SYSTEMS DESIGN ENGINEERING

Time Series Modelling

SYDE 730 topic 10   **Winter**

The theory and application of time-series modelling are presented for describing phenomena measured at discrete points in time. The types of time-series models include stationary autoregressive moving average (ARMA), nonstationary, special families of seasonal, transfer function-noise (multiple inputs - single output), intervention, and multivariate (multiple inputs - multiple outputs) models. Applications are used for explaining how the foregoing models are fitted to both natural and socio-economic time series by following the identification, estimation and diagnostic check stages of model construction. Other topics include simulation in engineering design, forecasting in the operation of large-scale projects, and environmental impact assessment.

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