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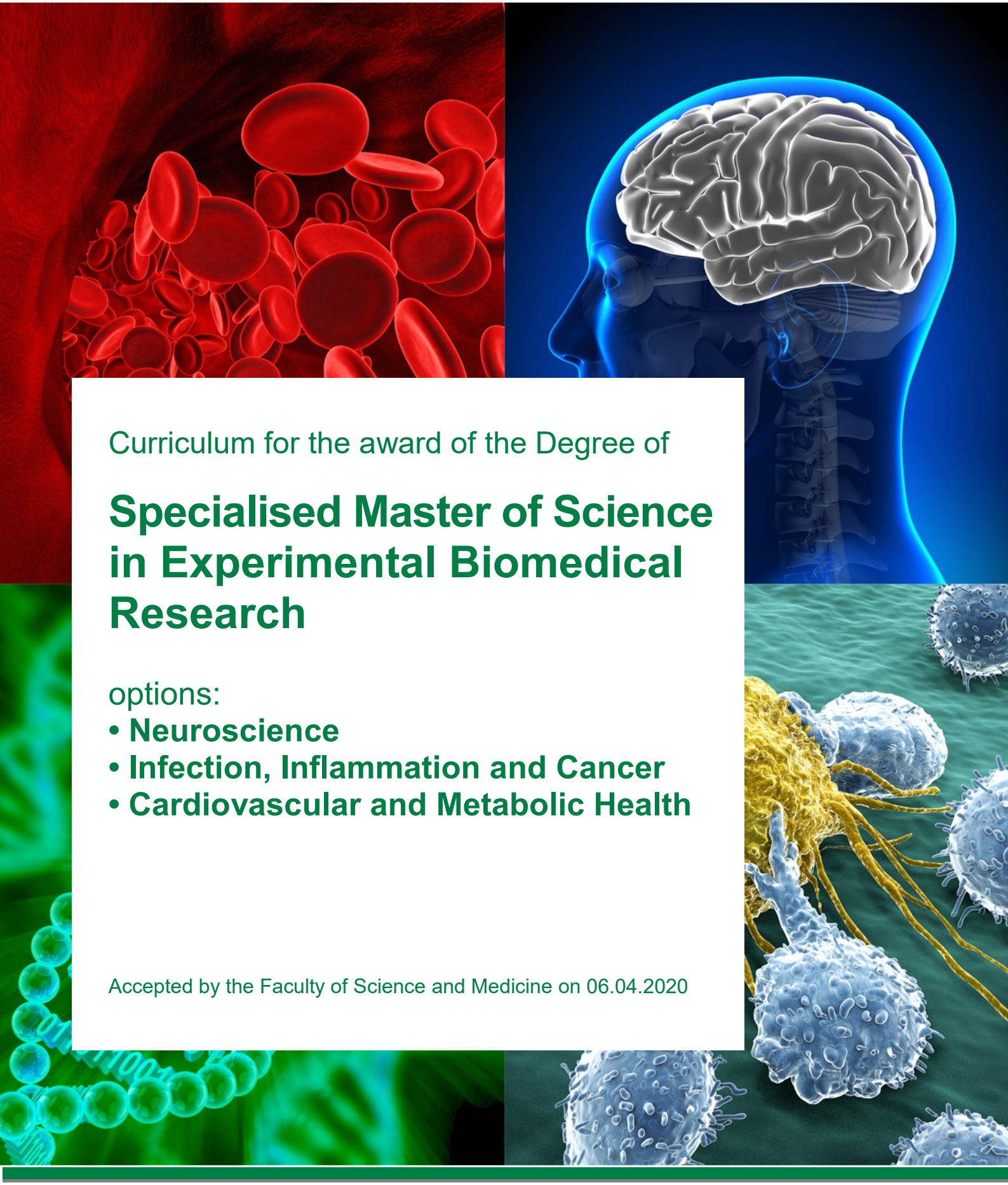

Curriculum for the award of the Degree of

Specialised Master of Science in Experimental Biomedical Research

options:

- **Neuroscience**
- **Infection, Inflammation and Cancer**
- **Cardiovascular and Metabolic Health**

Accepted by the Faculty of Science and Medicine on 06.04.2020

FACULTÉ DES SCIENCES ET DE MÉDECINE
MATHEMATISCH-NATURWISSENSCHAFTLICHE UND MEDIZINISCHE FAKULTÄT

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1 General remarks

This curriculum describes all regulations concerning the study of experimental biomedical research at the Master level at the University of Fribourg. It is based on the regulations of the Faculty of Science and Medicine as defined in the *Règlement pour l'obtention des Bachelor of Science et des Master of Science de la Faculté des sciences et de médecine*, which entered into force on April 6th, 2020 (hereafter called the *Regulation* in short). In case of discrepancies of translation, the French version will be considered authoritative.

