

### Classical Time Series Modelling (Unit 1)

1. Identify/model long-term trends (polynomial regression, smoothing, etc.)
2. Identify/model seasonal components (harmonic regression, differencing, etc.)
3. Determine whether residuals are uncorrelated over time, via the sample ACF

### Linear Filters and ARMA(p,q) processes (Unit 2)

Identify ARMA behaviour in the residuals by examining their sample ACF, and/or using more quantified diagnostics such as AIC.

### Linear Prediction and Forecasting (Unit 3)

1. Partition the data into training (past) and testing (future) intervals.
2. Evaluate the training model's forecasting abilities by comparing its prediction (and 95% CI) to the testing data.
3. Forecast some length of time into the future, using the full dataset, and plot.

### Theory + Interpretation

1. Was the students model able to effectively capture the data's behaviour?  
If not, what were the main barriers? (non-stationarity, missing data, etc.)
2. Were the student's hypotheses supported by the model?
3. What scientific conclusions can be made about the data, given the final model?