



Study
Programme

Charcot Multiple Sclerosis Master

Master of Science (M.Sc.)



CHARCOTMSM

Multiple Sclerosis – Master of Science



European
Charcot
Foundation

D/U

Dresden
International
Associated Institute of the TU Dresden
University

Table of Contents

| | |
|--|----|
| Facts and Figures & Admission Requirements | 3 |
| Study concept and objectives | 4 |
| Scientific Committee | 6 |
| Tuition and funding options | 7 |
| The Course of studies | 9 |
| Time scheduling | 11 |
| Modul descriptions | 15 |
| Further Information | 21 |
| Application and information | 22 |



Facts and Figures

| | |
|-----------------------------|--|
| Programme Directors: | Prof. Dr. med. Giancarlo Comi Prof. Dr. med. Tjalf Ziemssen |
| Venue of study: | Predominantly online |
| Teaching Language: | English |
| Time Zone: | Central European Time |
| Course start date: | Autumn |
| Duration: | 4 semesters, 24 months incl. master thesis |
| Class size: | max. 30 students |
| Tuition fees: | 20.000 € |
| Credit points: | 60 ECTS-Points |

Admission Requirements

The master's programme is aimed at physicians, therapists, nurses, scientists, pharmacists, psychologists and biologists who want to specialize in the field of multiple sclerosis.

The admission requirements are fulfilled by

- all **MS professionals** with a complete university degree in human medicine or another related university degree **or**
- all **MS health professions** with an accomplished vocational training and with an additional academic Bachelor's or Master's degree in the fields of neurology, therapy, care in science or health professions.

Study concept and objectives

In spring 2022, **Prof. Dr. Giancarlo Comi**, President of the European Charcot Foundation, the experienced neurologist and recognized multiple sclerosis expert **Prof. Dr. med. Tjalf Ziemssen** and **Dresden International University** have entered into a close cooperation to jointly offer the first international part-time multiple sclerosis master programme. The master's degree programme is the only comprehensive and curricular continuing education programme in the world that allows professionals to specialize in multiple sclerosis management at the master's level.

Innovation in education: the course concept

The study approach of placing a single disease entity - multiple sclerosis - at the center of a master's degree programme to train MS specialists represents a novelty within the medical training landscape. This is due to fact that no structured and industry-independent continuing education program centered around MS has existed until now. Although MS as a chronic and/or episodic neurological disease with heterogeneous symptoms and courses is very complex and, moreover, significant innovations in diagnosis and treatment have been achieved in recent years.

The program is designed to give students the opportunity to become MS specialists despite having challenging full-time jobs as the predominant part of the programme is organized with the help of a cloud-based digital hub mainly virtually in the form of lectures, expert discussions, tutorials, case conferences or journal clubs. The programme consists of four semesters. Approximately 1-2 face-to-face visits are scheduled per semester, organized around important professional events such asECTRIM or the Annual Meeting of the European Charcot Foundation. An important study component is the visits to selected MS centers, to put the course content into practice in job shadowing, practical workshops and hands-on units.

Summary of the main objectives of the master's programme

- to treat patients with chronic inflammatory neurological diseases comprehensively in their individual disease pattern according to current scientific knowledge and thus improve patient's quality of life
- specialization in multiple sclerosis management at a master's level
- prepares the MS researchers of the future

Detailed description of the study objectives

The primary goal of the Multiple Sclerosis Management master's programme is to familiarize students with the detailed science-based diagnosis and differential diagnosis of suspected chronic inflammatory diseases of the central nervous system (CNS) with a focus on multiple sclerosis (MS), avoiding any delay in diagnosis.

Secondly, the students should learn the "state of the art management" of chronic inflammatory CNS diseases, this includes using extensive knowledge of different drugs and therapeutic strategies to take the most current and appropriate therapeutic measures and strategies for the individual patient and always include a detailed and close monitoring of disease activity and disability.

