

## General syllabus for third-cycle courses and study programmes in

### MEDICAL SCIENCE

#### *Medicinsk vetenskap*

This syllabus was approved on 16 March 2010 (reg. no. CF 62-715/2009)<sup>1</sup>. It was last amended on 8 June 2022 (ORU 3.1.1-01714/2022)<sup>2</sup>.

By virtue of the Higher Education Ordinance, Chapter 6, Section 26 (1993:100), Örebro University prescribes the following.

#### 1 Subject description

Medical science is a comprehensive research subject area in which different causes of health and disease, as well as man's possibilities and needs to attain and maintain a high degree of wellbeing are studied. Studies in the subject include both basic and applied research, health economic and ethical aspects, as well as medical education, namely the educational processes in healthcare and its professional degree programmes. To a great degree, medical science by nature constitutes clinical research, i.e., research taking place in and requiring healthcare facilities and resources<sup>3</sup>.

Specialisations within the subject area are:

- *Biomedicine* which includes the study of humans and their diseases, the approach being the role played by genes, molecules and cells for normal function and for disease.
- *Medicine*, which includes the study of normal and disease-related processes in the human body, from the molecular to the system level. The subject also comprises the human body's interplay with the surrounding environment as well as pharmacological principles.
- *Surgical sciences*, which include the study of physiological and pathophysiological processes, related to disease as well as measures related to surgical treatment.
- *Healthcare sciences*, has its focus on issues of health and ill health in persons suffering from acute and long-term illness and persons with disabilities. The subject has an individual, family and social perspective encompassing the areas of health promotion, prevention, care/nursing and rehabilitation.

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<sup>1</sup> Faculty Board of Medicine and Health

<sup>2</sup> The English translation of this general syllabus was last amended on 8 July 2022.

<sup>3</sup> SOU (Official reports of the Swedish government) 2009:43

## 2 Outcomes

The intended learning outcomes for the award of the degree, the qualitative targets, are evident from [annex 1](#) to this syllabus. The different components of the third-cycle study programme shall together equip the doctoral student to meet all intended learning outcomes<sup>4</sup>. The intended learning outcomes are referred to in more detail in the degree requirements in sections 5 and 6.

## 3 Admission to the programme – entry requirements and selection etc.

Provisions on entry requirements and selection can be found in [annex 2](#) to this syllabus. For information on admission in other respects, see the admission regulations for Örebro University.

## 4 Programme organisation – general information<sup>5</sup>

There are two types of third-cycle, or doctoral, study programmes – one concluding with the doctoral degree (240 credits, corresponding to four years of full-time study) and one concluding with the licentiate degree (120 credits, corresponding to two years of full-time study).

The programmes mainly consist of courses and the writing of a doctoral or licentiate thesis. The programme components are assessed by means of course examination and the public defence of the thesis respectively. The doctoral student is expected to take an active part in seminars and other auxiliary components during their period of study. The student is further recommended to take advantage of the opportunities offered to attend guest lectures etc. at the university, and to attend and contribute to national and international conferences.

For each doctoral student, a minimum of two supervisors will be appointed, supporting the student during their studies<sup>6</sup>. One of them will be nominated principal supervisor. The detailed organisation of the programme shall be determined in an individual study plan.

In addition to the requirements laid down in this general syllabus, there may be special requirements for the doctoral student's programme, such as courses that are compulsory within the framework of a research school, which must be specified in the individual study plan. The credit distribution between courses/examinations and thesis should nevertheless be in accordance with the programme organisation as laid down in this general syllabus.

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<sup>4</sup> In the Swedish higher education system, and in accordance with the terminology recommended by the Swedish Council for Higher Education, courses and study programmes at the doctoral level are referred to as *third-cycle courses and study programmes*. In this document, the terms *doctoral* and *third-cycle* are used interchangeably as prefixes to terms related to studies on the doctoral level and they should therefore be considered synonymous [translator's comment].

<sup>5</sup> Higher Education Ordinance, Chapter 6, Sections 4, 5, 28 and 29 and local guidelines on the organisation of third-cycle courses and study programmes

<sup>6</sup> The Higher Education Ordinance stipulation that at least two supervisors be appointed for each doctoral student does not apply to doctoral students who commenced their studies before 1 July 2007. Instead, the older provision of at least one supervisor applies (point 18, transitional provisions of SFS 2006:1053).

