



## DEPARTMENT OF NEUROBIOLOGY, CARE SCIENCES AND SOCIETY

### **H1F5555 Methods for Systematic Review, from Idea to Project Plan, 4.5 credits (hec)**

Metoder för systemisk litteraturöversikt - från idé till projektplan, 4,5 högskolepoäng

*Third-cycle level / Forskarnivå*

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#### **Approval**

This syllabus is approved by the The Committee for Doctoral Education on 2023-12-12, and is valid from Spring semester 2024.

#### ***Responsible department***

Department of Neurobiology, Care Sciences and Society, Faculty of Medicine

#### **Prerequisite courses, or equivalent**

No prerequisite courses, or equivalent, demanded for this course.

#### **Purpose & Intended learning outcomes**

##### **Purpose**

Systematic literature reviews are important for summarizing preceding scientific knowledge and experiences, and for identifying potential knowledge gaps. The aim of the course is to introduce the methodology of research synthesis, to gain skills for performing systematic reviews, and to be able to evaluate the process critically. A secondary aim is to stimulate in-depth knowledge and understanding within the participants own research area.

##### **Intended learning outcomes**

After completing the course, the participants are expected to:

- 1) have developed skills in the use of research synthesis,
- 2) be able to critically evaluate procedures for systematic reviews.

#### **Course content**

- Introduction to methods of systematic literature review.

- Formulation of a research question according to PICO (population, intervention, control, outcome), PEO (Population, expounding/diagnosis, outcome) or SPICE (setting, population, intervention, comparison, evaluation)
- Choose of appropriate reporting tool (e.g. PRISMA; STROBE)
- Search string construction
- Study quality assessment using different risk of bias tools
- Setting up a protocol (PM), with focuses on an aspect of relevance to the participant's own doctoral project.
- Critical evaluation and discussion of weaknesses and strengths in their own and co-students' protocols and reviews.

## Forms of teaching and learning

The course is a digital part-time course and includes 2 blocks (1-3 days each), and a final seminar day. Teaching and learning activities include lectures, independent work, peer-learning by evaluation of others' work and group discussions.

The focus of the blocks is to gain skills that are necessary to conduct a systematic review (e.g. formulate proper research question(s) and relevant in- exclusion criteria, to perform a preliminary literature search, to critically the risk of bias of some the included studies), and to understand the role of the chosen component/aspect within the participant's own doctoral project. For the final seminar, the participant writes an individual PM (in PROSPERO format) describing the methods that are planned to be used to answer the research question regarding the chosen components, and a co-student's examination assignment is discussed.

### *Language of instruction*

The course is given in English.

## Grading scale

Pass (G) /Fail (U)

## Compulsory components & forms of assessment

### Compulsory components

- Participation in group discussions online
- Performing the examination assignment and participate in the final seminar day
- Provide peer feedback on course and examination assignments.

Absence from the final seminar day must be compensated by a critical discussion (in writing) regarding another student's PM submitted to the final seminar.

### Forms of assessment

The course is examined individually, orally and in writing, in the form of a project plan (PM) for a literature review based on systematic approaches and according to the grading criteria. To pass the course, the learning goals must be fulfilled, which requires active participation in compulsory parts, and an approved results for the following activities: 1) An individual essay in the form of a project plan for a literature review on (a) selected research question(s) and based

on a systematic approach. The focus of this assignment will be on a) how the student has formulated the selected research question(s) and in- exclusion criteria, b) how the student in the methods discussions has critically assessed the included studies and the procedures in their own review, and c) has provided valuable input in according to the grading criteria to a peer student's PM. 2) Active participation in the final seminar where the individual assignment is presented and discussed.

## Course literature

Booth, A., Sutton, A., Papaioannou, D. 2016. Systematic approaches to a successful literature review (2nd edition). Sage Publications Inc., London.

Cooper, H., Hedges, L.V., Valentine, J.C., 2009. The handbook of research synthesis and meta-analysis (2nd edition). Russel Sage Foundation, New York

Ryan R, Hill S, Prictor M, McKenzie J; Cochrane Consumers and Communication Review Group. Study Quality Guide. May 2013 <http://cccr.cochrane.org/author-resources> (2021-10-14).

Other resources:

<https://kib.ki.se/en/search-evaluate/systematic-reviews>

Booth A, Clarke M, Dooley G, Ghera D, Moher D, Petticrew M, Stewart L. The nuts and bolts of PROSPERO: an international prospective register of systematic reviews. Syst Rev. 2012 Feb 9;1:2. doi: 10.1186/2046-4053-1-2. PMID: 22587842; PMCID: PMC3348673.