Study concept and objectives

Another third overarching goal is to be able to derive scientifically sound judgments from scientific publications and clinical studies in the field of chronic inflammatory CNS diseases, to derive scientific rules and data from scientific studies, to interpret them in the context of the individual patient's situation and, based on this, to develop and further develop therapeutic intervention plans and problem-solving strategies and to apply them in direct patient care.

The following knowledge and competencies, among others, are taught in the course of study:

- practice-oriented application of detailed and up-to-date expertise in basic, clinical and diagnostic principles, therapy, monitoring and documentation, as well as studies and statistics in the field of MS,
- demand-oriented design and modification of therapeutic interventions in the inpatient as well as in the outpatient area, oriented to the complexity of the health care assignment
- Distinct competences for the transfer of theoretical knowledge into practice, for interdisciplinary, networked cooperation with other relevant professional groups of the health and social system as well as intra- and interdisciplinary and cross-sectoral care management and interface management,
- competences in the field of doctor-patient communication, coaching and rehabilitation of patients,
- scientifically based, hermeneutic case understanding and a methodically reflected, differentiated, professional action founded and prioritized at the highest level,
- Research, analysis and evaluation of current scientific research findings on diagnosis, therapy and monitoring of MS and assessment of external evidence for translation into practice,
- formulate MS-related problems while reflecting on possible societal, economic, and cultural implications, and
- Develop scientifically based conceptual and strategic solutions that are applied to patients based on research evidence and are presented and justified in teams, before an expert audience, or before laypersons.

Scientific Committee

6

The Collaboration with the European Charcot Foundation enables the master's programme access to highest-ranking MS researchers of Europe, Asia and America for this high level teaching activity.

Academic Leadership of the Scientific Committee of the European Charcot MS Management Master



Prof. Dr. med. Giancarlo Comi

President of the European Charcot Foundation



Prof. Dr. med. Tjalf Ziemssen

Specialist in neurology, senior consultant and deputy director of the neurological clinic and head of the multiple sclerosis center at the Universitätsklinikum Dresden

The module supervisors of the Scientific Committee of the European Charcot MS Management Master

M1 Theoretical Principles

Prof. Dr. Christine Stadelmann-Nessler, Prof. Dr. Hans Lassmann

M2 Clinical & Diagnostic Aspects

Prof. Dr. Xavier Montalban, Prof. Dr. Yamout Bassem

M3 Studies & Statistics

Prof. Dr. Gilles Edan, Prof. Dr. Maria Pia Amato, Prof. Dr. Bernhard Schipp

M4 Therapy I

Prof. Dr. Per Soelberg Sørensen, Prof. Dr. Hans-Peter Hartung, Prof. Dr. Kazuo Fujihara

M5 Therapy II

Prof. Dr. Letizia Leocani, Prof. Dr. Peter Flachenecker, Prof. Dr. Liliana Patrucco

M6 Monitoring & Documentation

Prof. Dr. Maria Trojano, Prof. Dr. Jacqueline Palace

Current list of all speakers on our website: <https://www.di-uni.de/charcot-msm>.

Tuition and funding options

The tuition fees for the master's programme are **5.000 euros per semester (a total of 20.000 euros)**.

The tuition fee is payable in instalments (quarterly or half-yearly) or monthly by direct debit.

What does the tuition fee include?

- The complete master's programme with all lectures, visits, exams and the master's thesis.
- the congress participation fees

What does the tuition fee not include?

- You will need to fund your travel and accommodation costs for the site visits.
- Only relevant for students with bachelor's degree: additional modules to achieve another 60 ECTS-Points

What happens if I cannot spend these additional travel expenses?

We also try to generate funding for such cases through donors and supporters.

However, there are also two very practical solutions:

- Option 1: Online connection to on-site visits
- Option 2: make up the on-site unit in a later year

What other ways besides the self-financing concept are there to re-finance tuition fee?

There are a variety of state and private funding options to (re) finance the tuition fee. Which funding option comes into question is a case-by-case decision.

In principle, the following options are available:

- **Funding by your employer**

Please talk to your employer about a possible subsidy of the tuition fees and a support of your further education studies in the form of time off work.