## Credit overview

Overview of programme organisation and degree requirements	Courses/examinations, credits		Thesis, no. of credits	Total no. of credits
	Compulsory	Elective		
Doctoral degree	18	at least 17	205	240
Licentiate degree	18	at least 3	99	120

## 5 Degree requirements for the Degree of Doctor, 240 credits

For the Degree of Doctor, the doctoral student must

- have received a passing grade in the examinations<sup>7</sup> of the 35 credits generated by the courses listed below,
- have received a passing grade on a scholarly dissertation (doctoral thesis) corresponding to 205 credits. The thesis is to be defended orally at a public defence event<sup>8</sup>.

### Compulsory courses, total of 18 credits

General Scientific Methods in Medical Science, 15 credits

The course and examination shall refer to outcomes D2, D3, D4, D6, D9 and D10, annex 1.

Research Ethics and Good Research Practice, 3 credits

The course and examination shall refer to outcomes D4 and D9, annex 1.

### Elective courses, total of at least 17 credits

Which course/courses a doctoral student shall take is determined based on an assessment of what courses will enable them to meet the intended learning outcomes. The doctoral student plans, in consultation with the supervisor, which courses should be part of their programme. The selection is then laid down in the individual study plan.

Block I: Advanced subject study, at least 5 credits

The courses and examinations included in this block shall refer to outcome D1, annex 1.

The aim of these courses is to provide students with in-depth knowledge of the subject areas relevant to their thesis projects, alternatively complementary subject knowledge beyond the specific topics of their thesis projects.

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<sup>7</sup> Higher Education Ordinance, Chapter 6, Section 32

<sup>8</sup> Higher Education Ordinance, Chapter 6, Sections 5 and 33

Block II: Research design and methods, at least 5 credits

The courses and examinations included in this block shall refer to outcomes D2, D3, D4 and D9, annex 1.

The aim of these courses is to familiarise students with research methods, provide them with research analysis skills and skills in presenting and discussing research, as well as the ability to make research ethics assessments.

Block III: Contributions to international conferences, at least 2.5 credits

The courses and examinations included in this block shall refer to outcome D6, annex 1.

These courses are intended as examination of student presentations made at international conferences.

#### Doctoral thesis and public defence, 205 credits

At the public defence event, the assessment of the doctoral thesis and the public defence thereof shall refer to all intended learning outcomes specified for the award of the doctoral degree, particularly, however, outcomes D1, D5 and D6, see annex 1.

## **6 Degree requirements for the Degree of Licentiate, 120 credits**

The licentiate degree is the degree awarded to those who have been admitted to and successfully completed a licentiate programme. Students who have been admitted to the programme concluding with the doctoral degree have the right to apply for the award of a licentiate degree, as a half-way degree<sup>9</sup>. The degree requirements in this section apply to the licentiate degree both as a final and as a half-way degree.

For the licentiate degree, the doctoral student must

- have received a passing grade in the examinations<sup>10</sup> of the 21 credits generated by the courses listed below,
- have received a passing grade on a scholarly paper (licentiate thesis) corresponding to 99 credits<sup>11</sup>.

For courses and course blocks that are identical for the licentiate and doctoral degrees, please see outcomes and descriptions in section 5. For any other courses and course blocks, see below<sup>12</sup>.

#### Compulsory courses, total of 18 credits

##### **General Scientific Methods in Medical Science, 15 credits**

##### **Research Ethics and Good Research Practice, 3 credits**

The course and examination shall refer to outcomes L4 och L9, annex 1.

#### Elective courses, total of at least 3 credits

Which course/courses a doctoral student shall take is determined based on an assessment of what courses will enable them to meet the intended learning outcomes. The doctoral student plans, in consultation with the supervisor, which

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<sup>9</sup> Örebro University's local regulations on qualifications

<sup>10</sup> Higher Education Ordinance, Chapter 6, Section 32

<sup>11</sup> Higher Education Ordinance, Chapter 6, Section 5

<sup>12</sup> Since the licentiate degree may constitute a half-way degree on the road to a doctoral degree, the courses intended for a licentiate degree should, in conformity with the courses intended for a doctoral degree, be linked to the outcomes for the doctoral degree, see further in the guidelines for general syllabuses for third-cycle courses and study programmes.

courses should be part of their programme. The selection is then laid down in the individual study plan.

