Time series models for ecologists: course timetable

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Module pre-requisites can be found here. All the raw files and code can be found here. Click 'Download ZIP' near the top right if you want an offline version of the material

Monday 26th June

Time	Class
8:00-9:00	Introduction, example data sets Class 1
9:00-9:15	Coffee break
9:15-10:15	Revision: likelihood and inference Class 2
10:15-10:30	Break
10:30-11:30	Revision: linear regression and GLMs Class 3
11:30-12:45	Lunch
12:45-14:00	Tutor-guided practical: Loading data in R and running simple analysis Practical 1
14:00-14:30	Coffee break
14:30-16:00	Self-guided practical: Analysing some example data sets Practical 2

Tuesday 27th June

Time	Class
8:00-9:00	Auto-regressive models and random walks Class 1
9:00-9:15	Coffee break
9:15-10:15	Moving averages and ARMA Class 2
10:15-10:30	Break
10:30-11:30	Integrated models and ARIMA Class 3
11:30-12:45	Lunch
12:45-14:00	Tutor-guided practical: the forecast package in R Practical 1
14:00-14:30	Coffee break
14:30-16:00	Self-guided practical: Fitting ARIMA models with forecast Practical 2

Wednesday 28th June

Time	Class
8:00-9:00	Including covariates: ARIMAX models Class 1
9:00-9:15	Coffee break
9:15-10:15	Model choice and forecasting Class 2
10:15-10:30	Break
10:30-11:30	Creating bespoke time series models using Bayes Class 3
11:30-12:45	Lunch
12:45-14:00	Tutor-guided practical: a walkthrough example time series analysis Practical 1

Time	Class
14:00-14:30	Coffee break
14:30-16:00	Self-guided practical: finding the best time series model for your data set Practical 2

Thursday 29th June

Time	Class
8:00-9:00	Modelling with seasonality and the frequency domain Class 1
9:00-9:15	Coffee break
9:15-10:15	Stochastic volatility models and heteroskedasticity Class 2
10:15-10:30	Break
10:30-11:30	Fitting Bayesian time series models Class 3
11:30-12:45	Lunch
12:45-14:00	Tutor-guided practical: fitting time series models in JAGS and Stan Practical 1
14:00-14:30	Coffee break
14:30-16:00	Self-guided practical: start analysing your own data set

Friday 30th June

Time	Class
8:00-9:00	Models for continuous time series: Brownian Motion and Ornstien Uhlenbeck processes Class 1
9:00-9:15	Coffee break
9:15-10:15	State-space and change point models Class 2
10:15-10:30	Break
10:30-11:30	Multivariate time series models and co-integration Class 3
11:30-12:45	Lunch
12:45-16:00	Open session: analyse your own data set