If your employer (partially) finances your studies, it is possible to include your employer in a tripartite contract in your study contract and to specify the payments of the contracting parties in the contract.

- **Education loans**
- **Education funds**
- **Tax deductibility**
- **State fundings**
- **Application to a Partial scholarship**

DIU contact person for individual consultations

Stefan Erbe



+49 351 40470 - 106



stefan.erbe@di-uni.de



Tuition and funding options

Partial scholarship programme

It is possible to apply for a partial scholarship that covers a maximum of half of the tuition fees. In this way, we specifically support committed, qualified applicants who are unable to pay the monthly tuition fees, have no financial support options from third parties, and want to further this important field of research.

A committee consisting of the two Academic Directors of Charcot MSM Master as well as the President and the Head of the Department of Student Organization of DIU, decides on the selection of scholarship applicants.

The partial scholarships are raised from donations and grants from pharmaceutical companies.

The Course of studies

| | | | | |
|------------|----------------------------|----------|---|---------|
| Semester 1 | Basic Modules | Module 1 | Theoretical Principles Pathology, Pathophysiology, Neurobiology Written Exam | 5 ECTS |
| | | Module 2 | Clinical & Diagnostic Aspects Symptoms, Diagnosis and differential diagnosis, special forms, CSF and blood test, MRI, Neurophysiology Oral Exam | 10 ECTS |
| Semester 2 | | Module 3 | Studies & Statistics Concepts of statistics, Clinical Studies, Real World Data, ECTRIMS, Reviews and Journal Clubs Written Exam | 7 ECTS |
| | Advanced Therapy Modules | Module 4 | Therapy I Strategy and goals, drug development, NMO relapse, first line and second line treatment, treatment of progressive MS, NMO/MOGAD treatment, treatment algorithms and specific situations, future strategies Written Exam | 8 ECTS |
| Semester 3 | | Module 5 | Therapy II Symptomatic Therapy, Complementary Therapies, Non invasive Neuromodulation, Neurobiology, Rehabilitation and Patient Coaching, Palliative medical aspects Oral Exam | 9 ECTS |
| | | Module 6 | Monitoring & Documentation Clinical documentation, Patient communication, MRI Monitoring, Neuropsychological monitoring, eHealth devices, Patient report outcomes, social-medical aspects, Health economics aspects, Register and Real World datas, Networks andassociations Case Report | 6 ECTS |
| Semester 4 | Master thesis and defensio | | | 15 ECTS |

The Course of studies

As a rule, during the 18 month of the semesters 1, 2 and 3 the online sessions take place:

- weekly (Wednesdays from 19 till 22 o'clock)
- approximately 12 online weekend blocks (with online Friday/Saturday sessions)

Five attendance blocks

- Ceremonial Opening and Graduation at the Annual Meeting of the European Charcot Foundation
- Three Clinical Visit in Dresden/Germany, Barcelona/Spain and Milano/Italy
- OneECTRIMS-Participation

There is one module examination per module. The examinations take the form of written examinations, oral examinations and a case report.

In addition, all students are required to actively participate in the following transfer units on a regular basis:

- Hands-on, practice workshop and observation units (in Module 2, 4, 5, 6).
- Case discussions (Module 2, 4, 5, 6)
- Journal clubs (all modules)
- Congress attendance and congress review (module 3)
- Master's colloquia

In the fourth semester the **master's thesis** is written.

The Master's thesis is intended to show that students are able to work independently on a problem from their subject using scientific methods. Master's thesis or

The examination regulations of the Master's programme allow two options for writing the Master's thesis:

- Either as a classic master's thesis (approximately 60 text pages in length) **or**
- As a scientific paper in a peer-reviewed or Pubmed-listed journal (thematic review, meta-analysis, original scientific paper).

The student explains and defends the results of his or her Master's thesis in the master's thesis defense.

After successful completion of all examinations, including the defense of the Master's thesis, graduates are awarded the academic degree "Master of Science" (M.Sc.).

