# Study and Examination Plan

**MSc Degree in Data Science for Society and Business**
**Matriculation Fall 2022**

| Module Code | Program-Specific Modules | Type | Assessment | Period | Status¹ | Semester | CP |
|---|---|---|---|---|---|---|---|
| **Semester 1** | | | | | | | **30** |
| | | | | | | | |
| | **CORE Area** | | | | | | **10** |
| | **Unit: Digital Societies** | | | | | | |
| MDSSB-DSOC-01 | **Module: Digital Societies and Future Economies** | | | | m | 1 | 5 |
| | Digital Societies and Future Economies | Lecture | Written examination | Examination period | | | |
| MDSSB-DSOC-02 | **Module: Data Science Concepts** | | | | m | 1 | 5 |
| | Data Science Concepts | Lecture/Tutorial | Written examination | Examination period | | | |
| | **Elective Area** | | | | | | 5 |
| | - students choose one module from those listed below | | | | | | |
| | **Methods Area** | | | | | | 5 |
| MDSSB-MET-01 | **Module: Data Science Tools** | | | | m | 1 | 5 |
| | Data Science Tools | Lecture/Tutorial | Project report | Examination period | | | |
| | **Discovery** | | | | | | 5 |
| MDSSB-APP-01 | **Module: Current Topics and Applications in Data Science** | | | | m | 1 | |
| | Current Topics and Applications in Data Science | Lecture | Project report | Examination period | | | |
| | **CAREER** | | | | | | 5 |
| MCA006 | **Module: Communication and Presentation Skills** | | | | m | 1 | 2.5 |
| | Communication and Presentation Skills | Seminar | Oral presentation | During semester | | | |
| JTLA-xxx | **Module: Language 1** | | | | m | 1 | 2.5 |
| | German is the default language. Native German speakers take modules in another offered language. | | | | | | |
| JTLA-xxx | Language 1 | Seminar | Various | Various | me | | |
| **Semester 2** | | | | | | | **30** |
| | | | | | | | |
| | **CORE Area** | | | | | | **10** |
| | **Unit: Digital Transformation in Business** | | | | | | |
| MDSSB-DTRANS-01 | **Module: Digital Public Spheres** | | | | m | 2 | 5 |
| | Digital Public Spheres | Seminar | Term paper | Examination period | | | |
| MDSSB-DTRANS-02 | **Module: Digital Business Models & Functions** | | | | m | 2 | 5 |
| | Digital Business Models and Functions | Lecture | Term paper | Examination period | | | |
| | **Elective Area** | | | | | | 5 |
| | - Students choose a module from those listed below. | | | | | | |
| | **Methods Area** | | | | | | 5 |
| MDSSB-MET-02 | **Module: Text Analysis and Natural Language Processing** | | | | m | 2 | 5 |
| | Text Analysis and Natural Language Processing | Seminar/Lab | Project report | Examination period | | | |
| | **Discovery** | | | | | | 5 |
| MDSSB-DSCI-01 | **Module: Data Science Lab** | | | | m | 2 | 5 |
| | Data Science Lab | Lab | Project | Examination period | | | |
| | **CAREER** | | | | | | 5/2.5 |
| MDSSB-EIR-01 | **Module: IT-Law** | | | | me* | 2 | 2.5 |
| | Data Ethics | Lecture | Term Paper | Examination period | | | |
| JTLA-xxx | **Module: Language 2** | | | | m | 2 | 2.5 |
| JTLA-xxx | Language 2 | Seminar | Various | Various | me | | |
| **Semester 3** | | | | | | | **30** |
| | | | | | | | |
| | **CORE Area** | | | | | | **10** |
| | **Unit: Data Science and Artificial Intelligence Concepts** | | | | | | |
| MDSSB-DSAI-01 | **Module: Digital Transformation and Innovation** | | | | m | 3 | 5 |
| A | Digital transformation of organizations | Seminar | Term paper | Examination period | | | 2.5 |
| B | Digital services and innovation | Seminar | | | | | 2.5 |
| MDSSB-DSAI-02 | **Module: Artificial Intelligence in Business & Society** | | | | m | 3 | 5 |
| | Artificial Intelligence in Business and Society | Lecture/Lab | Project | During semester | | | |
| | **Elective Area** | | | | | | 5 |
| | - students choose one module from those listed below | | | | | | |
| | **Methods Area** | | | | | | 5 |
| MDSSB-MET-03 | **Module: Visual Communication and Data Story Telling** | | | | m | 3 | 5 |
| | Visual Communication and Data Story Telling | Lecture/Tutorial | Project report | During semester | | | |
| | **Discovery** | | | | | | 5/0 |
| MDSSB-CAP-01 | **Module: Capstone Project** | | | | me* | 3 | 5 |
| | Capstone Project | Seminar | Project | During semester | | | |
| | **CAREER** | | | | | | 5/12.5 |
| MDSSB-EIR-01 | **Module: Ethics and the Information Revolution** | | | | me* | 3 | 2.5 |
| | The Information Revolution | Seminar | Term paper (report) | Examination period | | | 2.5 |
| JTLA-xxx | **Module: Language 3** | | | | me* | 3 | 2.5 |
| JTLA-xxx | Language 3 | Seminar | Various | Various | | | |
| MDSSB-INT-01 | **Module: Internship** | | | | me* | 3 | 10 |
| | Internship | Internship/Project | Report | Examination period | | | |
| **Semester 4** | | | | | | | **30** |
| | | | | | | | |
| MDSSB-THE-01 | **Master Thesis** | | | | | | **30** |
| | **Module: Master Thesis DSSB** | | | | m | 4 | 30 |
| | Master Thesis | | | | | | |
| **Total CP** | | | | | | | **120** |

