Outcomes for the degree of doctor ***Knowledge and understanding***	**Examples of what a doctoral student can do to achieve these outcomes** (if possible, state when: e.g. in year 1, before the half-time review, every other week, annually or continuously)
1) For the degree of doctor the doctoral student shall 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	• Read X relevant books in the research field (e.g. the latest edition of "The Principles of Neuroscience", "Epidemiology: An Introduction", "The Biology of Cancer"), if such exist. • Keep abreast of the scientific literature in research field X, specifically within X. • Gain greater knowledge of X by doing X. • Take active part in laboratory meetings and research seminars arranged by X (e.g. the research group, division, department, doctoral programme X and/or graduate school X). • Take active part in journal clubs (name the organiser). • Take active part in scientific conferences and symposia (give examples). • Demonstrate broad knowledge and a systematic understanding of the research field X and up-to-date specialist knowledge in this field when writing the literature review of his/her half-time seminar and thesis.
2) For the degree of doctor the doctoral student shall demonstrate familiarity with research methodology in general and the methods of the specific field of research in particular	• Become familiar with the relevant methodology for analysis of X through discussions with his/her supervisor, research group members, senior researchers and statisticians, and by taking part in seminars and journal clubs. • Learn statistics by taking course(s) in statistics and applying the skills learned to his/her research project in consultation with his/her supervisor(s) and co-authors, and with statisticians. • Learn a particular method by taking the relevant course, and applying the skills learned to his/her own research project. • Learn methods X, Y and Z by taking part in courses and doctoral activities held under doctoral programme X or research school X and by … • Learn method X through the instruction of postdoc/ supervisor/collaborator X and then applying and developing this method. • Learn method X on a study visit to X (name of lab, place, time plan). • Discuss the methodology of his/her thesis in connection with its composition.

Outcomes for the degree of doctor ***Competence and skills***	**Examples of what a doctoral student can do to achieve these outcomes** (if possible, state when: e.g. in year 1, before the half-time review, every other week, annually or continuously)
3) For the degree of doctor the doctoral student shall demonstrate the capacity for scholarly analysis and synthesis as well as to review and assess new and complex phenomena, issues and situations autonomously and critically	• Take active part in research seminars and journal clubs for the entire duration of his/her doctoral studies (if possible, state how often he/she is expected to give a presentation), at which he/she contributes to the critical analysis of his/her/other students' research and discusses constructive ideas and solutions relating to it. • Learn to drawn relevant conclusions from the results of his/her research on consultation with his/her supervisor(s) and other partners. • Make an important contribution to the writing of his/her own articles, particularly the discussion section. • Write a systematic literature review with or without meta-analysis (applies only to certain projects). • Write a literature review of the research field ahead of his/her half-time review and thesis ahead of its defence.
4) For the degree of doctor the doctoral student shall 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	• Contribute well-considered proposals for new points of inquiry, hypotheses, methodological choices and/or research projects through personal reflection and discussion with his/her supervisor(s) and other collaborators on the basis of his/her own research experience/results, other's research and by keeping abreast of the scientific literature. • Take part in all or as many research project phases as possible: planning, execution, analysis, writing and journal correspondence. • Develop his/her project leadership skills by taking course X and by helping to arrange events (e.g. student-initiated activities or symposia). • Learn peer-review under supervision. • Participate as a doctoral student representative in work groups, committees and boards at the university, such as his/her department's board of doctoral education, drafting committees, work groups under the Board of doctoral education and/or steering committees for doctoral programmes and graduate schools. • Critically review earlier studies in the field when writing his/her own scholarly articles and thesis. • Take active part in the publication process by, for example, maintaining a dialogue with journals (including after article revisions).
5) For the degree of doctor the doctoral student shall demonstrate through a dissertation the ability to make a significant contribution to the formation of knowledge through his or her own research	• Contribute to his/her constituent papers to ensure that this material is of a total scope and quality corresponding to four years of full-time doctoral studies. • Place his/her own research in a context of the research currently published in the field when composing his/her thesis.

Outcomes for the degree of doctor ***Competence and skills***	**Examples of what a doctoral student can do to achieve these outcomes** (if possible, state when: e.g. in year 1, before the half-time review, every other week, annually or continuously)
6) For the degree of doctor the doctoral student shall 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	• Learn oral communication skills by attending courses on presentation techniques, communicating (popular) science, presenting his/her own research and results to his/her group, at seminars, national/international conferences, and teaching or presenting research and research results to master's students, patient associations and other public arenas (e.g. at national and international conferences in his/her own academic field). • Learn written communication skills by attending courses on scientific writing/popular scientific writing, writing academic articles under supervision and becoming autonomous as a writer (he/she is the sole author of his/her thesis), writing popular science articles or press releases under supervision, taking part in a thesis-writing seminar, learning peer-review under supervision, and producing conference posters. • Write a popular-science summary of his/her thesis.
7) For the degree of doctor the doctoral student shall demonstrate the ability to identify the need for further knowledge	Identify the need of further knowledge in connection with: • his/her dialogue with supervisor(s) and other collaborators, • annual follow-ups and revisions of his/her individual study plan, • the half-time seminar when presenting and discussing plans for his/her remaining studies, • the writing of research grant applications, • the writing of his/her thesis (e.g. proposals for continuing studies), and • his/her thesis defence.
8) For the degree of doctor the doctoral student shall 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	• Take part in courses on academic teaching and learning. • Teach on courses at bachelor and master levels (if possible). • Interact with the society in general (e.g. by holding classes for school students or the general public). • Contribute to the development of his/her research group and KI. • Take part on courses on innovation and entrepreneurship (e.g. as arranged by the UBE) or in career planning activities (e.g. as arranged by KI's Career Service). • Make early preparations for a postdoc career. • Demonstrate social commitment and an awareness of sustainable development. • Discuss his/her future career with a mentor.

Outcomes for the degree of doctor ***Judgement and approach***	**Examples of what a doctoral student can do to achieve these outcomes** (if possible, state when: e.g. in year 1, before the half-time review, every other week, annually or continuously)
9) For the degree of doctor the doctoral student shall demonstrate intellectual autonomy and disciplinary rectitude as well as the ability to make assessments of research ethics	• Read "Good research practice" by the Swedish Research Council and discuss its implications with supervisors and others within and outside his/her research group. • Take the online course "Avoiding plagiarism". • Attend the research ethics course (at least 1.5 credits) and, if necessary, the courses on laboratory animal science and "Good clinical practice" (GCP), etc. • Help to write the ethical application for study X. • Develop an open-minded, investigative and inquisitive approach. • Attain intellectual autonomy through critical reflection and creative thinking. (This will be promoted by his/her supervisor in formal and informal conversations and through formative assessment, and by exploiting all opportunities for development as an independent researcher – see also the other learning outcomes).
10) For the degree of doctor the doctoral student shall 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	• Take part in courses on research ethics and scientific theory. • Take active part in research seminars. • Take part in discussions and follow debates at his/her department and in larger contexts (e.g. in dialogue with the society in general). • Discuss and reflect on how research findings as well as their interpretation can be used. Discuss and reflect on what consequences the research can get in different contexts, for example concerning local and global societal challenges (see e.g. UN Agenda 2030 and its 17 sustainable development goals), within health care, in relation to different groups of individuals. • Discuss and reflect on the responsibility of researchers and others regarding research findings and the interpretation and dissemination of those.

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