Time scheduling

for the Charcot MSM Master class 2022 (Attention: Subject to change, status: 18.10.2022)

Semester 1

| Module 1 | | | | | | | | | | | | | | Module 2 | | | | | | | | | | | | | | | | | | | | |
|---------------|----|----|----|----|----|----|---------------|----|----|----|----|----|----|--------------|----|----|----|----|----|----|---------------|----|----|----|----|----|----|------------------------|----|----|----|----|----|----|
| November 2022 | | | | | | | December 2022 | | | | | | | January 2023 | | | | | | | February 2023 | | | | | | | March 2023 | | | | | | |
| M | D | M | D | F | S | S | M | D | M | D | F | S | S | M | D | M | D | F | S | S | M | D | M | D | F | S | S | M | D | M | D | F | S | S |
| | 1 | 2 | 3 | 4 | 5 | 6 | | | | 1 | 2 | 3 | 4 | | | | | | | 1 | | | 1 | 2 | 3 | 4 | 5 | | | 1 | 2 | 3 | 4 | 5 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 28 | 29 | 30 | | | | | 26 | 27 | 28 | 29 | 30 | 31 | | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 27 | 28 | | | | | | 27 | 28 | 29 | 30 | 31 | | |
| | | | | | | | | | | | | | | 30 | 31 | | | | | | | | | | | | | Clinical Visit Dresden | | | | | | |

| Module 2 | | | | | | |
|------------|----|----|----|----|----|----|
| April 2023 | | | | | | |
| M | D | M | D | F | S | S |
| | | | | | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | | | | | | |

Weekly Online Session

Congress Visits

Examination Date

Weekend Online Session

Clinical Visits

Master's Colloquia

Time scheduling

for the Charcot MSM Master class 2022 (Attention: Subject to change, status: 18.10.2022)

Semester 2

| Module 2 | | | | | | | Modul 3 | | | | | | | | | | | | | | Module 4 | | | | | | | | | | | | | | | | | |
|--------------------------|----|-------------------------------|----|----|----|----|--|----|----|----|----|----|----|-----------|----|----|----|----|----|----|-------------|----|----|----|----|----|-----------|----------------|----|----|----|----|----|----|--|--|--|--|
| May 2023 | | | | | | | June 2023 | | | | | | | July 2023 | | | | | | | August 2023 | | | | | | | September 2023 | | | | | | | | | | |
| M | D | M | D | F | S | S | M | D | M | D | F | SS | SS | M | D | M | D | F | S | S | M | D | M | D | F | S | S | M | D | M | D | F | S | S | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | | | 1 | 2 | | 1 | 2 | 3 | 4 | 5 | 6 | | | | | 1 | 2 | 3 | | | | |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | | | | |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | | | |
| 29 | 30 | 31 | | | | | 29 | 30 | 31 | | | | | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 28 | 29 | 30 | 31 | | | | 25 | 26 | 27 | 28 | 29 | 30 | | | | | |
| Clinical Visit Barcelona | | | | | | | | | | | | | | 31 | | | | | | | | | | | | | Barcelona | | | | | | | | | | | |
| Module 4 | | | | | | | <div><div>Weekly Online Session</div><div>Congress Visits</div><div>Examination Date</div><div>Weekend Online Session</div><div>Clinical Visits</div><div>Master's Colloquia</div></div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| October 2023 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M | D | M | D | F | S | S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 31 | Clinical Visit Milano/ECTRIMS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Weekly Online Session

Congress Visits

Examination Date

Weekend Online Session

Clinical Visits

Master's Colloquia

| | | |
|------------------------|-----------------|--------------------|
| Weekly Online Session | Congress Visits | Examination Date |
| Weekend Online Session | Clinical Visits | Master's Colloquia |

Time scheduling

for the Charcot MSM Master class 2022 (Attention: Subject to change, status: 18.10.2022)

