Module Handbook
 - ▶ Complete assessment details, rubrics, academic policies

Contact

- ▶ Email: b.quinn1@ulster.ac.uk
- ▶ Office hours: By appointment
- ▶ Course site: <https://quinfer.github.io/financial-data-science>

Welcome Aboard

Let's build practical, evidence-based skills in financial data science with professional Bloomberg Terminal expertise.

Next: Week 1 Foundations slides → Lab 0 (Colab) → Week 1 lecture