University of St.Gallen

Specialisation
Digitization and Data Analytics

Digitization and the abundance of data transform the world. Firms reinvent their business models, global trade shifts into the internet, and governments find new ways to interact with citizens. How can machine learning and econometrics make data more useful? How can firms and governments find individualised solutions? How does digital trade change competition? The data driven future requires new skills. MEcon students are in the lead.

Successfully analysing large data sets and finding personalised solutions requires extensive programming skills and new statistical methodology. The new design of the compulsory econometrics courses merge the basics of machine learning with classical econometrics to provide students with the necessary tools of advanced data analytics. A rich menu of electives builds on these foundations and offers unique opportunities to specialise in digitiation and data analytics. Among the many prestigious Master programs worldwide, MEcon is indeed unique in offering an *integrated* design of econometrics, machine learning and programming with applications in economics and management.

Here is an example how MEcon students could develop their data competence and digital skills by selecting 7 elective courses. To signal credible competence in methods as well as applications, **Big Data Analytics** and **Topics in Industrial Organisation** and are essential and we advise students to take these courses. Experts need to know more about storing, handling and processing data. You can thus add for example the elective **Data Handling III: Databases**. In addition, you can choose **Introduction to Web Mining for Social Scientists** to collect data generated by digital footprints. To invest in your skills to detect and analyse data patterns, you opt for the specialised course in **Machine Learning (MiQE/F)**. You are keen to apply your skills to problems in management and government. You realise that digitisation and big data affect all areas of economics from industrial economics (platforms, internet trade) to labour (new skill demands), international (outsourcing and firm organisation), public (taxation of internet trade, E-government), financial (fin techs, crowd funding), and monetary economics (block chains and digital currencies). The specialisation areas of MEcon offer

many opportunities for applications. You can attend the course **Economics of Central Banking**, which covers recent developments in block chain technology and digital currencies. To better prepare for a private sector career with managerial responsibility, you can also attend the course **Economics of Strategy**.

In the **contextual studies**, you search for programming courses completing your investments in data skills, and adds some leadership courses. In addition, you look for management courses to learn how firms redesign their strategies and business models to succeed in the digital world.

The **Master's Thesis** is the single most important show-piece of a student's research and problem solving expertise and centrally defines your area of specialisation. You plan to use real time data and apply machine-learning methods to explain and forecast consumer behaviour on internet based trading platforms.

Jobs: Jobs requiring extensive digital and data skills are on offer in all areas of the economy including private sector firms, consulting firms, financial industry, government institutions, research institutes and academics. The skilled analysis of large data sets and the digital transformation offer hot research topics for a PhD study as well. Given your data skills and deep training in the microeconomics of digital business, you finally opt for a promising position in a large company where you are responsible for bridging the gap between technical experts and management.

Formal Requirements

In order to graduate with a declared specialisation on the diploma supplement in **Digitization and Data Analytics**, students need to gain at least 16 ECTS credits from a defined course list and write their Master's thesis in the area of **Digitization and Data Analytics**. The current course list can you find on our [programme website](#).

Contact

For questions regarding your study plan and the specialisations, please contact the Executive Director of the Master's degree programme in Economics: mecon@unisg.ch or +41 (0)71 224 29 26.