Semester 4

| Module 6 | | | | | | | Master Thesis | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|----|----|----|----|----|----|---------------------------|----|----|----|----|----|----|------------------------|----|----|----|----|----|----|-----------------|----|----|----|----|----|----|--------------------|----|----|----|----|----|----|---|
| May 2024 | | | | | | | June 2024 | | | | | | | July 2024 | | | | | | | August 2024 | | | | | | | September 2024 | | | | | | | |
| M | D | M | D | F | S | S | M | D | M | D | F | SS | SS | M | D | M | D | F | S | S | M | D | M | D | F | S | S | M | D | M | D | F | S | S | |
| | | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | | | 1 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | | 1 | 2 | 3 | 4 | | | | | 1 | 2 | 3 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | |
| 27 | 28 | 29 | 30 | 31 | | | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 29 | 30 | 31 | | | | | 26 | 27 | 28 | 29 | | | | 25 | 26 | 27 | 28 | 29 | 30 | 31 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Master Thesis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| October 2024 | | | | | | | November 2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M | D | M | D | F | S | S | M | D | M | D | F | S | S | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | | | | | | | | | | | | | | | | | | | | | |
| 29 | 30 | | | | | | Annual Meeting + Defenses | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | Weekly Online Session | | | | | | | Congress Visits | | | | | | | Examination Date | | | | | | | |
| | | | | | | | | | | | | | | Weekend Online Session | | | | | | | Master Thesis | | | | | | | Master's Colloquia | | | | | | | |

Module Descriptions

Module 1: Theoretical Principles

Qualification Objectives - The student learns:

The student learns the basics of the clinical picture and epidemiology of multiple sclerosis. By acquiring comprehensive knowledge of formal, molecular and pharmacogenetic aspects as well as the influence of environmental aspects, he/she will be able to assess important influencing factors for the diagnosis and therapy of the individual patient. After successful completion of the module, the student will be able to make statements about different MS courses with their prognostic implications. The knowledge of immunological basics is a decisive basis for the understanding of therapeutic interventions, which are discussed in the following modules. A further basis is provided by the knowledge of pathology and pathophysiology, which on the one hand are important, particularly for symptomatic therapy, and on the other hand play an important role in understanding the imaging of MS. Knowledge of the basics listed here is crucial for clinical transfer, which is only possible after understanding this content.

Content:

- Epidemiology, genetics and environmental factors
- Pathology and pathophysiology
- Immunopathogenesis and disease models
- Course of the disease and prognosis
- Practical workshop Pathogenesis and Pathology (microscopy of lesions, macroscopy course neuroanatomy, sectioning of brains)

Exam:

- Written Exam – Multiple Choice (90 minutes)

Module 2: Clinical & Diagnostic Aspects

Qualification Objectives - The student learns:

The student learns to recognise the symptoms of MS and to assess them after a detailed anamnesis. He/she will be able to carry out further diagnostics and differential diagnostics in the case of suspected chronic inflammatory CNS diseases by becoming intensively acquainted with the role of cerebrospinal fluid and blood examinations. The –importance of image diagnostic procedures is explained to the student in detail by means of lectures and workshops on magnetic resonance imaging (MRI) and optical coherence tomography (OCT). In this module, the student also learns the neurophysiological examination procedures in order to be able to functionally assess demyelination. The learned diagnostic and differential diagnostic skills are consolidated through practical application in five case conferences. After successful completion of the module, the student will be able to diagnose MS on the basis of the available criteria or work out the essential differential diagnoses.

Content:

- Symptoms, differential diagnoses, special forms
- MS diagnosis and diagnostic criteria
- CSF and blood tests
- Magnetic resonance imaging (MRI)
- Optical Coherence Tomography (OCT)
- Neurourology
- Neuropsychology
- Neurophysiological examinations
- Practical part: 11 Hands On Units
- Practical part: 5 case conferences

Exam:

- Oral Exam

Module 3: Studies & Statistics

Qualification Objectives - The student learns:

