Quantitative Methods | ECU44172/ECU44174

Year	Senior Sophister
ECTS Credits	10/5
Contact Hours	22 hours of lectures and 4 hours of tutorials
Pre-Requisite	ECU33081, ECU33082, ECU33091, ECU33092
Semester	2
Module Leader and Lecturer	Professor Paul Scanlon
Contact Email	scanlop@tcd.ie

Module Outline:

The objective of the module is to furnish students sufficient quantitative skills to analyse and perform advanced research in economics.

Topics Covered Include:

- 1. Differential and difference equations
- 2. Dynamic optimization and Economic Applications
- 3. Dynamic Programming
- 4. Stochastic calculus

Module Learning Outcomes:

1. Understand cutting-edge research in economics.

2. Replicate and expand existing economic models.

3. Develop intuition for mathematical modelling and optimality conditions.

Assessment:

For 10 ETCS students, a term test will comprise 20% of course grade, while the final will count for the remaining 80%.

For 5 ETCS students, the term test will comprise 100% of the final grade.

Recommended Reading List:

Hoy, Michael et al., *Mathematics for Economics*, any edition, MIT Press.