The Regulation of 6 April 2020 for the award of the Bachelor of Science and Master of Science degrees establishes a limit on the duration of Bachelor's and Master's studies, as well as of the minor study program (see articles 10, 11a, 12a, 13 and 31) (https://www3.unifr.ch/scimed/fr/rules/regulations).

1.1 Academic title and study plan

The Faculty of Science and Medicine of the University of Fribourg awards the following official academic title to students who have successfully completed their studies:

Specialised Master of Science in Experimental Biomedical Research (sp-MSc), University of Fribourg

The programme consists of four modules:

- Compulsory courses: 18 ECTS credits
- Elective courses in one of the three options: 12 ECTS credits
- Master thesis-related activities: 15 ECTS credits
- Master thesis: 45 ECTS credits

Three options (specialisations) with specific courses are offered:

- Neuroscience
- Infection, Inflammation and Cancer
- Cardiovascular and Metabolic Health

Elective courses not listed in the study programme of these options may also be taken. In this case, the student must consult the study advisor.

The **MSc study programme** in Experimental biomedical research (subsequently called MSc) provides the students with advanced courses in their chosen specialisation, as well as a foundation of obligatory courses. The programme aims at preparing students for a PhD programme. At the same time, the programme provides students with skills needed for a successful career in health-related industry and administration.

Candidates with a Bachelor degree in biology, biochemistry, biomedical sciences or medicine from the University of Fribourg or from another Swiss university, can apply to the MSc (as outlined in Section 2.5 below). Applicants in possession of a BSc degree from other countries or in a different but related subject can also be admitted into the programme based on a decision of the Faculty of Science and Medicine. The admission decision is made individually for each case. Provisional admission can be granted and depends on the fulfilment of additional requirements set by the Faculty (see Section 2.5 below).

1.2 Course structure

The course work leading to the MSc degree is subdivided into "**UE**" (= teaching units, from "unité d'enseignement" or "Unterrichtseinheit"), consisting of formal lectures, exercise classes, practical

courses, seminars, and specialised projects. To each UE, a number of **ECTS[1] points** is assigned, which, following successful completion of the course (e.g., exams) are converted into ECTS.

The MSc degree requires a minimum of 90 ECTS credits over three semesters. The programme is subdivided into two parts (or *validation packages*):

- formal lectures, practical courses, projects, seminars (45 ECTS credits)
- a Master project that terminates with the Master thesis (45 ECTS credits).

The purpose of the different UE types is as follows:

- **Lectures** give a formal introduction to the scientific methods in basic and experimental biomedical research and encourage advanced scientific thinking. They help acquiring the basic knowledge and understanding of the fundamental concepts in specific disciplines.
- **Laboratory work**, be it experimental or theoretical, is the basis of scientific research. It provides a supervised environment for the hands-on realization of biological and medical measurements. It is during this work that the student will encounter and learn many of the techniques and instruments used in biological and medical research.
- **Seminar presentations** are used to expand the student's knowledge in specialised domains, often neglected in the formal courses, as well as to begin the development of oral presentation skills for communication of scientific results.
- **Student projects** are a first step towards applying the skills learned in the lectures and exercise classes to address and solve appropriate research questions.
- The preparation of the **Master thesis**, under the supervision of an experienced researcher, is the actual starting point of scientific research.

1.3 Acquired skills

The aim of the studies leading to the award of an MSc in Experimental Biomedical Research is to deepen knowledge and techniques, and to perfect competence in the chosen field and, at the same time, develop skills in scientific English and scientific writing. Thus, at the end of the study programme, a student will have shown that he/she can apply their knowledge to accomplish a research project and will have learned how to work independently, how to integrate into an interdisciplinary research team and how to present and discuss the obtained results. The successful completion of the degree requires creative and self-critical talents as well as the ability to both communicate ideas and work in English.