The student learns the basics of clinical research and the process of formulating a scientific question. After successful completion of the module, the student will be able to develop, evaluate and apply different study designs. The study designs used in multiple sclerosis play a particularly important role here, the different endpoints of which will be known and can be applied after completing this module. In addition to the basics of statistics, this module will enable the student to know, select and critically interpret various statistical tests according to the research design and the research background. New study designs such as adaptive designs can be applied. This will enable the student to select the correct method appropriate to a particular clinical research question, apply it to examples from MS practice and discuss his/her results with colleagues and non-specialists according to the test results. Particular emphasis is placed on case number planning and setting study endpoints, which the student is expected to master. Upon successful completion of the module, the student will also be able to analyse Real World data and interpret it in the context of MS practice. Real world data is aggregated in the course of phase IV registry studies. Here, skills in bias reduction and matching, especially with real world data, such as propensity matching, should be learned. Module 3 focuses on the planning, implementation and evaluation of such studies.

Content:

- **Clinical trials:**

Theoretical and methodological principles of clinical research
basic classification of clinical trials
basic ethical concepts and the process of formulating a scientific question
basics of study population and basic study design types
basic study design types
methods of blinding and randomization
strategies of patient recruitment and adherence improvement.

- **Essential concepts of statistics:**

descriptive statistics, basics of inferential statistics, regression and correlation,
sample size planning, time-to-event analyses, general linear model,
mixed models, handling of missing values and analysis sets, meta-analyses

- **Real World Data**

- **Practical part: Congress participation and, if applicable,ECTRIMS participation + Session and poster reviewing**

Exam:

- Written Exam (90minutes)



Module 4: Therapy I

Qualification Objectives - The student learns:

After successful completion of this module, the student will be able to describe in detail the fundamental differences between the therapy of acute relapses and a disease modifying therapy (DMT) of MS, apply them in practice and explain them to colleagues as well as to non-specialists including patients. In this way, the student can apply both the efficacy and side effect profile of the different drugs with well-founded knowledge, which she/he has learned from clinical phase II and III studies as well as from real world studies. Different therapy strategies and sequences can be applied. By acquiring comprehensive knowledge of current therapeutic approaches and drug developments, he/she will be able to assess the mechanism of action and safety of different drugs and weigh up their use in individual cases depending on the indication and patient profile. Based on the knowledge imparted in this module, the student will be able to identify successful therapy strategies for the individual patient that reduce disease activity and have a favourable influence on the course of the disease. The skills are consolidated through practical application within the framework of five case conferences and a hospitation, whereby practical therapy decisions are taught that are to be derived individualised for the patient. Through the development of future therapy strategies, the student also has important knowledge of future strategies and current study approaches after this module.

Content:

- Therapy strategies and goals
- Drug development in MS therapy
- Therapy of the MS relapse and NMO relapse
- MS first line treatment Escalation therapy of MS
- MS second line/escalation treatment
- Treatment of progressive MS
- NMO/MOGAD treatment
- Treatment algorithms and specific treatment situations
- Future and experimental therapeutic strategies
- Practical component I: hospitation
- Practical part II: case conferences

Exam:

- Written Exam – Multiple Choice (90 minutes)

Module 5: Therapy II

Qualification Objectives - The student learns:

Module 5 enables the student to use the available non-drug and drug procedures for the treatment of disease-associated symptoms as needed, in addition to therapies that can influence the course of the disease. This is highly relevant for the student, as a variety of MS-associated symptoms can occur, which the student can actively use after working through this module. The basis for this is the acquisition of comprehensive knowledge about the goals and implementation of symptomatic and complementary therapies with their indication and risk-benefit profile. After successfully completing the module, the student will also be able to apply his/her knowledge of rehabilitative measures and palliative medicine aspects and guide the individual patient to better cope with the disease. In five case conferences, the theoretical knowledge is transferred into practice - the student can contribute to promoting the social participation and self-determination of the patients and thus improve their quality of life by using neurocognitive and psychological interventions. Through an extensive practical component (observation, congress participation and, participation in five case conferences), the contents learned are deepened and consolidated so that MS patients in different stages of the disease can be optimally treated symptomatically.

