



## Appendices master's degree programme Behavioural and Cognitive Neurosciences (research master) 2022-2023

### Appendix I

#### Learning outcomes of the degree programme (art. 3.1)

The general purpose of the master's degree programme is reflected in the following list of qualifications to be achieved by the graduates of the programme.

<b>Learning outcomes of the BCN research master programme</b>	<b>Dublin descriptors</b>
<p><i>Students have acquired</i></p> <ol style="list-style-type: none"> <li>1. specialized knowledge in one of the three subfields of behavioural, cognitive or medical neurosciences and can use this knowledge to explain in details the relevant concepts, using the appropriate terminology for their field.</li> <li>2. a broad overview of contemporary issues in the area of behaviour, cognition, and neurosciences.</li> <li>3. apply appropriate experimental designs and statistical models.</li> <li>4. a long-lasting network of (future) colleagues valuable for their career.</li> <li>5. an understanding of the requirements for a successful international scientific career and the ability to judge whether he/she fulfils these requirements.</li> </ol>	<p><b>Knowledge and Understanding</b></p> <p>Students have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with Bachelor's level, and provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context.</p>
<p><i>Students have demonstrated</i></p> <ol style="list-style-type: none"> <li>6. the ability to select and apply modern neuroscience techniques and research approaches.</li> <li>7. understanding of the need for multidisciplinary/interdisciplinary approaches to investigate the working of the brain and can work in a multidisciplinary/ interdisciplinary environment.</li> <li>8. the ability to design and conduct scientific research, taking into account the limitations of available information and scientific problems in behaviour, cognition and neuroscience.</li> <li>9. understanding of how to act according to the guidelines of scientific integrity</li> </ol>	<p><b>Applying knowledge and understanding</b></p> <p>Students can apply their knowledge and understanding, and problem-solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study.</p>



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10. the ability to reflect on the social and ethical responsibilities linked to the application of his/her knowledge and judgement. 11. understanding of how to apply for research grants and fund their career in research.	
<i>Students have demonstrated the ability to</i> 12. evaluate scientific results, views and concepts with a positive critical attitude 13. independently investigate and critically evaluate scientific literature. 14. have a general work orientation that is required for participation in an international research team, contributing to collective goals, effective time management, and participation in a research network.	<b>Applying knowledge and understanding</b> Students can apply their knowledge and judgements.
<i>Students have demonstrated the ability to</i> 15. present scientific research in written and verbal form, taking into account the limitations of their conclusions.	<b>Communication</b> Students can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously.
<i>Students have demonstrated the ability to</i> 16. independently acquire new knowledge and skills that are relevant for his/her professional career. 17. obtain an overview of the core issues in a scientific area in a short period of time.	<b>Learning skills</b> Students have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.



## Appendix II

### Tracks of the master's degree programme (art. 3.5)

The master's degree programme comprises three tracks. Students can choose to follow one of the tracks:

- Animal and Human Behavioural Neurosciences (B-track)
- Cognitive Neuroscience and Cognitive Modelling (C-track)
- Molecular and Clinical Neurosciences (N-track)

## Appendix III

### Content of master's degree programme (art. 3.6)

The master's degree programme consists of:

#### 1. Overall programme:

Module	ECTS	Course code	Entry requirements	Comments
<b>First year</b>				
Introduction to BCN	4	WMBC007-04	-	-
Career Related Topics	3	WMBC012-03	-	-
Colloquium	3	WMBC021-03	-	-
Track-specific Modules	20	-	-	-
Minor Research Project	29	WMBC902-29	-	-
Summer Symposium I	1	WMBC019-01	Minor Research Project	Students are required to participate twice in the summer symposium: Once after the minor research project and once after the major research project.
<b>Second year</b>				
Optional Modules	15	-	-	Modules from the list in appendix IV. Students in the second year choose three of these modules. Entry requirements may differ per course unit.
Essay	4	WMBC001-04	-	Alternatively, students are allowed to write a PhD research proposal
Major Research Project	40	WMBC901-40	Minor Research Project	
Summer Symposium II	1	WMBC020-01	Major Research Project	See at Summer Symposium I

Type of assessments per course and whether there is a practical is determined in the assessment plan of the programme.