1.4 Course assessment (UE) and accreditation of ECTS credits

Acquisition of ECTS credits occurs via three steps: assessment of individual UE, grouping of UE into a validation package, and awarding the respective ECTS credits for the completed package.

Assessment of lectures is made by an oral and/or written exam, whose type and duration are specified in an appendix to this curriculum. Exams occur during the official exam sessions in spring, summer, or autumn, and are subject to a fee. Students register for each exam via the students' web portal MyUniFR (https://my.unifr.ch), within the stipulated deadlines according to the on-line procedure and using their University-provided account and password. The marks range from 6 (highest mark) to 1 (lowest mark). An exam marked below 4 can be repeated, but only once, and at earliest during the next exam session.

A **Validation package** comprises multiple, separately assessed, UE. Article 22 and 24 of the Regulation determines the number of these packages whereas this curriculum determines their content.

[1] ECTS stands for *European Credit Transfer System.* One ECTS point corresponds to approx. 30 hours of work.

ECTS points are credited according to Art. 23 of the Regulation if:

- the weighted average of the exam marks of a validation package is at least 4. The weighting is given by the number of ECTS points assigned to a UE, and
- the assessment criteria for UE not subject to formal examinations (practical work, seminars, etc.) are met, according to the specific appendices (see Section 2.4 below).
- no mark is equal to 1.0.

After satisfying those conditions, a package is considered validated and the corresponding ECTS points are converted into ECTS credits and attributed to the student. Upon request, the Dean's office will issue Transcripts of records in which exam results and awarded credits are acknowledged (Art. 26 and 27 of the Regulation), provided the exam fee has been paid.

1.5 Teaching languages

MSc courses are generally taught in English, although selected courses may be conducted in the German or French language. Written work (project reports, MSc thesis, etc…) will preferably be in English. Texts in French or in German are also accepted.

1.6 Ethics and science

Ethical principles are an integral part of a scientific education. Accepted international conventions must be respected during research and while documenting all scientific work whether it be a project, a lecture, a thesis, or a report. In particular, every external source of information (articles, lectures, web pages, etc.) must be correctly cited.

1.7 Regulations and additional Information

Detailed information about studying Experimental Biomedical Research can be found in the documents referenced on the web page http://www3.unifr.ch/scimed/plans which are also available on the section website (https://www3.unifr.ch/med/fr/) as well as from the Office of the Medicine Section.

2 Master of Science (MSc)

[Version 2020, validation packages:
Option N: PV-SME.000041, PV-SME.000042
Option IIC: PV-SME.000043, PV-SME.000044
Option CMH: PV-SME.000045, PV-SME.000046]

The MSc programme in Experimental Biomedical Research requires 90 ECTS credits to be completed, and is expected to take 18 months. The first year consists primarily of courses, seminars, and the first part of the Master work, designed to strengthen and complete the student's existing biomedical knowledge, as well as the proper scientific conduct and skills to communicate research. As members of a research team, the Master students take part in various activities such as research group meetings, seminars, and literature study/journal clubs. Students are expected to participate in those activities throughout the duration of the study. The credits for these activities amount to 15 ECTS. The MSc degree course is completed by a research project of 45 ECTS in total, which includes the writing of a Master thesis.

2.1 MSc course units

In the first year of the study programme, MSc students follow all compulsory course units (18 ECTS), as well as elective course units (12 ECTS) in their chosen specialisation. The study programme is complemented by thesis-related activities in the chosen specialisation (15 ECTS) and the MSc thesis (45 ECTS).

***Compulsory** Course Units*

Code	Title of UE	tot. h.	ECTS
SME.07100	Models for human diseases	28	3
SME.07200	Infection, inflammation and cancer	28	3
SME.07300	Central nervous system regeneration and repair	28	3
SME.07400	Microscopy in life sciences	28	3
SME.07500	Scientific writing	28	3
SME.07700	Data analysis and statistics with the R programming language	28	3
Total			**18**
SME.07600	Master thesis		**45**

*Course Units in the **Neuroscience** option*

Code	Title of UE	tot. h.	ECTS
SME.07301	Behavioural methods in neuroscience	28	3
L25.00721	Sleep and visual neuroscience [L071.0821]	28	3
L25.00731	Introduction to R [L071.0831]	28	3
L25.00644*	Introduction to Matlab I [L071.0743]	14	3
Total			**12**

* Offered by the Dept. of Psychology, Faculty of Humanities
Subject to change. See the up to date list under moodle.

