2013 Curriculum for the Master Programme in Companion Animal Clinical Science at the Faculty of Health and Medical Sciences, University of Copenhagen

This revised curriculum comes into force on 1 September 2019 and shall apply in relation to all students admitted to the programme.

The curriculum was approved by the Dean in June 2013 with changes approved on 1 February 2014 and 12 March 2019.

This subject-specific curriculum, the course descriptions at https://kurser.ku.dk/ and the general curriculum provisions together comprise the curriculum for the Master Programme in Companion Animal Clinical Science.

Part 1 Objectives and Qualification Profile

§ 1 Objectives
The objective of the Master Programme in Companion Animal Clinical Science (Master i klinisk familiedyrsvidenskab) is to give veterinarians with at least 2 years of practical professional experience from companion animal practice a scientifically based continuing education in applied and advanced veterinary methodology, para clinical skills and clinical decision making. The student will attain specialized knowledge, skills and competences within an elective companion animal specialization.

1.2 Successful completion of the programme gives the right to one of the following titles, depending on the completed specialization track:

- Master of Companion Animal Clinical Science specialized in Internal Medicine and the Danish title master i klinisk familiedyrsvidenskab med speciale i intern medicin
- Master of Companion Animal Clinical Science specialized in Surgery and the Danish title master i klinisk familiedyrsvidenskab med speciale i kirurgi
- Master of Companion Animal Clinical Science specialized in Cardiology and the Danish title master i klinisk familiedyrsvidenskab med speciale i kardiologi
- Master of Companion Animal Clinical Science specialized in Neurology and the Danish title master i klinisk familiedyrsvidenskab med speciale i neurologi
- Master of Companion Animal Clinical Science specialized in Oncology and the Danish title master i klinisk familiedyrsvidenskab med speciale i onkologi
- Master of Companion Animal Clinical Science specialized in Veterinary Diagnostic Imaging and the Danish title master i klinisk familiedyrsvidenskab med speciale i veterinær billeddiagnostik.
- Master of Companion Animal Clinical Science specialized in Dermatology and the Danish title master i klinisk familiedyrsvidenskab med speciale i dermatologi
- Master of Companion Animal Clinical Science specialized in Ophthalmology and the Danish title master i klinisk familiedyrsvidenskab med speciale i oftalmologi
- Master of Companion Animal Clinical Science specialized in Exotic Companion and Hobby Animals and the Danish title master i klinisk familiedyrsvidenskab med special i eksotiske hobby dyr

1.3 The degree is worth 60 ECTS credits.
1.4 The programme falls within the scope of the Study Board of Veterinary Medicine.
1.5 The programme falls within the scope of the corps of external examiners for veterinary medicine.
§ 2 Admission requirements
A maximum of 30 students can be admitted to the programme.
It is a requirement for admission that the applicant

• holds a candidate degree in Veterinary Medicine/Doctor of Veterinary Medicine (DVM)
• Has at least two years of relevant work experience in Companion Animal Practice after having completed the qualifying course of study. Qualifying working experience is primarily experience as veterinary practitioner

2.2 Admission to a professional master’s programme requires a mastery of English corresponding to level B English at Danish upper secondary level. Applicants must document proficiency in English:

 o **Scandinavian applicants** (including Danish applicants) are required to document proficiency in English corresponding to at least English B level; cf. Section 11 of the Danish Ministerial Order on Admission at Universities.
 o **Applicants from an English-speaking country meet the language requirements and** do not need further documentation of English proficiency.
 o **Applicants who have completed a Bachelor’s and/or Master’s degree in English** meet the language requirements. Applicants must submit necessary documentation
 o **Applicants from outside Scandinavia who speak or write English as a second language** must pass the International English Language Testing System (IELTS/Academic) with a minimum score of 6.5 or the Test of English as a Foreign Language (TOEFL) with a minimum score of 560 on the paper test, or 83 on the internet-based test or a passed Cambridge English Certificate: Advanced (CAE) – level C1 to document their qualifications in English. For more information about the tests: [www.ielts.org](http://www.ielts.org) and [www.toefl.org](http://www.toefl.org) and [https://www.cambridgeenglish.org/](https://www.cambridgeenglish.org/)