#### 2. Track specific modules

B-track (20 ECTS)



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Module	ECTS	Course code	Entry requirements	Comments
Timing of Behaviour	5	WMBC011-05	-	-
Function and Evolution of Behaviour	4	WMBC004-04	-	-
Statistics for BCN	1	WMBC010-01	-	-
The Neuroendocrine Basis of Behaviour	5	WMBC018-05	-	-
Behavioural Neuroscience	5	WMBCoXX-05	-	-

C-track (20 ECTS)

Module	ECTS	Course code	Entry requirements	Comments
Models of Cognition	5	WMBC008-05	-	-
Functional Neuroscience C-track	5	WMBC005-05	-	-
Elective Module	5	-	-	Module from the "elective modules C-track" list. Students from the C-track choose one of these modules.
Repeated Measures	5	PSMM-2	-	-

N-track (20 ECTS)

Module	ECTS	Course code	Entry requirements	Comments
Functional Neuroscience N-track	5	WMBC006-05	-	-
Statistics for BCN	1	WMBC010-01	-	-
Pathology of the Nervous System	4	WMBC009-04	-	-
Molecular and Cellular Neuroscience	5	WMBC016-05	-	-
Stem Cell and Glia Biology	5	WMBC017-05	-	-

3. Elective modules C-track

Module	ECTS	Course code	Entry requirements	Comments
Cognitive Modelling: Basic Principles and Methods	5	WMCC006-05	-	-



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Cognitive Neuropsychiatry	5	WMBC013-05	-	-
Molecular and Cellular roscience	5	WMBC016-05	-	-

## Appendix IV Electives (art. 3.7)

The following list presents electives. They are divided into four categories:

- I. All track specific modules within the master's degree programme (see appendix C)
- II. BCN core-modules. These modules are especially designed for the BCN research master. The BCN research master ensures that these modules do not interfere with other modules offered by the master's degree programme. The following list presents the BCN core-modules.

Module	ECTS	Course code	Entry requirements	Comments
Behavioural Pharmacology	5	WMBC003-05	-	-
Human Neuroanatomy	5	WMBC014-05	-	-
Auditory and Visual Perception	5	WMBC002-05	-	-
Membrane Biology and Disease	5	WMBC022-05		

- III. BCN approved modules. No approval is needed for selecting these courses as optional course. However, master's degree programme cannot guarantee that these courses do not interfere with the other modules offered. It is the student's responsibility to ensure that the selected modules do not interfere. Modules can be chosen from different faculties, as presented in the following lists.

### 1. Modules organised by the Faculty of Science and Engineering

Module	ECTS	Course code	Entry requirements	Comments
Advanced Self-Organisation of Social Systems	5	WMBY017-05	-	-
Animal and Human Experimentation	-	WMBY019-05	-	Module can be only followed as part of the minor or major project
Language Modelling	5	WMCC003-05	-	-
User Models	5	WMCC004-05	-	Bi-annually
Machine Learning	5	WMAI010-05	-	-
Current Themes in Oncology	5	WMCC003-05	-	-
Radioisotopes in Experimental Biology	5	WMCC004-05	-	BSc degree in life sciences or related BSc degree programme
Neurobiology of Nutrition	5	WMBM011-0	-	-



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Neurodegenerative Diseases	5	WMBM012-05	-	-
Neurobiology of Psychiatric Disorders	5	WMBM018-05	-	-
Nutrition, Brain Development and Cognition	5	WMBM020-05	-	-
Molecular biology of ageing and age-related diseases	5	WMBM017-05	-	-
Evolutionary Medicine Infectious diseases	5	WMBY024-05	-	-
Evolutionary Medicine diseases of affluence	5	WMBY025-05	-	-

*2. Modules organised by the Faculty of Behavioural and Social Sciences*

Module	ECTS	Course code	Entry requirements	Comments
Boundaries of Psychology	5		-	-
Neuropsychology and psychiatric disorders	5		-	-

*3. Modules organised by the Faculty of Arts*

Module	ECTS	Course code	Entry requirements	Comments
Natural Language Processing	5		-	-

*4. Modules organised by the Faculty of Philosophy*

Module	ECTS	Course code	Entry requirements	Comments
Philosophy of Neuroscience	5		-	-

IV: Courses selected by students.

