A flexible and interdisciplinary programme, which challenges you to unravel the workings of the human brain

Our brain contains many ingenious networks of millions of interconnected neurons. Together, they have a storage capacity and flexibility that far exceed modern supercomputers, or any artificial intelligent system. The Master’s specialisation in Neuroscience aims at unravelling the neuro-biological and neuro-computational mechanisms of this fascinating, complex system.

Why study this specialisation at Radboud University?

• It covers the complete research field of Neuroscience, from cognition to behaviour, and from sub-cellular processes to single cell analysis and big data.
• The specialisation is closely connected to the world-renowned Donders Institute for Brain, Cognition and Behaviour (DI).
• The courses have a strong focus on research: they will cover the latest developments in brain research and technology, and train you in essential academic skills.
• You will work with students and researchers from different backgrounds and become acquainted with a wide variety of research methods and scientific approaches.
Programme outline (2 years, 120 EC)
The programme of this specialisation depends on the Master’s that you follow:

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<td>Compulsory courses (22 EC)</td>
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<td>2 Internships (2 x 36 EC)</td>
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<td>Literature thesis (6 EC)</td>
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<td>2 Internship courses (2 x 3 EC)</td>
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Courses
Below you can find an overview of the compulsory courses and some examples of electives. Please have a look at the online prospectus (see ‘More information’) for more detailed information.

Compulsory courses
- Behavioural Neuroscience (3 EC)
- Systems Neuroscience (3 EC)
- Methods in Neuroscience (3 EC)
- Systematic Reviews in Neuroscience (6 EC)

Examples of specialisation electives
- Computational Neuroscience (6 EC)
- Neurogenomics of Speech, Language and Reading Disorders (3 EC)
- Laboratory Animal Science (3 EC)
- Molecular and Cellular Neurobiology (3 EC)
- Working with Radionuclides Level 3B (2 EC)

Research internship
A large part of this specialisation consists of one or two research internships that can be performed at departments of the Donders Institute. Examples of relevant research topics are:
- Biophysics (ru.nl/mbphysics)
  - Prof. John van Opstal
- Neuroinformatics (ru.nl/neuroinformatics)
  - Prof. Paul Tiesinga
- Neurophysiology (ru.nl/neurophysiology)
  - Prof. Tansu Celikel
- Molecular Animal Physiology (ru.nl/molanphys)
  - Prof. Gerard Martens
You can also choose to do an internship at a company or at other universities in the Netherlands or abroad. There are, for example, close contacts with the Max Planck Institute in Germany. For other possibilities, you can always contact a lecturer or the student advisor (see ‘More information’).

Your advantages on the labour market
This Master’s specialisation is an excellent preparation for a career in research: many of our students have already attained a PhD position, either at RU of somewhere else in the world. Neuroscience will also provide you with general skills that are required for any other job you aspire, like the ability to structure complex problems, cooperating with people from different backgrounds, extensive experience in presenting, and academic writing skills.

Admission requirements
You are required to have a Bachelor’s degree in Biology, Medical Biology, Molecular Life Sciences, Physics and Astronomy, Mathematics, Science, or a closely related discipline, all with a background in Neuroscience. You must also have a sufficient proficiency in English.

Students from a University of Applied Sciences (HBO) need to follow a relevant pre-Master or minor. Other additional deficiency programmes are tailor-made. For details, please visit the website or contact the student advisor (see ‘More information’).

Application procedure
The programme starts in September. The application deadline is 1 April for students from non-EU/EEA countries and 1 May for students from within the EU/EEA.

Depending on your previous education, you apply for the Master’s programme in Medical Biology, Molecular Life Sciences, Physics and Astronomy, or Science via www.studielink.nl. After admittance to the Master’s programme, you can enrol for the specialisation in Neuroscience.

More information
Prospectus: www.ru.nl/prospectus/sciencefaculty

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