Block I: Advanced subject study, at least 1.5 credits

Block II: Research Design and Methods, at least 1.5 credits

#### Licentiate thesis, 99 credits

On the examination of the licentiate thesis, the assessment shall refer to all intended learning outcomes specified for the award of the licentiate degree, particularly, however, outcomes L1 and L6, annex 1.

## **7 Further information**

Further information about provisions for doctoral study programmes can be found on the university website. Documents there include the admissions regulations for Örebro University and other information on national and local regulations.

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### **Entry-into-force and transitional provisions**

The general syllabus in Medical Science shall be in effect from 1 April 2010.

Doctoral students who have been admitted for studies in any of the former research subject areas biomedicine, sports physiology/medicine, surgical sciences, medicine and caring sciences shall as a principal rule conclude their studies in accordance with the qualification requirements applicable on 31 March 2010 under the former subject area's general syllabus including its transitional provisions. The head of school may however in the individual study plan decide that the doctoral student may continue their studies under the new general syllabus for medical science.

Doctoral students who have been admitted to studies in the former subject area physical education under the Faculty Board of Humanities and Social Sciences may, irrespective of the above, conclude their studies in accordance with a special general syllabus approved by the Faculty Board of Humanities and Social Sciences on 6 September 2007 (last amended on 16 October 2007).

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Amendments to the general syllabus approved by the vice-chancellor on 19 October 2010 shall take effect on 1 January 2011. These are a result of amendments to the Higher Education Ordinance, but do not lead to any factual alterations in the general syllabus.

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Amendments to the general syllabus approved by the faculty board on 2 February 2012 shall take effect on 1 April 2012. These are a result of the decision that the specialisation within the subject area that refers to sports physiology is to be offered as part of the recently introduced subject area of sport science.

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Amendments to the general syllabus approved on 11 June 2014 shall take effect on 1 October 2014. These amendments refer to changes in the subject description (section 1) and changes to the degree requirements, both in terms of the total number of course credits for the licentiate degree (sections 4 and 6) and the distribution of course credits across compulsory and elective courses (sections 4, 5 and 6). The amendments also refer to an adaptation of the general syllabus to the new template, through which, among other things, the different components of the programme are more clearly linked to the different intended learning outcomes (primarily sections 5 and 6).

Doctoral students who have taken the previously compulsory course Basic Research Methodology, 7.5 credits, in accordance with the older general syllabus without obtaining a passing grade on the examinations included in the course shall be given the opportunity for re-examination in accordance with the previous general syllabus unless there are special grounds to the contrary. Re-examinations are scheduled to take place once per semester, however no later than until the end of the autumn semester 2015.

Doctoral students already admitted to the programme shall complete their studies in accordance with the previous degree requirements. If requested by a doctoral student and it is deemed appropriate, provisions may be made in the individual study plan for the student to complete their studies in accordance with the new degree requirements.

The amendments approved by the faculty boards on 3, 4 and 12 September 2019 shall take effect on 1 October 2019. The decision does not entail any changes in substance.

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The amendments to the general syllabus approved on 8 June 2022 shall take effect on 16 June 2022. These amendments refer to: A new faculty-wide compulsory course on research ethics and good research practice has been included on the study programme. For the degree requirements for the doctoral degree as well as for the licentiate degree, these amendments mean an increase of the number of compulsory course credits by 3 credits and a corresponding reduction of the number of elective course credits by 3 credits. A minimum of 17 credits and 3 credits of elective courses for the doctoral and licentiate degree respectively is introduced as well as a minimum number of credits per course block. The number of credits for the doctoral thesis is set to 205 credits and for the licentiate thesis to 99 credits.

Doctoral students already admitted to the programme shall complete their studies in accordance with the previous degree requirements. If requested by a doctoral student and it is deemed appropriate, provisions may be made in the individual study plan for the student to complete their studies in accordance with the new degree requirements.