2.3 The courses offered under the programme are offered as single courses. The same admission requirements apply to students taking single courses. If the number of applicants for a given course exceeds the number of seats, priority is given to students enrolled in the full master programme.
2.4 The admission committee may grant exemptions from the provisions of 2.1 by exceptional circumstances

§ 3 Qualification profile
On completion of the programme, the graduate will be able to approach and address complex companion animal health and disease problems in a highly reflective and structured problem oriented fashion based on analysis of collected data and information from the medical literature, resulting in clinical decision making and planning and execution of specialized diagnostic work up, procedures and therapeutic strategies at an advanced level. Furthermore to communicate professional and specialization related topics and solutions to new issues to specialist and non-specialists colleagues, as well as to lay people. The graduate will be able to participate in cross disciplinary interaction, networks and collaboration at a highly qualified level within the elected area of specialization. The graduate will have the foundation to continuously develop professionally within the area of specialization.
Knowledge:
The graduate will be able to:

- Define, identify and discuss veterinary methodology and para clinical tools in systematized reflective clinical decision making in companion animal clinical practice specifically within the elected specialization
- Explain, reflect about and demonstrate overview of complex clinical decision making, patient therapy and management at a specialized level
- List, classify, and demonstrate critical reflection on existing and new approaches to patient diagnosis, therapy, management and client education in a specialty practice situation.

Skills:
Within the area of specialization the graduate will be able to:

- Apply the quantitative and qualitative methodologies and tools as well as master relevant skills.
- Interpret, assess and reflect on collected patient data in order to identify/localize the cause of disease, make clinical decisions, arrive at a diagnosis, apply, and integrate evidence based scientific approaches to plan and administer further diagnostics, patient therapy and management
- Continuously seek out, reflect on and apply new evidence based methods and solution models
- Communicate and discuss academic issues and solution models with both peers and non-specialists at an advanced level and across disciplines within companion animal practice
- Communicate effectively in writing and pass on results to relevant parties

Competences:
The graduate will be able to:

- Evaluate and manage companion animal diseases within the chosen specialization, which may necessitate novel solutions and approaches identified from current medical literature or other resources.
- Work independently, take responsibility for, predict, prognosticate and make decisions within the chosen specialization.
- Collaborate constructively within and between specialists/professionals and lay persons involved in companion animal patient management.
- Make ethical considerations regarding diagnostic methods and therapies and place these into perspective.
- Independently evaluate and structure own learning processes and continuously obtain new knowledge at a specialty level within the chosen specialization
Part 2 Modules

§ 4 Modules
The modular structure of the programme is designed to provide students with overall academic qualifications within a prescribed timeframe, which is defined in terms of ECTS points. All courses in the programme are subject to a modular structure.

Part 3 Study and exam activities

§ 5 Study and exam activities
The master programme comprises the following courses and exams:

