neu440 - Visual Neuroscience

Module label       Visual Neuroscience
Module code        neu440
Credit points      15.0 KP
Workload           450 h
Used in course of study     
• Master's Programme Neuroscience > Research Modules

Module responsibility

• Ulrike Janssen-Bienhold

Authorized examiners

• Alle hier genannten

Module counseling

• Karin Dedek
• Martin Greschner

Entry requirements

attendance in pre-meeting, priority is given to students who attended neu140 BM Neurophysiology and/or neu150 BM Neuroanatomy

Skills to be acquired in this module

+ Neurosci. knowlg. Expt. methods Independent research Scient. literature + Social skills Interdiscipl. knowlg. + Maths/Stats/Progr. Data present./disc. + Scientific English + Ethics + During the module the students acquire advanced theoretical knowledge of the molecular and cellular characteristics of retinal circuits and physiology.
+ Students learn to plan and perform a research project independently (includes: literature research and usage of data banks (PUBMED, Gene Bank, Expasy etc.)
+ Students are introduced to scientific writing / have to write a scientific report.
+ Students acquire advanced skills in data analysis (including statistics, computational neuroscience, image analysis)
+ The module can serve the purpose of preparing for a Master's thesis.

Module contents

1. Independent performance of an individual research project in small groups. Dates are individually arranged with the respective supervisor. Available project topics will be presented in the pre-meeting. Methods include:
   Option 1: Molecular Neuroscience
   Option 2: Neuroanatomy
   Option 3: Neurophysiology
2. Participation in the "Journal club" seminar, including presentation of the project and the results obtained.

Reader's advisory

+ [http://webvision.med.utah.edu/](http://webvision.med.utah.edu/) (H. Holb et al. (2016) The organization of the retina and visual system)
+ 20 to 30 selected original papers on vision research (depending on individual project)

Links

Language of instruction

English

Duration (semesters)       1 Semester
Module frequency        halbjährlich
Module capacity        unlimited

Reference text

Regular active participation and presentation(s) within the scope of the seminar are required to pass the module. Furthermore, participation in a joint poster presentation of concurrent research modules is required to pass the module.

Modulelevel

MM (Mastermodul)

Modulart

Wahlpflicht

Lern-/Lehrform / Type of program

Vorkenntnisse / Previous knowledge

Examination

Time of examination

Type of examination

Final exam of module

flexible, after individual project

Internship report

Course type

Comment

SWS

Frequency

Workload attendance

Seminar

2.00

28 h

Projektorientiertes Modul

8.00

WiSe

112 h

Total time of attendance for the module

140 h