

## **EXCEL FOR MATHEMATICAL MODELLING (4 ECTS)**

Presents candidates with the opportunity to bring their spreadsheet skills to an expert level. Completion of this course will enable candidates to master the more advanced functions of spreadsheet applications, enabling them to produce more sophisticated reports, and to perform complex mathematical and statistical calculations, thus saving time and improving productivity in the completion of tasks. This course will also give students understanding how to apply advanced formatting options such as conditional formatting and customized number formatting and handle worksheets. Use functions such as those associated with logical, statistical, financial and mathematical operations. Create charts and apply advanced chart formatting features.

Work with tables and lists to analyze, filter and sort data. Create and use scenarios. Validate and audit spreadsheet data. Enhance productivity by working with named cell ranges, macros and templates. Use linking, embedding and importing features to integrate data. Collaborate on and review spreadsheets. Apply spreadsheet security features.

This course will also give students understanding how to import various data formats into Excel and how to use Pivot Tables to extract summary data from a single table. Demonstrates how to use

Structured Query Language (SQL) in Excel. Course offers a brief introduction to statistical analysis in Excel.

Primarily covers Power BI—Microsoft's self-service BI tool—which includes the following Excel add-ins:

- PowerPivot provides the repository for the data and processing millions of rows in multiple tables.
- Power View is reporting tool for extracting meaningful reports and creating some of the elements of dashboards
- Power Query - tool to Extract, Transform, and Load data from a wide variety of sources
- Power Map - visualization tool for mapping data.