Upon request of the student, the Board of Examiners can give permission to follow a course that is not mentioned in category I, II or III.

The request procedure must be started at least 4 weeks before the beginning of the course. The procedure is started as soon as the Board of Examiners receives a request in which the permission is requested. The student must state the content and relevance of the selected course for their individual curriculum.

The Board of Examiners will decide on an individual basis if permission is granted. The student will be informed in writing about the decision on their permission within 1 week after the meeting of the Board of Examiners.



## Appendix V

### Entry requirements and compulsory order of examinations (art. 4.4)

Entry requirements for the minor and major thesis project:

1. Students are only allowed to start their minor thesis project if they have obtained a passing grade for at least two of the track-specific courses in their program.\*
2. Students are only allowed to start their major thesis project after they have uploaded their minor thesis in the electronic repository of the University of Groningen.\*

\* Upon request of the student the Board of Examiners can give exemptions of the compulsory order of examinations.

## Appendix VI

### Admission requirements to the degree programme and different tracks/specializations (art. 2.1.1 and art. 2.2)

1. Students in possession of an admission permit can be admitted to the degree programme.
2. Students who meet the requirements are provided with an admission permit by the Admissions Board.
3. An admission permit is only valid for the academic year following the academic year in which the permit is granted.
4. There may be other conditions attached to the admission permit. The requirements must be met before the master's degree programme has started.
5. The admission requirements comprise:
  - a bachelor's degree affiliated to the behavioural, cognitive and/or neurosciences, this will be judged by the Board of Admissions;
  - sufficient knowledge of the English language;
  - sufficient knowledge of the relevant sciences;
  - a suitable attitude, motivation and talent to follow the master's degree programme.
6. Students apply to the admission procedure by sending in the following documents:
  - a completed application form;
  - a curriculum vitae;
  - a document that proves sufficient proficiency in the English language;
  - a survey of the study results attained in academic courses so far;
  - a letter of motivation in which the student states why s/he wants to follow the master's degree programme in particular (including which track) and what his/her expectations and



ambitions are;

- (if desired) results of former research projects, like reports or articles;
- the names of two scientists willing to provide personal information on the applicant;
- (if desired) other documents that the student thinks useful in furthering his/her application.

International students (these are students with a non-Dutch Bachelor degree) need to submit their application via the online application system of the University of Groningen to the Admissions Office. The admission deadlines are presented in Appendix VIII.

Students with a Dutch Bachelor degree need to apply through the Admissions pages of the FSE. The admission deadlines are presented in Appendix VIII.

7. Only students with the relevant and appropriate background (degree, course work, and practical experiences) will be considered for admission. Priority for admission is determined by GPA (especially in relevant courses). Additional consideration is then given to motivation, diversity, and international experiences.

8. The applicants will be informed in writing about the decision on their admission within 10 working days after the deadline for submission. This may be a tentative decision, conditional on further information to be supplied by the candidate.



## Appendix VII Transitional provisions (art. 7.1)

Transitional arrangement for BCN:

Discontinued course units							
Course unit code	Course unit name	ECTS	Final exam period	Course unit code	Course unit name	ECTS	Equivalent* Yes/No
WMBCo15-05	Individuality of Behaviour	5	February '22	WMBCoXX-05	Behavioural Neuroscience	5	No

\* It is also possible to substitute equivalent course units in the other direction. This can apply to students with a large backlog who want to fall under the new OER.

## Appendix VIII

### Application and decision deadlines for admission for the MSc in Behavioural and Cognitive Neurosciences (art. 2.6.1 and 2.6.3)

#### Deadlines for all applicants

If student applies by:	Decision is communicated to the student by:
November 15	December 15
February 1	March 1
March 15	April 15
May 1	June 15

After a positive decision, the candidate has 4 weeks to accept the place.