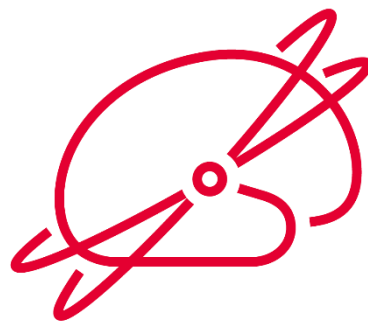


SDC

The university partnership
Denmark – China

Master's Programme in

Neuroscience and Neuroimaging



Academic regulations

2023

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Legal Frame

Students enrolled in this programme are admitted as full-time students at University of Chinese Academy of Sciences.

The Academic regulations applies to students enrolled in the programme from 2023.

This master's programme is established within the framework of the following:

- Partnership Agreement between Graduate University of Chinese Academy of Sciences and University of Copenhagen (KU), Aarhus University (AU), University of Southern Denmark (SDU), Aalborg University (AAU), Roskilde University (RUC), Technical University of Denmark (DTU), Copenhagen Business School (CBS), IT University of Copenhagen (ITU), on the establishment of the Sino-Danish Centre for Education and Research, Graduate University of Chinese Academy of Sciences, signed on 12 April 2010
- Agreement between Graduate University of Chinese Academy of Sciences (GUCAS) and University of Copenhagen (KU), Aarhus University (AU), University of Southern Denmark (SDU), Aalborg University (AAU), Roskilde University (RUC), Technical University of Denmark (DTU), Copenhagen Business School (CBS), IT University of Copenhagen (ITU) concerning Master's Programmes at Sino-Danish Centre for Education and Research, Graduate University of Chinese Academy of Sciences, signed on 29 August 2011
- Agreement between Graduate University of Chinese Academy of Sciences and Aarhus University concerning Provision of the Master's Programme in Neuroscience and Neuroimaging at Sino-Danish Centre for Education and Research (SDC), Graduate University of Chinese Academy of Sciences, signed on 29 August 2011.

Students must observe and act accordingly to the following rules issued by the SDC Directors:

- Courses and Exams
- Exam regulations
- Thesis regulations 10 steps
- Avoid cheating on exams
- Student complaints

Students must also observe and act accordingly to Rules and Regulations for UCAS International Students. SDC rules are published on Moodle.

Title and degree

The degree awarded by Aarhus University is Master of Science in Neuroscience and Neuroimaging. The degree awarded by University of Chinese Academy of Sciences is Master of Neurobiology/Biophysics.

Duration

The master's programme has a duration of two academic years equivalent to 120 ECTS points (European Credit Transfer System). 60 ECTS points correspond to one year of full-time studies.

When choosing thesis period Danish/International students must be aware of UCAS' 4 years limit for awarding diploma. UCAS' degree application procedure STEP 10 CN (see Thesis regulations 10 steps) has to be completed within four years from enrolment. This period includes leave of absence.

4-YEARS LIMIT

All SDC students must complete their Danish and UCAS degree within 4 years from the enrolment. This period includes leave of absence. It is possible to apply for an exemption due to illness or other extraordinary circumstances.

Admission requirements

Admittance to the MSc programme in Neuroscience and Neuroimaging is based on:

- A successfully completed bachelor's degree (or equivalent) or higher.
- A high-level of English language proficiency.

Eligible bachelor's degrees to the MSc programme in Neuroscience and Neuroimaging include:

BSc in Biochemistry, BSc in Biology, BSc in Biomedicine, BSc in Biotechnology, BSc in Biomedical engineering and informatics, BA in Cognitive science, BSc in Electrical engineering, BSc in Healthcare technology engineering, BSc in Medical chemistry, BSc in Medicine, BSc in Molecular biology, BSc in Molecular medicine, BSc in Nanoscience, BSc in Pharmacology, BSc in Physics, BSc in Sports science (List not exclusive).

Students must have an above-mean grade point average (GPA) in at least one of the following categories:

- Mathematics & technology (E.g. mathematics, statistics, informatics, programming, classical physics)
- Biology & chemistry (E.g. biology, molecular biology, cytology, chemistry, pharmacology)
- Medicine & cognition (E.g. physiology, anatomy, biomechanics, cognition)

Selection Criteria

In evaluating qualified applicants, each applicant is assessed on the basis of the following criteria:

1. Academic background (75%)
 - o This criterion includes average mark of BSc degree and the average mark of relevant courses weighted after the study load (ECTS credits)
2. Other relevant experiences (25%)
 - o Relevant work experience, Bachelor projects, laboratory projects etc.

The assessment is based on the supplied documented information and can, thus, not include marks/grades obtained after application deadline

Language Requirements

General English language requirements ('English B level' - Danish upper secondary school level)

General programme regulations

The language of instruction in the SDC master's programmes is English. Teaching, supervision and assessment will be carried out in English.

Students will be graded according to both the Chinese and the Danish grading scale with the following correlation:

DK	12	10	7	4	02	00	-3
CN	100-95	94-90	89-76	75-61	60	59-40	39-0

For the Master's Thesis, students will be graded according to the Chinese 4-point scale. See Thesis regulations 10 steps.

Leave of absence can be granted to students on the grounds of becoming a parent, illness, military service or exceptional circumstances.

Students who wish to complete degree programme elements at another university or institution of higher education in Denmark, China or abroad as part of their degree programme may apply the Teaching Committee for advance approval of transfer credit for planned subject elements. Students can maximum be granted 30 ECTS credit transfer.