Content:

- Symptomatic therapy
- Complementary therapies for multiple sclerosis
- Rehabilitation and patient coaching
- Palliative care aspects
- Practical component I: hospitation
- Practical part II: 5 case conferences
- Practical part III: Congress participation ECF Annual Meeting

Exam:

- Oral Exam

Module 6: Monitoring & Documentation

Qualification Objectives - The student learns:

After successful completion of the module, the student is able to carry out individualised and multimodal monitoring of multiple sclerosis according to defined standards, taking into account the therapy goals. The basis for this is a detailed look at the different approaches to monitoring in MS as well as the optimisation of patient documentation, which should take place in the form of registers or other structures. The student should be able to use and interpret "patient-reported outcomes" (PROMs) in science and practice in addition to classical clinical and imaging outcomes. The student will be able to understand new possibilities from the eHealth field with specific parameters and integrate them into practice and research. Through a thorough study of health economic aspects, the student will be able to distinguish cost types, perform cost analyses and break down the costs of illness in MS. Furthermore, the student learns how to deal with and utilise the large amounts of data that arise in MS (real world data collection) through intensive examination of various instruments for MS documentation and management. Last but not least, the student critically examines MS-specific networks, associations and registers. The student gains practical experience in monitoring, patient communication and clinical documentation in five case conferences, which specifically address monitoring and documentation.

Contents:

- Clinical documentation incl. monitoring
- Patient communication
- MRI monitoring
- Neuropsychological monitoring
- Monitoring through eHealth devices
- Patient reported outcomes
- Socio-medical aspects
- Health economic aspects
- MS Register and Real World data collection
- Networks and associations
- Practical part: Hospitation
- Practical part: case conferences

Exam:

- Case Conference

More Information

About the Dresden International University (DIU)

The DIU is associated to the excellence university "Technical University Dresden" as an associated institute and acts as the university for continuing education of Technical University Dresden, the medical faculty "Carl Gustav Carus" and the University Hospital Carl Gustav Carus. For over 20 years, Dresden International University has specialised in the development and implementation of innovative, interdisciplinary and market-orientated continuing education programmes in the national and international field as a network university. 47 bachelor and master's degree programmes from six different departments with over 2000 students are accredited at the Dresden International University.

Mission

The study programs of Dresden International University gGmbH serve to enable its students to establish themselves actively and competitively in the (international) working world. DIU's study programs are thus aimed at academics and professionals from Germany and abroad, as well as trainees with a university entrance qualification.

Why and how to run an M.Sc. Course in MSM at DIU?

Excellence in Profile

- Conventional universities have difficulties in providing the breadth of teaching staff required (i.e. academic and departmental autonomies);
- DIU can easily hire excellent staff from virtually anywhere on a time limited basis;
- Courses can be configured in accordance to any needs;
- Short decision processes due to simple organisational structure;
- Multiple Sclerosis Management Master" accredited by Saxonian Ministry of Science & Culture and ACQUIN.

Portfolio of programme

-  Education, Communication & Culture
-  Healthcare
-  Engineering
-  Medical Science
-  Business, Law & Management
-  Digital Management

More Medical Science Master's Programmes

- Clinical Research, M.Sc.
- Ethics in medical care, M.A.
- Health Care Management, MBA
- Medical Law, LL.M.
- Parodontology and Implant Therapy, M.Sc.
- Preventive Medicine, M.Sc.



Information and Application

To apply for admission to the Charcot MSM Master's programme, please submit the following documents and send an email to **charcot-msm@di-uni.de** with:

- / your curriculum vitae
- / Your letter of motivation
- / Your school and university transcripts.

By fax to:

0049 351 40 470 110

By mail to:

DIU Dresden International University
to the attention of Franziska Ramisch
Freiberger Str. 37
01067 Dresden



Your contact person

Franziska Ramisch M.A.

Telefon: +49 351 40 470 150

E-Mail: charcot-msm@di-uni.de



European
Charcot
Foundation

DIU Dresden
International
Weiterbildungsuniversität der TU Dresden
University