Master program „Interdisciplinary Neuroscience“

List of elective modules with optional courses 2026/27 *update: 24.07.2026*

Elective Module Subject Area A: Basic Neuroscience

- **A7** Neurobiology of the Nematode *Caenorhabditis elegans* (FB14) ***Gottschalk***
- **A9** Multi-electrode recordings of the dopamine system (FB16 & FB12) ***Vogel/Röper/Schneider***
- **A10** Neurophysiology and Behaviour (FB 15) ***Grünewald***
- **A12** The Neuro-Vascular Interface (FB 16) ***Liebner***
- **A14** Genetics and Epigenetics of Neurogenesis and Gliogenesis (FB 16) ***Schulte***
- **A15** Recording neuronal activity in freely behaving animals (FB 16) ***Sigurdsson***
- **A21** Cellular, molecular and systemic Neurobiology in mouse and zebrafish (FB15) ***Kirchmaier/Acker-Palmer***
- **A22** Optogenetics and calcium-recordings in freely behaving animals (FB16) ***Duvarci***
- **A23** Cellular and molecular mechanisms in neurovascular disorders (FB15) ***Hefendehl***
- **A24** Deciphering brain activity during natural behaviour in real time (ESI/FB15) ***Havenith/Schölvinck***
- **A25** Neuroscience of Navigation and Self-Motion (ESI/FB15) ***Laurens***
- **A26** Analysis of Social Networks (MPIBR/FB15) ***Barker***
- **A28** Sensorimotor behavior tests in mice – data acquisition and analysis (FB 16) ***Aswendt***

Elective Module Subject Area B: Clinical Neuroscience

- **B6** Experimental Brain Tumor Therapy (FB16) ***Kögel***
- **B8** Clinical Neuroimaging (FB16) ***Weidauer (Hattingen, Polkowski)***
- **B9** Clinical Auditory Neuroscience *(FB 16)* ***Baumann***
- **B10** Experimental and Translational Psychiatry (FB16) ***Slattery***
- **B11** Neurobiological human cell models (FB 16) ***Haslinger***
- **B12** Neuroimaging Biomarkers in Psychiatry (FB 16) ***Ecker***
- **B13** Translational Neuro-Oncology Research (FB 16) ***Hau***
- **B14** Computational Translational Psychiatry (FB 16) ***Chiocchetti***
- **B15** Psychotherapy Research in Acute Psychiatry (FB 16**)** ***Oertel***
- **B16** Machine Learning in Neurology (FB 16) ***Rosenow,*** **Stöber**

Elective Module Subject Area C: Cognitive and Computational Neuroscience

- **C1** Modern non-invasive Methods in Human Cognition research (FB16) ***Kaiser***
- **C4** Virtual Hippocampus – Introduction to Computational Neuroscience (FB 16) **Jedlicka**
- **C7** Cognitive Neuroscience – Higher Cognitive Functions (FB05) ***Tavano***
- **C8** Systems Neuroscience – Sensorimotor and Cognitive Networks (FB 16) ***Kell***
- **C10** Computational Neuroanatomy – quantitative analysis and modelling (ESI/FB16) ***Cuntz***
- **C11** Computational Modeling of Neuronal Plasticity (FIAS/FB 15) ***Triesch***
- **C15** Developmental Cognitive Neuroscience (FB05) ***Shing***
- **C16** Cognitive and perceptual processes in the human brain (ESI**)** ***Rademaker***
- **C17** Cognitive and Neural Dynamics (CANDy) (FB16**)** ***Michalareas***

Elective Module Subject Area D: Applied Neuroscience

- **D1** Behavioural Biology in Zoos (FB15) ***Dierkes***
- **D2** Attention analysis of students’ media use via eye-tracking (FB16) ***Weber***