<table>
<thead>
<tr>
<th>Compulsory courses (7.5 ECTS each)</th>
<th>Veterinary Methodology and Paraclinical Skills</th>
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<tbody>
<tr>
<td></td>
<td>Companion Animal Internal Medicine and Specialty Cases, Systematic Diagnostic Decision Making</td>
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<td></td>
<td>Companion Animal Surgery – Good Surgical Practice</td>
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<td></td>
<td>Dedicated Companion Animal Clinical Practice</td>
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<table>
<thead>
<tr>
<th>Elective courses (6 ECTS each)</th>
<th>Specialization track in Internal Medicine</th>
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<tbody>
<tr>
<td></td>
<td>Diagnosis and Treatment of Patients with Endocrine and Urological Diseases</td>
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<td></td>
<td>Diagnosis and Treatment of Patients with Gastrointestinal and Respiratory Diseases</td>
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<tr>
<td></td>
<td>Diagnosis and Treatment of Patients with Haematological, Infectious and Critical Medical Diseases</td>
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<td></td>
<td>Specialization track in Companion Animal Surgery</td>
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<td></td>
<td>Soft Tissue Surgery</td>
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<td>Orthopedic Surgery</td>
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<td>Cancer Surgery</td>
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<td>Specialization track in Companion Animal Cardiology</td>
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<td></td>
<td>Applied Clinical Cardiology</td>
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<td>Diagnostic Cardiology</td>
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<td>Specialization track on Companion Animal Neurology</td>
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<tr>
<td>Advanced Clinical Cardiology</td>
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<tr>
<td>Applied Clinical Neurology</td>
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<tr>
<td>Diagnostic Clinical Neurology</td>
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<tr>
<td>Advanced Clinical Neurology</td>
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<td>Medical Oncology I</td>
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<td>Medical Oncology II</td>
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<tr>
<th>Specialization track on Companion Animal Oncology</th>
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<tr>
<td>Cancer Surgery</td>
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<tr>
<th>Specialization track on Companion Animal Diagnostic Imaging</th>
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<tbody>
<tr>
<td>Cross Sectional Imaging, CT and MRI</td>
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<tr>
<td>Ultrasonography</td>
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<tr>
<th>Specialization track on Companion Animal Dermatology</th>
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<tr>
<td>SCAM13032U Companion Animal Dermatology – Applied Clinical Dermatology</td>
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<tr>
<td>SCAM13033U Companion Animal Dermatology – Diagnostic Clinical Dermatology</td>
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<tr>
<td>Module 3 (will be developed in 2020)</td>
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<tr>
<th>Specialization track on Companion Animal Ophthalmology</th>
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<tr>
<td>SCAM13029U Companion Animal Ophthalmology - Basic Companion Animal Ophthalmology</td>
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<tr>
<td>SCAM13031U Companion Animal Ophthalmology - Companion Animal Ocular Surgery</td>
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<th>Specialization track on Exotic Companion and Hobby Animals</th>
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<tr>
<td>SCAM13035U Exotic Companion and Hobby Animal Medicine (Module 1) – Diagnosis and Treatment of Exotic Mammalian Species</td>
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<tr>
<td>SCAM13036U Exotic Companion and Hobby Animal Medicine (Module 2) – Diagnosis and Treatment of Avian Species</td>
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<tr>
<td>Module 3 (will be developed in 2020)</td>
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<td>Master’s project (12 ECTS)</td>
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5.2 The student must pass all compulsory courses before commencing on the elective courses.
5.3 The student must pass all compulsory courses and elective courses before commencing on the master’s project.
5.4 The student can plan the sequence of the compulsory courses and the elective courses. However, students are advised to follow the courses in the order listed above.
5.5 The Study Board may grant exemptions from the provisions 5.2 and 5.3 by exceptional circumstances.
5.6 The course descriptions at [https://kurser.ku.dk/](https://kurser.ku.dk/) specify learning outcomes, contents, teaching and learning methods, prerequisites for participation, etc.

§ 6
The programme consists of 42 ECTS credits from compulsory study and exam activities of which the master’s project is worth 12 ECTS credits.
6.2 The programme consists of 18 ECTS credits from elective study and exam activities.
6.3 The programme’s constituent subject elements are:
- All compulsory study and examination activities
- The Master’s thesis
- Elective subjects

§ 7
The programme includes the following courses and exams:

Course title: Veterinary Methodology and Para clinical Skills
STADS code: SCAM13001U/ SCAM13001E
ECTS: 7.5 ECTS

Course title: Companion Animal Internal Medicine and Specialty Cases, Systematic Diagnostic Decision Making
STADS code: SCAM13002U/ SCAM13002E
ECTS: 7.5 ECTS credits

Course title: Companion Animal Surgery – Good Surgical Practice
STADS code: SCAM13003U/ SCAM13003E
ECTS: 7.5 ECTS credits