Outcomes<sup>13</sup>

<b>Outcomes for the DEGREE OF DOCTOR</b>	<b>Outcomes for the DEGREE OF LICENTIATE</b>
<b>For the Degree of Doctor, the third-cycle student shall</b>	<b>For a Degree of Licentiate, the third-cycle student shall</b>
<i>Knowledge and understanding</i>	<i>Knowledge and understanding</i>
D1 demonstrate broad knowledge and systematic understanding of the research field as well as advanced and up-to-date specialised knowledge in a limited area of this field, and	L1 demonstrate knowledge and understanding in the field of research including current specialist knowledge in a limited area of this field as well as specialised knowledge of research methodology in general and the methods of the specific field of research in particular.
D2 demonstrate familiarity with research methodology in general and the methods of the specific field of research in particular.	L2 (for the equivalent to D2, see L1, second part)
<i>Competence and skills</i>	<i>Competence and skills</i>
D3 demonstrate the capacity for scholarly analysis and synthesis as well to review and assess new and complex phenomena, issues and situations autonomously and critically,	L3 (no direct equivalent to D3)
D4 demonstrate the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively, and to plan and use appropriate methods to undertake research and other qualified tasks within predetermined time frames and to review and evaluate such work,	L4 demonstrate the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively, and to plan and use appropriate methods to undertake a limited piece of research and other qualified tasks within predetermined time frames in order to contribute to the formation of knowledge as well as to evaluate this work,
D5 demonstrate through a dissertation the ability to make a significant contribution to the formation of knowledge through his or her own research,	L5 (no direct equivalent to D5, refer however to L4, second part)
D6 demonstrate the ability in both national and international contexts to present and discuss research and research findings authoritatively in speech and writing and in dialogue with the academic community and society in general,	L6 demonstrate the ability in both national and international contexts to present and discuss research and research findings in speech and writing and in dialogue with the academic community and society in general, and
D7 demonstrate the ability to identify the need for further knowledge, and	L7 (comp. L11)
D8 demonstrate the capacity to contribute to social development and support the learning of others both through research and education and in some other qualified professional capacity.	L8 demonstrate the skills required to participate autonomously in research and development work and to work autonomously in some other qualified capacity.
<i>Judgement and approach</i>	<i>Judgement and approach</i>
D9 demonstrate intellectual autonomy and disciplinary rectitude as well as the ability to make assessments of research ethics, and	L9 demonstrate the ability to make assessments of ethical aspects of his or her own research,
D10 demonstrate specialised insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used.	L10 demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
	L11 demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning (comp. D7).

<sup>13</sup> Extract from the Qualifications ordinance, annex 2, Higher Education Ordinance (1993:100)

## Admission to doctoral studies – entry requirements

### 1 Admission requirements – Higher Education Ordinance

The Higher Education Ordinance stipulates that the number of doctoral students that may be admitted by the university may not exceed the number that can be offered supervision and otherwise acceptable conditions for study and whose studies are funded pursuant to the provisions in the Higher Education Ordinance<sup>14</sup>.

The requirements for admission to third-cycle courses and study programmes are that the applicant

1. meets the general and specific entry requirements that the university may have laid down, and
2. is considered in other respects to have the ability required to benefit from the course or study programme<sup>15</sup>.

### 2 Entry requirements

#### 2.1 General entry requirements

A person meets the general entry requirements for third-cycle courses and study programmes if they

1. have been awarded a second-cycle qualification,
2. have satisfied the requirements for courses comprising at least 240 credits of which at least 60 credits were awarded in the second-cycle, or
3. have acquired substantially equivalent knowledge in some other way in Sweden or abroad.

The higher education institution may permit an exemption from the general entry requirements for an individual applicant, if there are special grounds<sup>16</sup>.

#### *Transitional provisions*

A person with *credits or qualifications from undergraduate programmes under the previous higher education system* corresponding to the entry requirements above will also be eligible<sup>17</sup>. Exemptions from the entry requirements may be made also in these cases, if there are special grounds<sup>18</sup>.

#### 2.2 Specific entry requirements

A person meets the specific entry requirements for third-cycle courses and study programmes in the subject if they have received a passing grade in courses of at least 90 credits, including an independent project on the advanced course level<sup>19</sup> in a main field of study of significance for the relevant specialisation within medical science (see subject description, section 1 in the general syllabus). A person who has acquired substantially corresponding knowledge, in Sweden or abroad, also meets the specific entry requirements.

