

## Social Forecasting | POP77014

Year	1
ECTS Credits	5
Contact Hours	10 hours of lectures, 10 hours of tutorials
Pre-requisite	Basic knowledge of statistics
Semester	2
Module Leader & Lecturer	Dr Thomas Chadeaux
Contact Email	chadeaux@tcd.ie

### Module Outline

#### Module Learning Aims:

This module aims to explore the application of forecasting methods and theory to socially significant domains. It emphasises both theoretical underpinnings and practical implementation, drawing on case studies from real-world applications. The goal is to equip students with both the conceptual knowledge and technical skills necessary for designing and evaluating forecasting systems.

#### Module Learning Outcomes:

On successful completion of this module, students will be able to:

1. Understand and explain fundamental concepts and methodologies in forecasting.
2. Apply forecasting methods to real-world social phenomena.
3. Critically assess the effectiveness of different forecasting approaches.
4. Design and implement basic forecasting systems.

#### Module Content:

- Introduction to Social Forecasting: Overview of the field, significance, and foundational concepts
- Performance Evaluation and Validation
- Smoothing and ARIMA
- Neural Networks for time series forecasting (I)
- Neural Networks for time series forecasting (II); Communication

### Assessment

Coursework assignments (50%)

Final project (50%)

### Recommended Reading List

Shmueli, Galit, and Kenneth C. Lichtendahl Jr. Practical Time Series Forecasting with R: A Hands-on Guide (2nd ed.). Axelrod Schnall Publishers, 2018.