*Thesis-related activities in the **Neuroscience** option*

Code	Title of UE	tot. h.	ECTS
SME.07002	Fribourg day of cognition	8	0.5
SME.06001	Neurobiology (seminar)	5	0.5
SME.07001	Neurobiology (seminar)	5	0.5
SME.07302	Frontiers in neuroscience BENEFRI (workshop)	18	1.5
SME.07304	Neuroscience journal club [2 semesters x 14h]	28	4.5
SME.07601	Research group meetings in Neuroscience [3 semesters x 14h]	42	3
SME.07602	Project design in Neuroscience	42	4.5
Total			**15**

*Course Units in the **Infection, Inflammation and Cancer** option*

Code	Title of UE	tot. h.	ECTS
SME.07201	Cellular immunology: theory and practice	28	3
SME.07202	Hot topics in cancer research	28	3
SME.07203	Principles and methods in investigating and treating age-associated heart and vascular diseases	28	3
SME.07209	Concepts and approaches in metabolic phenotyping, anti-obesity targeting and hypoxia research	28	3
Total			**12**

*Thesis-related activities in the **Infection, Inflammation and Cancer** option*

Code	Title of UE	tot. h.	ECTS
SME.07210	Section of medicine research (seminar)	6	0.5
SME.07211	Section of medicine research (seminar)	6	0.5
SME.07212	Research Day in Medicine	8	0.5
SME.07208	Cancer/inflammation research journal club [3 semesters x 14h]	42	4.5
SME.07603	Research group meetings in cancer/inflammation [3 semesters x 14h]	42	4.5
SME.07604	Project design in cancer/inflammation	42	4.5
Total			**15**

*Course Units in the **Cardiovascular and Metabolic Health** option*

Code	Title of UE	tot. h.	ECTS
SME.07203	Principles and methods in investigating and treating age-associated heart and vascular diseases	28	3
SME.07209	Concepts and approaches in metabolic phenotyping, anti-obesity targeting and hypoxial research	28	3
SME.07201	Cellular immunology: theory and practice	28	3
SME.07202	Hot topics in cancer research	28	3
Total			**12**

*Thesis-related activities in the **Cardiovascular and Metabolic Health** option*

Code	Title of UE	tot. h.	ECTS
SME.07104	Joint research group meetings of Dept EMC (Endocrinology, Metabolism and Cardiovascular System)	12	1
SME.07212	Research Day in Medicine	8	0.5
SME.07102	Research symposium	8	0.5
SME.07103	Cardiovascular and metabolic health journal club (3x14)	40	4
SME.07605	Research group meetings in cardiovascular/metabolic health [3 semesters x 14h]	42	4.5
SME.07606	Project design in cardiovascular/metabolic health	42	4.5
Total			**15**

2.2 Content of the MSc UE

2.2.1 Compulsory course units

The course *Models for human diseases* will present relevant experimental models and integrative approaches for understanding physio-pathological processes of human diseases, including aging and age-related diseases such as heart failure, atherosclerosis, metabolic disorders and renal disease. Advantages and pitfalls of the models for the human diseases will be analysed. Prospective translational aspects of modifying the disease process by nutrition, therapeutics, gene/stem cell therapy, development of new drug candidates as well as choice of the best animal model for the targeted therapeutic area will be discussed.

The course *Infection, inflammation and cancer* provides a comprehensive theoretical basis to the understanding of novel paradigms and emerging areas of research in the field of infection diseases, inflammation and cancer. The course will cover topics such as mechanisms of initiation of inflammation, perception of inflammation, the role of inflammation in cancer initiation and progression and novel pathogens and emerging resistance in infection diseases. Emphasis will be put on highlighting the significance of recently acquired knowledge in these areas and its relevance to experimental research and clinical medicine.

The course *Central nervous system regeneration and repair* provides the conceptual background necessary for understanding major approaches for helping the brain recover from neural pathologies. The importance of behavioural characterization, functional measurements as well as therapeutic interventions such as psychopharmacology or electrical brain stimulation is illustrated by relevant examples drawn from clinical and basic science.