<sup>14</sup> Higher Education Ordinance, Chapter 7, Section 34

<sup>15</sup> Higher Education Ordinance, Chapter 7, Section 35

<sup>16</sup> Higher Education Ordinance, Chapter 7, Section 39

<sup>17</sup> Point 10, transitional provisions for SFS 2006:1053

<sup>18</sup> Previous transitional provision Point 11 for SFS 2006:1053 expired at the end of June 2015

<sup>19</sup> The “advanced course level” refers to the same level of progression as under the previous higher education system. With the new credit system, the advanced course level thus refers to 61-90 credits within the main field of study.



*Transitional provisions*

A person with *credits or qualifications from undergraduate programmes under the previous higher education system* corresponding to the entry requirements above will also be eligible<sup>20</sup>.

### **2.3 Ability in other respects to benefit from the course or study programme**

The assessment whether the applicant has such ability in other respects to benefit from the programme shall be made based on prior courses and programmes taken by the applicant, on other previous activities, as well as on the essays and other independent projects of a scholarly nature that have been submitted by the applicant (compare assessment criteria in accordance with the university's regulations on the selection of doctoral students below).

## **3 Selection from among the applicants**

In selecting between applicants, their ability to benefit from the programme shall be taken into account. The higher education institution determines which assessment criteria shall be used in determining the ability to benefit from the programme.

However, the fact that an applicant is considered able to transfer credits from prior courses and study programmes or for professional or vocational experience may not alone give the applicant priority over other applicants<sup>21</sup>.

### **Assessment criteria for selection<sup>22</sup>**

The criteria A - B aim at facilitating an examination of the applicant's ability to benefit from the programme. They should therefore be relevant to the applicant's ability to later achieve the learning outcomes of the programme. The outcomes are described in annex 1 to this general syllabus.

### **A Courses, study programmes and other previous activities – formal qualifications**

The assessment is based on submitted certificates and transcripts as well as on degree certificates and/or course certificates.

Completed courses and study programmes and experience contributing to the applicant's ability to successfully benefit from the programme applied for are considered an additional qualification.

#### **- Courses and study programmes**

Special emphasis is given to the scope, depth and grades of the applicant's prior courses and study programmes within the subject area applied for, particularly the grades on written independent projects.

Emphasis is also given to the scope, depth and grades of prior courses and study programmes within other fields of great relevance to the subject area applied for.

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<sup>20</sup> Point 10, transitional provisions for SFS 2006:1053

<sup>21</sup> Higher Education Ordinance, Chapter 7, Section 41

<sup>22</sup> Local regulations on the selection of doctoral students to third-cycle courses and study programmes etc.

- Other previous activities

Special emphasis is given to long and independent professional and/or vocational experience of great relevance to the subject area applied for.

### **B Capability – demonstrated knowledge, competence and skills**

The assessment is based on a consideration of the applicant's submitted essays and other written independent projects of a scholarly nature, as well as on a research plan. For those applicants who at this stage are considered to be most qualified, and if it is deemed necessary, references will be taken and interviews will be carried out.

It is considered an additional qualification if the applicant demonstrates such knowledge, competence and skills that contribute to their being successfully able to benefit from the programme applied for. These are for example

- sound theoretical, analytic and methodological knowledge;
- sound ability to discuss, in writing and in speech, issues and conclusions;
- intellectual independence; and
- sound ability to carry out advanced tasks within given time frames.

Special emphasis is given to the applicant's ability to

- identify and formulate realistic and productive research problems;
- integrate knowledge and experience and apply these in ways and in contexts where they have not previously been used; and
- conduct a dialogue characterised by independence as well as by an ability to cooperate.

### **C Weighing up qualifications**

The fact that an applicant is considered able to transfer credits from prior courses and study programmes or for professional or vocational experience may not alone give the applicant priority over other applicants (Higher Education Ordinance, Chapter 7, Section 41).

When weighing up the assessment criteria A and B, the greatest emphasis is placed on criteria B, Capability.

### **D Gender equality**

If, followed from the above, applicants are found to have equal qualifications, preference will be given to applicants of the sex that is underrepresented among the doctoral students within the subject area<sup>23</sup>. The underrepresented sex here refers to if and when the share of either female or male students enrolled on the subject area's third-cycle study programme amounts to less than 40 per cent.

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<sup>23</sup> Higher Education Act (SFS 1992:1434), Chapter 1, Section 5, second paragraph and other provisions