Course title: Dedicated Companion Animal Clinical Practice
STADS code: SCAM13004U/ SCAM13004E
ECTS: 7.5 ECTS credit

Elective specialization tracks: 18 ECTS
Course title: Master’s project  
STADS code: SCAM13025E  
ECTS: 12 ECTS credit

§ 8 Group examinations
Written papers can be done in groups with other students if stipulated in the course descriptions at www.kurser.ku.dk
8.2 Group examinations can be done for groups of no more than four students, when stipulated in the course descriptions at www.kurser.ku.dk
8.3 Jointly written papers are permitted provided the contributions made by each member of the group can be identified. A separate and individual grade will be given to each student.
8.4 Oral examination on the basis of jointly written papers should be individual, and a student may only attend the examination of other students in the group if his or her examination has been held.

§ 9 Instruction and exam languages
Instruction is conducted in English, unless only Danish-speaking students and instructors are present.
9.2 All examinations are conducted in English. When specified in the course descriptions at: www.kurser.ku.dk a student can choose to conduct an examination in Danish.
9.3 The master’s project can be written in English or Danish.

§ 10 Elective element
The master programme includes a compulsory element of elective courses worth a total of 18 ECTS credits.
10.2 The Study Board must ensure that master students have access to elective courses. These elective courses are described in the course descriptions at https://kurser.ku.dk/ and announced no later than 1 May and 1 November in the preceding semester.
10.3 In February the Study Board generally approves the elective course descriptions for the following academic year.
10.4 The Study Board offers elective courses that are aligned with the objective of the master programme, see 1.1 on objectives above.
10.5 The elective courses consist of a chosen specialization track with 3 courses worth a total of 18 ECTS. All courses within the chosen specialization track must be followed.

§ 11 Master’s project
Students must complete a Master’s project. The project must demonstrate the student’s ability to formulate, analyze and process issues within a relevant, defined scientific subject in a qualified way.
11.2 The Master’s project may be prepared individually or by groups of up to four students.
11.3 The project must be completed in accordance with the approved master’s project agreement and comprise the equivalent of c. 10-15 pages A4 pages using 12 point Times Roman. The project must be accompanied by an abstract in English of no more than one A4 page. The abstract must summarize the project aim, the methods used, significant results/findings, a discussion if relevant, and a conclusion. The abstract will be included in the overall assessment of the Master’s project.
11.4 When assessing master’s project and other major written assignments, emphasis must, in addition to the academic content, also be placed on the student’s spelling and writing skills.
11.5 The Master’s project may also comprise a published or unpublished scientific article written or co-written by the student. If there is more than one author, each must submit a signed co-writer statement specifying the part or parts of the article for which he or she is responsible. The co-writer
statement must reflect the relative contributions at the time of submission as a master’s project. The student will be examined on the article in accordance with the rules applying to the master’s project exam in general, as stipulated in the course description at www.kurser.ku.dk.

11.6 The Master’s project is worth 12 ECTS credits.
11.7 Before commencing the master’s project, a master’s project agreement must be filled in. Submission of the master’s project must be done via Digital Exam no later than the date stated in the master’s project agreement. Late or none submission will count as an exam attempt, unless the student has been granted an extension of submission or in case of illness

**Part 4 Concluding remarks**

§ 12 Prerequisites for establishing courses
In the event that a course attracts fewer than the number of students stipulated in the course descriptions at https://kurser.ku.dk/, The Faculty of Health and Medical Sciences reserves the right to cancel the course. However, if the course is sought after by students admitted at the master programme the faculty is obligated to run obligatory courses at least every second year.

§ 13 Transitional arrangements
No transitional arrangements are established.

§ 14 Exemptions from these provisions
By exceptional circumstances, the Study Board may grant exemptions from any curriculum provisions within the sole remit of the Study Board.

§ 15 Date of commencement
This revised curriculum comes into force on 1 September 2019 and shall apply in relation to all students admitted at the programme.