The course *Data analysis and statistics with the R programming language* consists of two parts. The first part is an introduction to the R programming language. The second part of the course focuses on experimental design and statistical analysis, addressing the underlying concepts and presenting the main parametric and non-parametric tests used in inferential statistics.

The course *Microscopy in life sciences* provides a theoretical introduction to various forms of microscopy, including light-, fluorescence- and 2-photon microscopy. Key concepts as well as practical issues for productive use of microscopy instruments will be covered. The course will include some hands-on sessions with the various instruments.

The course *Scientific writing* encompasses literature research, reading, writing, reviewing, editing and publishing. It engages students in a real-world exercise of scientific writing and publishing. The students will gain experience in scientific writing through an individual essay (scientific review article or book chapter)**.** This will increase the students' skills in word processing and reference management systems. The students will participate in critical

evaluation of scientific writing by assessing peer-written work**,** explore relevant web sites and become familiar with electronic publishing.

2.2.2 Courses of the *Neuroscience* option

The description of the courses offered by the Department of Psychology, Faculty of Humanities will be provided to students at the beginning of the semester via the Moodle platform.

The course *Behavioural methods in neuroscience* is an introduction to laboratory methods used for behavioural and associated functional studies in humans and animals. It focuses on measurement, analysis and interpretation of behavioural parameters such as behavioural choice or reaction time, as well as functional parameters such as electroencephalographic recordings. The course is conducted in 7 modules of four hours each, and takes place in specialised laboratories.

The *BENEFRI workshop "Frontiers in neurosciences"* is intended to make students familiar with current frontiers in neurobiological research. The course is given by national and international experts working in very diverse fields of neuroscience. Previous block courses included topics such as brain mapping, hypothalamus, motor systems, neurogenetic model systems, neuroinformatics, olfaction, sensory systems, synaptic function, and visual cortex.

The *Fribourg day of cognition* consists of research presentations related to ongoing projects conducted in the area of behavioural, cognitive and developmental neurosciences at the University of Fribourg. Participants are asked to select a presentation and write a short summary of about 2 pages consisting of introduction, hypotheses to be tested, results and significance.

The *Neurobiology* seminars is a series of lunchtime lectures by experts in the field of neuroscience, who present recent and ongoing research and inform participants on cutting edge developments in the area of specialisation. Topics cover all areas of neuroscience including molecular, systems, behavioural and clinical neuroscience.

In the *Neuroscience journal club* researchers and students report and debate recently published articles. *Research group meetings* allow members of a research group to present and discuss their ongoing work. *Project design in neuroscience* allows the students to carry out a short-term experimental and theoretical project in a research group. They can become familiar with investigation methods, learn how to collaborate efficiently with other group members and contribute actively to research. On successful accomplishment of the project they will be able to independently deal with new topics and will make the transition towards Masters level research with confidence.

During the *Master thesis* the student familiarizes herself/himself with modern techniques and executes a research project under the guidance of a group leader within a Neuroscience research group of the Section of Medicine. This work requires designing and carrying out a research strategy, keeping a clear lab journal and data analysis. The Master thesis also includes a report written like a scientific article (summary, introduction, methods, results, discussion, references).

2.2.3 Courses of the *Infection, Inflammation and Cancer* option

The course *Cellular immunology: theory and practice* is a balanced combination between theory and laboratory-based practical activities. The students will elaborate themselves the basic principles of immune cell types, cell characterization, cell activation and function. In parallel, laboratory protocols corresponding to the theoretical principals will be applied under the instruction and supervision of experienced researchers. There will be emphasis on experimental design, leading to performing corresponding experiments by the students. The students will collect individual results for each experiment, to be used for statistical analysis and discussion.

The course *Hot topics in cancer research*, comprises a selection of current topics at the forefront of biomedical research presented by experts in each field. Topics vary each year and usually include cancer immunotherapy, biomarkers in cancer, vaccines and nanomedicine. The course

consists of overview lectures, scientific workshops, and demonstrations in the lab. Students will gain insights into some of the hottest and rapidly evolving research topics in the field as well as experience in critical discussion of emerging scientific questions.

The course *Principles and methods in investigating and treating age-associated heart and vascular diseases* will provide a wide range of laboratory skills at the molecular, cellular, organ, and whole body levels, including analysis of oxidative stress, inflammation, advanced gene/cell therapy and drug delivery techniques for heart and vascular repair, etc. These techniques allow students to investigate the organism aging process and mechanisms of age-related diseases such as heart failure and vascular dysfunction in an integrative manner. The course will also emphasize how to formulate a scientific concept and/or hypothesis, and how to design a research project scientifically.

