

Study plans

Exemplary study plan for the specialisation 'Theoretical Foundations of Machine Learning in Mathematics and Natural Science'.

Semester 1

Introduction to Data Science (6 CP)	Applied Deep Learning (6 CP)	Interdisc. Lect. Series Data Science & Data Ethics (6 CP)	Statistical Learning (6 CP)	Probabilistic Machine Learning (6 CP)
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Semester 2

compulsory elective specialisation (6 CP)	compulsory elective specialisation (6 CP)	additional compulsory elective core (6 CP)	compulsory elective core (6 CP)	compulsory elective core (6 CP)
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Semester 3 (mobility window, if a stay abroad is desired)

Group Project Theoretical Foundations of Machine Learning in Mathematics and Natural Science (12 CP)	Theoretical Foundations of Machine Learning and Data Science (6 CP)	compulsory elective specialisation (6 CP)	additional compulsory elective core (6 CP)
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Semester 4

Master thesis (30 CP)

Core modules are highlighted in grey, modules of the specific specialisation in orange. Compulsory core/specialisation electives are shown here as examples, but can also be distributed differently across semesters 1, 2 and 3. A total of 24 CP must be chosen in the core elective area and 18 CP in the specialisation elective area.

If you are planning to study abroad, we recommend that you seek advice at the beginning of your degree programme in order to study compulsory modules earlier if necessary.

Prof Jörg Lücke offers advice on the specialisation 'Theoretical Foundations of Machine Learning in Mathematics and Natural Science'.

Exemplary study plan for the specialisation 'Data Science in Medicine and Healthcare'.

Semester 1

Introduction to Data Science (6 CP)	Applied Deep Learning (6 CP)	Interdisc. Lect. Series Data Science & Data Ethics (6 CP)	Statistical Learning (6 CP)	Probabilistic Machine Learning (6 CP)
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Semester 2

Medical Data Pipelines (6 CP)	Medical Data Analysis with Deep Learning (6 CP)	Big Data Analytics and Clinical Decision Support (6 CP)	compulsory elective specialisation (6 CP)	compulsory elective core (6 CP)
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Semester 3 (mobility window, if a stay abroad is desired)

Group project Data Science in Medicine and Healthcare (12 CP)	compulsory elective specialisation (6 CP)	compulsory elective specialisation (6 CP)	compulsory elective core (6 CP)
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Semester 4

Master thesis (30 CP)

Core modules are highlighted in grey, modules of the specific specialisation in orange. Core/specialisation electives are shown here as examples, but can also be distributed differently across semesters 1, 2 and 3. A total of 12 CP must be chosen in the core elective area and 18 CP in the specialisation elective area.

It is recommended that students choose one module each from the areas of technology (inf305, inf589), medicine (inf524, gsw220) and seminar (gswxxx current topics) in the compulsory elective area of the specialisation in Data Science in Medicine and Healthcare.

If you are planning to study abroad, we recommend that you seek advice at the beginning of your degree programme.

Prof Nils Strodthoff and Prof Antje Wulff offer advice on the specialisation 'Data Science in Medicine and Healthcare'.

Exemplary study plan for the specialisation 'Data-driven Speech and Hearing Sciences'

Semester 1

Introduction to Data Science (6 CP)	Applied Deep Learning (6 CP)	Interdisc. Lect. Series Data Science & Data Ethics (6 CP)	Statistical Learning (6 CP)	Probabilistic Machine Learning (6 CP)
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Semester 2

Digital Signal Processing (6 CP)	Hearing and Communication Acoustics (6 CP)	Algorithms for Speech Processing (6 CP)¹	compulsory elective specialisation (6 CP)	compulsory elective core (6 CP)
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Semester 3 (mobility window, if a stay abroad is desired)

Group project Data-Driven Speech and Hearing Sciences (12 CP)	compulsory elective specialisation (6 CP)	compulsory elective specialisation (6 CP)	compulsory elective core (6 CP)
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Semester 4

Master thesis (30 CP)

Core modules are highlighted in grey, modules of the specific specialisation in orange. Core/specialisation electives are shown here as examples, but can also be distributed differently across semesters 1, 2 and 3. A total of 12 CP must be chosen in the core elective area and 18 CP in the specialisation elective area.

If you are planning to study abroad, we recommend that you seek advice at the beginning of your degree programme in order to study compulsory modules earlier if necessary.

¹ Depending on the course selected for the module, it is offered in the winter or summer semester.

Prof Gerald Enzner and Prof Bernd Meyer offer advice on the specialisation 'Data-driven Speech and Hearing Sciences'.