

## Modules for the International Track (M.Sc.) in Intelligent Systems (ISY) and Informatics in the Natural Sciences (NWI)

1= begin in winter term

2= begin in summer term

### Module Pool Basic Addition (20 credit points)

Module number	Module title	credit points	term	usage
39-Inf-CG	Introduction to Computer Graphics	10	1	ISY/NWI
39-Inf-VHM	Vision in Human and Machine	5	1	ISY/NWI
39-Inf-NE1	Neuromorphic Engineering 1	10	1	ISY/NWI
39-Inf-DB2	Big Data Analytics	5	2	ISY/NWI
39-Inf-SNLP	Statistical Natural Language Processing	10	2	ISY/NWI
39-Inf-AKS	Cognitive Systems Application	5	2	ISY/NWI
39-Inf-ML	Basics of Machine Learning	5	2	ISY/NWI
39-Inf-NN	Foundations of Neural Networks	5	1	ISY/NWI
39-Inf-DM	Foundations of Data Mining	5	1	ISY/NWI
39-Inf-KR	Cognitive Computing	10	2	ISY/NWI

### Module Pool Advanced Intelligent Systems (ISY)/Advanced Informatics (NWI) (20 credit points)

Module number	Module title	credit points	term	usage
39-M-Inf-SSV	Speech Signal Processing	10	1	ISY/NWI
39-M-Inf-GMP	Geometric Modeling Based on Polygonal Meshes	5	1	ISY/NWI
39-M-Inf-VHC	Virtual Humans and Conversational Agents	10	1	ISY/NWI
39-M-Inf-VKI	Advanced Artificial Intelligence	10	1	ISY/NWI
39-M-Inf-K	Cognitronics	5	1	ISY/NWI
39-M-Inf-AG	Algorithms in Genome Research	10	1	only NWI
39-Inf-IZV	Interdisciplinary Visualization of the Cell	10	1	only NWI
39-Inf-SAB	Special Algorithms in Bioinformatics	10	1 or 2	only NWI
39-M-Inf-ASE	Autonomous Systems Engineering	10	2	ISY/NWI
39-M-Inf-CA	Computer Animation	5	2	ISY/NWI
39-M-Inf-SW	Semantic Web	5	2	ISY/NWI
39-M-Inf-ES	Embedded Systems	10	2	ISY/NWI
39-M-Inf-S	Sensor Technology	5	2	ISY/NWI
39-M-Inf-CS	Computational Semantics	10	2	ISY/NWI
39-M-Inf-NE2	Neuromorphic Engineering 2	10	2	ISY/NWI

39-M-Inf-TMKD	Text Mining Knowledge Discovery	10	2	ISY/NWI
39-M-Inf-ADA	Advanced Data Analysis	5	1	ISY/NWI

### Module Pool Advanced Natural Sciences (only NWI) (20 credit points)

Module number	Module tilte	credit points	term
39-Inf-ASB	Algorithmic stochastics in (bio-) informatics	10	1
39-M-Inf-VMNT	Advanced Mathmatics in Natural Sciences and Technics	6	1
39-M-Inf-MB	Mathematical Biology	5	2

It is allowed to choose other modules from Bachelor or Master programs of the faculties of Biology, Chemistry, Physics, Mathematics and modules from the Bachelor and Master program in Molecular Biotechnology (Faculty of Technology).

### Module Pool Interdisciplinary and Cognition Basics (only ISY) (20 credit points)

Module number	Module tilte	credit points	term
39-Inf-KMI	Cognitive Mechanisms of Social Interaction	5	2

Further modules can be studied after the chair of the examination committee (Britta Wrede) was contacted.

### Practical Course Intelligent Systems (only ISY) (10 credit points)

Module number	Module tilte	credit points	term
39-M-Inf-GP	Foundational Practical Course Intelligent Systems	10	2

There are additional courses within the general module pool for individual addition (39-M-Inf-MIKE).

You can find a list of courses being offered in English here: [https://ekvv.uni-bielefeld.de/kvv\\_publ/publ/Englische.jsp](https://ekvv.uni-bielefeld.de/kvv_publ/publ/Englische.jsp)

You can find all module descriptions here (please type the module number in the field): <http://ekvv.uni-bielefeld.de/sinfo/publ/module?&lang=en>