The course *Concepts and approaches in metabolic phenotyping, anti-obesity targeting and hypoxia research* will present the complex gene-environment interactions in obesity and the challenges in the field of 'phenotyping': What to phenotype? How to phenotype? When to phenotype? These fundamental questions will be addressed in this course with particular emphasis on recent advances and emerging concepts about phenotyping for early metabolic predictors of obesity in view of developing effective strategies for both the prevention and treatment of obesity and associated cardiometabolic risks. In addition, the theory and practice of hypoxia research methods and techniques in cell biology and specific animal (disease) models will be presented. The *Section of medicine research* seminar series consists of a mixture of internal progress reports by principal investigators and senior scientific collaborators, as well as lectures given by external speakers from Switzerland and abroad. The series covers the three main research areas pursued at the Section of medicine: i) neurosciences, ii) cardiovascular and metabolism, iii) infection, inflammation and cancer. Students have the opportunity to meet with external speakers before or after the lecture.

The *Research Day in Medicine* consists of presentations from researchers at the University of Fribourg and the Cantonal Hospital of Fribourg and invited external speakers. Research approaches in basic as well as applied clinical research are covered with the perspective of encouraging collaborative initiatives. Each year a novel topic is proposed among the fields represented in Fribourg. A poster session for students is part of the event.

In the *Cancer/inflammation research journal club* researchers and students report and debate recently published articles. *Research group meetings* allow members of a research group to present and discuss their ongoing work. *Project design in infection, inflammation and cancer* allows the student to carry out a short-term experimental and theoretical project in a research group. He/she can become familiar with investigation methods, learn how to collaborate efficiently with other group members and contribute actively to research. On successful accomplishment of the project he/she will be able to independently deal with new topics and will make the transition towards Masters level research with confidence.

During the *Master's thesis* the student familiarizes herself/himself with modern techniques and executes a research project under the guidance of a group leader within a Cancer/Inflammation research group of the Section of Medicine. This work requires designing and carrying out a research strategy, keeping a clear lab journal and data analysis. The Master thesis also includes a report written like a scientific article (summary, introduction, methods, results, discussion, references).

2.2.4 Courses of the *Cardiovascular and Metabolic Health* option

The course *Cellular immunology: theory and practice* is a balanced combination between theory and laboratory-based practical activities. The students will elaborate themselves the basic principles of immune cell types, cell characterization, cell activation and function. In parallel, laboratory protocols corresponding to the theoretical principals will be applied under the instruction and supervision of experienced researchers. There will be emphasis on experimental

design, leading to performing corresponding experiments by the students. The students will collect individual results for each experiment, to be used for statistical analysis and discussion.

In *Hot topics in cancer research*, consists of a selection of current topics at the forefront of biomedical research presented by experts in each field. Topics vary each year and usually include cancer immunotherapy, biomarkers in cancer, vaccines and nanomedicine. The course consists of overview lectures, scientific workshops, and demonstrations in the lab. Students will gain insights into some of the hottest and rapidly evolving research topics in the field as well as experience in critical discussion of emerging scientific questions.

The course *Principles and methods in investigating and treating age-associated heart and vascular diseases* will provide a wide range of laboratory skills at the molecular, cellular, organ, and whole body levels, including analysis of oxidative stress, inflammation, advanced gene/cell therapy and drug delivery techniques for heart and vascular repair, etc. These techniques allow students to investigate the organism aging process and mechanisms of age-related diseases such as heart failure and vascular dysfunction in an integrative manner. The course will also emphasize how to formulate a scientific concept and/or hypothesis, and how to design a research project scientifically.

The course *Concepts and approaches in metabolic phenotyping, anti-obesity targeting and hypoxia research* will present the complex gene-environment interactions in obesity and the challenges in the field of 'phenotyping': What to phenotype? How to phenotype? When to phenotype? These fundamental questions will be addressed in this course with particular emphasis on recent advances and emerging concepts about phenotyping for early metabolic predictors of obesity in view of developing effective strategies for both the prevention and treatment of obesity and associated cardiometabolic risks. In addition, the theory and practice of hypoxia research methods and techniques in cell biology and specific animal (disease) models will be presented.