1m = mandatory,  me = mandatory elective

* Students can replace the Capstone project, and two of the indicated career modules with an internship. See 3.5.5 in the handbook.

**Elective Area**
*Students choose  15 CP of  manadatory electives*

| | | Type | Assessment | Period | Status | Semester | CP |
|---|---|---|---|---|---|---|---|
| | **Society and Business Track** | | | | | | **25** |
| MDSSB-SOCB-01 | **Module: Cybercriminology** | | | | me | 1 or 3 | 5 |
| | Cybercriminology | Seminar | Term paper | Examination period | | | |
| MDSSB-SOCB-02 | **Module: Introduction to Computational Social Science** | | | | me | 2 | 5 |
| | Computational Social Science | Seminar | Term paper | Examination period | | | |
| MCO009 | **Module: Smart Cities and Transport Concepts** | | | | me | 3 or 1 | 5 |
| 51009 | Smart Cities and Transport Concepts | Lecture | Project report | Examination period | | | |
| MDSSB-ECON-01 | **Module: Sustainability Economics** | | | | me | 3 or 1 | 5 |
| | Sustainability Economics | Seminar | Presentation / term paper | Examination period / during semester | | | |
| MCO010 | **Module: Principles of Consulting** | | | | me | 3 or 1 | 5 |
| 51010 | Principles of Consulting | Lecture/Seminar | Group project (report) | Examination period | | | |
| | **Advanced Data Science Track** | | | | | | **20** |
| MCO011 | **Module: Data Analyitcs** | | | | me | 1 or 3 | 5 |
| 340131 | Data Analyitcs | Lecture/Tutorials | Written examination | Examination period | | | |
| MESC001 | **Module: Data Mining** | | | | me | 2 | 5 |
| 340122 | Data Mining | Lecture | Project report | Examination period | | | |
| MCO013 | **Module: Machine Learning** | | | | me | 2 | 5 |
| 320372 | Machine Learning | Lecture | Written examination | Examination period | | | |
| MMM014- | **Module: Introduction to Data Management with Python** | | | | me | 3 | 5 |
| | Introduction to Data Management with Python | Lecture/Tutorials | Written examination/ Programming assignments | Examination period / during semester | | | |
| | **Environment and Health Track** | | | | | | **20** |
| MEGI001 | **Module: Geo-Informatics** | | | | me | 1 | 5 |
| 210103 | Geo-Information Systems | Lecture | Term paper | Examination period | m | | 2.5 |
| 210103 | Introduction to Eath and System Data | Lecture | | | m | | 2.5 |
| MEGI002 | **Module: Geo Informatics Lab** | | | | me | 2 | 5 |
| 210001 | Geo Informatics Lab | Lecture | Term paper | Term paper | | | |
| MEBI003 | **Module: Modeling and Analysis of Complex Systems** | | | | me | 1 or 3 | 5 |
| 550453 | Modeling and Analysis of Complex Systems | Lecture | Written examination | Examination period | | | |
| MMM007 | **Module: Network Approaches in Biology and Medicine** | | | | me | 3 or 1 | 5 |
| | Network Approaches in Biology and Medicine | Lecture | Presentations | During semester | | | |
| **Total CP** | | | | | | | |