

M.Sc. Neuroscience

Module Handbook

Module 6/7: Research Project I/II

Winter Semester 2019/20



In case of questions, please contact the program coordinator:

Dr. Birgit Ahrens

birgit.ahrens@biologie.uni-freiburg.de

Modulname	Nummer
Research Project I and II	09LE03-MO-NR-1 / 09LE03-MO-NR-2
Modulverantwortlicher	
Prof. Dr. Carsten Mehring	
Fachbereich/Fakultät	
Faculty of Biology, Faculty of Engineering, Faculty of Economics and Behavioral sciences	

ECTS-Punkte	14
Semesterwochenstunden (SWS)	variable
Empfohlenes Fachsemester	3
Moduldauer	around 10.5 weeks
Pflicht/Wahlpflicht (P/WP)	WP
Präsenzstudium	--
Selbststudium	--
Workload	420h
Angebotsfrequenz	Throughout the entire year, needs to be agreed with supervisor

Teilnahmevoraussetzung (zwingende Voraussetzung)
“Foundations of Neuroscience”, “Methods in Neuroscience”

Empfohlene Teilnahmevoraussetzungen
“Elective Subjects”. Research projects in some groups may require certain background knowledge and techniques taught in the elective subjects.

Verwendbarkeit
MSc Neuroscience

Qualifikationsziele
The student <ul style="list-style-type: none"> • can carry out a neuroscientific research project under the supervision of an experienced researcher • can write a scientific report about their research project • can give a scientific oral presentation about their research project • can explain the neuroscientific topic of their research project
Lehrinhalte
Weitere Informationen
Two research projects are to be passed in two different laboratories on two different neuroscientific topics. You can choose research projects that match your specific neuroscientific interests. The

lectures within the module “Advanced Topics in Neuroscience I”, you attended in 2nd term, gave you an overview of current neuroscience research in Freiburg and can help you in choosing your lab. The organization of research projects is on your own initiative. Please get in contact with your potential future supervisors to discuss potential topics of your projects, as well as the timeline of your project. If you would like to have some advice, we will be happy to assist you in the process of finding a supervisor and a project that matches your interests. Please note that the topic of the research project must always be in the field of neuroscience.

“Internal” research projects

Internal research projects are supervised by professors, so-called “außerplanmäßige Professoren” (APL-Prof), junior professors (Jun.-Prof.), “Privatdozenten” (PD) or working group leaders with examination permission, who are members of the University of Freiburg, do research in neuroscience and regularly hold classes in the MSc Neuroscience. Please find below a non-exhaustive list of potential supervisors that fulfil these criteria: Prof. Tonio Ball, Prof. Joschka Boedecker, Prof. Johann Bollmann, PD Philippe Coulon, Prof. Ilka Diester, Prof. Wolfgang Driever, Prof. Ulrich Egert, Prof. Carola Haas, Prof. Ulrich Hofmann, Dr. Nicole Roßkothen-Kuhl, PD Jürgen Kornmeier, Prof. Carsten Mehring, Prof. Friedrich Metzger, Prof. Dierk Reiff, Prof. Stefan Rotter, Prof. Thomas Stieglitz, Prof. Andrew Straw, PD Michael Tangermann

“External” research projects

Research projects can also be supervised by Professors from the University Freiburg that do research in neuroscience but do not teach in the MSc Neuroscience. Moreover, research projects can be supervised by Professors from other Universities or scientific research institutions within or outside of Germany, if these Professors are active in neuroscience research. For these kind of “external” research projects, you need to submit an application to the examination panel, which has to approve the research project. For details on the application procedure, see the information below. Do not start the research project before you have received the approval from the examination panel. Erasmus Program: If you plan to apply for financial support from Erasmus for a research project abroad, please note that the Erasmus form can only be signed after the approval of your external research project by the examination panel.

Before starting a research project, it must be registered with the program coordinator and you must have received a written approval of your project. *You must not start a research project before you have received approval for it.* Please note that a research project that was started before approval may not be accepted later.

Forms for registration of “internal” research projects and for applications to the examination panel for “external” projects are available on ILIAS. Please fill out the corresponding form, which must be signed by you and your supervisor and submit the form to the program coordinator. Please submit sufficiently early to allow some time for approval, in particular for “external” research projects where sometimes further clarification is needed.

Changes of topic/lab

Substantial changes of topics (or even lab changes) must be requested from the examination panel within one week after the start of the Research Project at the latest. If the change of topic/lab is approved, a new date will be set for the start of the Research Project as well as for the submission of the report and the oral presentation. After the change of topic/lab, the full duration of a Research Project will be available again.

Zu erbringende Prüfungsleistung
<p>Written report (80%) and oral presentation (20%).</p> <p>Written report The written report should have the form of a short scientific paper, typically including the sections Introduction, Methods, Results and Discussion followed by a list of references. The cover page should contain your name, the title of the research project, the name and affiliation of the supervisor, the starting- and end-date of your project and the date of submission of the report. A typical report is about 5 to 10 pages incl. figures, excl. references and appendix (when using font size 11, single line spacing, a margin of min 1.5 cm all sides). A PDF of your report must be given to the program coordinator in due time (see below).</p> <p>Oral presentation You will give an oral presentation of the results of your research project to the corresponding supervisor (typically including the research group of the supervisor).</p> <p>Timeframe Each research project has 14 ECTS, which is equivalent to about 10.5 weeks of full-time work. This includes all preparatory work, lab work, analysis work, report writing as well as preparing and giving the oral presentation. <i>All research projects must be finished within 12 weeks after they were started (excluding the Christmas break) and you must submit a copy of your written report to the program coordinator not later than 12 weeks after you started your research project. The oral presentation must be given not later than 16 weeks after the start of your research project. You will be informed about the two deadlines on the registration/application form after approval of your project.</i></p>
Zu erbringende Studienleistung
None
Gewichtung der Prüfungsleistung
Written report (80%) and oral presentation (20%).

M.Sc. Neuroscience

Module Handbook - Research Project I/II

Modulname	Nummer
Research Project I and II	09LE03-MO-NR-1 / 09LE03-MO-NR-2
Veranstaltung	
Research Project I and II	
Veranstaltungsart	Nummer
Lab rotation	09LE03Ü-NR-1-T1 / 09LE03Ü-NR-2-T1
Fachbereich/Fakultät	
Faculty of Biology, Faculty of Engineering, Faculty of Economics and Behavioral sciences	

ECTS-Punkte	14
Semesterwochenstunden (SWS)	--
Empfohlenes Fachsemester	3
Pflicht/Wahlpflicht (P/WP)	WP
Präsenzstudium	--
Selbststudium	--
Workload	420h
Angebotsfrequenz	Throughout the entire year, needs to be agreed with supervisor

Inhalte
Depending on the chosen project and supervisor the student will learn different neuroscience research methods. Among them experimental techniques, data analysis techniques, mathematical modelling techniques and numerical simulation techniques. The student will further acquire knowledge about the neuroscientific topic of his research project and will learn how to write a scientific project report and give an oral presentation about their research project.

Qualifikationsziele
<p>The student</p> <ul style="list-style-type: none"> • can carry out a neuroscientific research project under the supervision of an experienced researcher • can write a scientific report about their research project • can give a scientific oral presentation about their research project • can explain the neuroscientific topic of their research project
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Zu erbringende Studienleistung

none

Teilnahmevoraussetzungen (zwingende Voraussetzungen)

“Foundations of Neuroscience”, “Methods in Neuroscience”

Lehrmethoden

Supervised development and design of research project; introduction to certain research methods; discussion and critical review of results