The *Joint research group meetings of Dept EMC (Endocrinology, Metabolism and Cardiovascular System)* will be organized either by our cluster or in collaboration with other universities. It is intended to make students familiar with current frontiers in cardiovascular and metabolic health research. The course is given by national and international experts working in this field. The students are required to write a short summary (about 2 pages) about the most relevant findings related to their research field presented during the meeting or present their own work as a poster at the meeting.

The course *Research symposium* in cardiovascular and metabolic health will be organized to address the very specific research questions or new research topics that the research groups intend to investigate. Internal and external experts will be invited to discuss the themes. The aim of this course is to discuss the specific questions or topics deeply and to strengthen or establish collaborations among the research groups on specific projects. Students will learn how to critically discuss scientific questions and how to establish scientific collaborations.

The *Research Day in Medicine* consists of presentations from researchers at the University of Fribourg and the Cantonal Hospital of Fribourg and invited external speakers. Research approaches in basic as well as applied clinical research are covered with the perspective of encouraging collaborative initiatives. Each year a novel topic is proposed among the fields represented in Fribourg. A poster session for students is part of the event.

In the *Cardiovascular and metabolic health journal club* researchers and students report and debate recently published articles. *Research group meetings* allow members of a research group to present and discuss their ongoing work. *Project design in cardiovascular and metabolic health* allows the student to carry out a short-term experimental and theoretical project in a research group. He/she can become familiar with investigation methods, learn how to collaborate efficiently with other group members and contribute actively to research. On successful accomplishment of the project he/she will be able to independently deal with new topics and will make the transition towards Masters level research with confidence.

During the *Master thesis* the student familiarizes herself/himself with modern techniques and executes a research project under the guidance of a group leader within a Cardiovascular and Metabolic Health research group of the Section of Medicine. This work requires designing and carrying out a research strategy, keeping a clear lab journal and data analysis. The Master thesis also includes a report written like a scientific article (summary, introduction, methods, results, discussion, and references).

2.3 MSc exams and assessment

Assessment criteria for UEs are specified in the appendices to the curriculum in Medical sciences, morphology, and physiology. The UEs of the Master courses (compulsory and relative to the options) and Master thesis-related activities are collectively assessed in the first validation package, and accords the student 45 ECTS credits, if successful.

2.4 Master's thesis and exam

The second validation package of the Master's programme (45 ECTS credits) consists entirely of the UE dedicated to the *Master's thesis* itself (SME.08003). This work is foreseen to be completed within 12 months. It is laboratory-based research work that the student will carry out under the supervision of an active researcher in the field, and during which the student's aptitude for fundamental and biomedical research will begin to develop. The work will be presented both as a formal written document, and as a 30-minute oral presentation. The work will be evaluated on the same scale (1, unacceptable to 6, excellent) as the exams. The second validation package will be validated only for marks of 4 and above. If a work is judged insufficient, a second Master thesis project may be offered to the student.

Successful completion of the two validation packages results in the right to the title **Specialised Master of Science in Experimental Biomedical Research**, **option "Neuroscience", "Infection, Inflammation and Cancer"** or **"Cardiovascular and Metabolic Health"**, **University of Fribourg (sp-MSc)**.

2.5 Admission regulations for the Master's programme

To be admitted to the Master's programme, students must fulfil the University admission requirements, as defined in the *Règlement concernant l'admission à l'Université de Fribourg* (https://www3.unifr.ch/apps/legal/fr/document/274904).

The number of students accepted is limited to the training capacities of the Section of Medicine. Candidates should submit a complete application that includes the following documents:

- Bachelor degree diploma in biology, biochemistry, biomedical sciences or medicine (original or certified copy).
- Transcript of records.
- Description of their Bachelor's studies (for applicants coming from Universities other than Fribourg), including information about the content and volume of the courses.
- Motivation letter, in which the applicant should also specify her/his preferred option (specialisation) in the Master programme.
- One or two letter(s) of recommendation from an academic professional. The referee should specify in which capacity he/she has formed an expert opinion of the applicant.

The applications will be evaluated and selected candidates may be invited for an interview. The selection criteria for the evaluation are the academic performance during previous academic studies, the motivation for pursuit of studies in the Master's programme and the content of the recommendation letter(s).