As an alternative to credit transfer, students may be approved to undertake a study period equivalent to 30 ECTS credits (one semester) outside of China during either their 3rd or 4th semester, in conjunction with their thesis process. The purpose of this period is to advance their specific academic goals through collaboration with relevant third parties, companies, laboratory work, fieldwork, or similar activities.

Either the Teaching Committee or the SDC Directors may grant exemptions to the Academic regulations or other SDC rules. Applications for exemption are submitted to the SDC Secretariat.

Qualifications

Purpose

The programme aims to combine the different approaches to neuroscience and neuroimaging including elements from technical engineering, natural science, and life science. Through this programme, graduates receive a broad education in neuroscience from the molecular and cellular level, to the physiological and anatomical level, providing them with a solid foundation for the study of the function of the nervous system and its disorders. At the same time, graduates will be introduced to the most widely used neuroimaging techniques, which will enable them to participate in and independently perform both pre-clinical and clinical neuroimaging studies.

The unique combination of advanced imaging techniques and a broad knowledge of basic and clinical neuroscience topics will enable graduates to integrate knowledge from the diverse scientific fields involved in neuroscience, and thereby facilitate interdisciplinary research.

Qualification Profile

Knowledge

The graduates will have research-based knowledge in:

- Neuroanatomy and neurophysiology.
- Computational tools applicable to neuroscience datasets.
- Digital signal and image processing and analysis.
- Molecular neurobiology and diseases of the nervous system.
- Preclinical methods and models in neuroscience.
- Structural and functional imaging modalities applicable to the human brain (MRI, PET and MEG/EEG).
- The interdependencies between methods and applications within neuroscience and neuroimaging, enabling evaluation of novel scientific problems in terms of feasibility and implementation.

Skills

The graduates will be able to:

- Master technological skills within the topics of the education in order to participate in and contribute to interdisciplinary research collaborations.
- Select the best scientific and technological approaches to a given research problem based on the acquired theoretical, technical and practical skills.
- Approach neuroscientific research problems at different levels from molecules over model systems to humans.
- In collaboration with clinicians and researchers, develop, optimize, and implement new analysis tools and novel experimental strategies in neuroscience and neuroimaging.
- Communicate scientific achievements and professional topics to laymen as well as the scientific community.

Competences

The graduates will be able to:

- Play a central role in the establishment of professional collaborations that bridge neuroscientific disciplines in the technical, natural, and health sciences.
- Collaborate to develop and implement novel techniques and medicotechnical equipment.
- Educate health professionals in the use and operation of advanced neuroimaging equipment, as well as the interpretation of results.
- Cope with complex and unpredictable scientific obstacles through the use of known methods in a novel setting or by developing new approaches.
- Keep updated within the neuroscience and neuroimaging field as well as within the chosen scientific specialization.

Structure

The programme contains the following elements:

Semester	Course / Programme element	Exam	Grading	Examiners	ECTS	
1	Basic Neuroscience (BNS)	Assignment and written presence examination	7/100 scale	Internal	10	
	Fundamental Biomedical Signal Processing (FBSP)	Written presence examination	7/100 scale	Internal	8	
	Introduction to Scientific Computing (ISC)	Exercises	Passed/Not-Passed	Internal	2	
	Molecular Imaging of brain Function and Structure (MIFS)	Written presence examination	7/100 scale	Internal	5	
	Human Brain Electrophysiology (HBE)	Oral	7/100 scale	Internal	5	
2	Magnetic Resonance Imaging (MRI)	Oral	7/100 scale	Internal	5	
	Machine Learning in Neuroscience (MLN)	Oral	7/100 scale	Internal	5	
	Neuroscience in a Clinical Perspective (NCP)	Written presence examination	7/100 scale	Internal	5	
	Methods in Preclinical Neuroscience (MPN)	Assignment and exercises	7/100 scale	Internal	5	
	Integrative Neuroimaging (INI)	Oral	7/100 scale	Internal	5	
	One of the following electives must be chosen:					
	Advanced Magnetic Resonance Neuroimaging (AMRI)	Oral	7/100 scale	Internal	5	
	Advanced Neuroscience (ANS)	Oral	7/100 scale	Internal	5	
	Cognitive Science (CS)	Assignment and oral	7/100 scale	Internal	5	
3	Thesis	Assignment and oral	7/4 scale	External	60	
4						

The first two semesters provide the common core of the programme. The first semester starts out with Basic Neuroscience and Fundamental Biomedical Signal Processing where the students, coming from very different backgrounds, acquire the necessary knowledge and competences needed to follow the tailored courses in the rest of the program. Later in the semester and in the second semester more advanced

courses follow that integrate both neuroimaging and neuroscience.

At the end of the 2nd semester, the students will select one of three possible 2nd semester elective courses (5 ECTS). The 3rd and 4th semester is devoted to writing the master's thesis.

Detailed course descriptions including exam regulations are published in the SDC course catalogue.

Commencement

Effective as of 01.09.2023

Changes to the Academic regulations

31.03.2025: Addition to General programme regulations: Extending options to take 30-ECTS points worth of studies outside of China.

31.03.2025: Consolidated/updated exam formats in "Structure": In accordance with changes made to course catalogue and previously decided by Teaching Committee and approved by Dean/Directors of SDC:

Magnetic Resonance Imaging (MRI): Changed from Written presence examination to Oral.

Integrative Neuroimaging (INI): Changed from assignment to Oral.