1. Different types of data [[Practical Time series analysis](https://drive.google.com/file/d/1-NqVpF3__iKll7qvAu3Ebcx76DE-d2yH/view?usp=sharing)]
   * Cross-sectional data [p.8]
   * Time series data [p.16-18]
   * Panel data [p.19-21]
2. Time series components [[Practical Time series analysis](https://drive.google.com/file/d/1-NqVpF3__iKll7qvAu3Ebcx76DE-d2yH/view?usp=sharing) pp.21-32]
3. Time series statistics
   * Autocorrelation [[post](https://dzone.com/articles/autocorrelation-in-time-series-data)]
   * Stationary process[[post1](https://www.analyticsvidhya.com/blog/2018/09/non-stationary-time-series-python/), [post2](https://machinelearningmastery.com/time-series-data-stationary-python/)]
4. Time series manipulation [[Practical Time series analysis](https://drive.google.com/file/d/1-NqVpF3__iKll7qvAu3Ebcx76DE-d2yH/view?usp=sharing) pp.48-54]
5. Time series smoothing and stable components
   * Types of components dependencies and time series decomposition [[post](https://machinelearningmastery.com/decompose-time-series-data-trend-seasonality/)]
   * MA [[Practical Time series analysis](https://drive.google.com/file/d/1-NqVpF3__iKll7qvAu3Ebcx76DE-d2yH/view?usp=sharing) p.69-78, [post](https://machinelearningmastery.com/moving-average-smoothing-for-time-series-forecasting-python/)]
   * Exponential Smoothing [[post](https://machinelearningmastery.com/exponential-smoothing-for-time-series-forecasting-in-python/), [post](https://uncoolai.com/exponential-smoothing-for-time-series-forecasting/)]
6. ARIMA (only application) [[post](https://towardsdatascience.com/get-a-glimpse-of-future-using-time-series-forecasting-using-auto-arima-and-artificial-intelligence-273efabec6aa)]
7. Time based cross validation [[post](https://towardsdatascience.com/time-based-cross-validation-d259b13d42b8)]
8. Time series regression model [[e-book](https://otexts.com/fpp2/regression.html): 5.1, 5.3, 5.6]
9. Feature extraction [[post](https://www.analyticsvidhya.com/blog/2019/12/6-powerful-feature-engineering-techniques-time-series/)]
10. Example of end-to-end ts forecasting [[post](https://mlcourse.ai/articles/topic9-part1-time-series/)]

### **Additional**

* Time Series in Python — Exponential Smoothing and ARIMA processes [[link](https://towardsdatascience.com/time-series-in-python-exponential-smoothing-and-arima-processes-2c67f2a52788)]
* 7 methods to perform Time Series forecasting (with Python codes) [[link](https://www.analyticsvidhya.com/blog/2018/02/time-series-forecasting-methods/)]
* Coursera [course](https://www.coursera.org/learn/practical-time-series-analysis#about), which cover all basic theoretical aspects of ARIMA models (weeks 2-4)
* Coursera [course](https://www.coursera.org/learn/tensorflow-sequences-time-series-and-prediction#syllabus), which covers basic application of NN to time series.
* Automatic extraction of relevant features from time series [paper](https://arxiv.org/pdf/1610.07717.pdf) and [python package](https://github.com/blue-yonder/tsfresh)
* Time series forecasting based on trend and multiple personalities [[python package Facebook prophet](https://www.analyticsvidhya.com/blog/2018/05/generate-accurate-forecasts-facebook-prophet-python-r/)]
* Time series SOTA [papers](https://paperswithcode.com/area/time-series)