



COURSE SYLLABUS

Research Methods and Evidence-based Practice, 7.5 credits

Research Methods and Evidence-based Practice, 7,5 högskolepoäng

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| Course Code: HRMS23 | Education Cycle: Second-cycle level |
| Confirmed by: Utbildningsrådet Apr 11, 2023 | Disciplinary domain: Medicine |
| Valid From: Aug 28, 2023 | Subject group: MT2 |
| Version: 1 | Specialised in: A1F |
| | Main field of study: Prosthetics and Orthotics |

Intended Learning Outcomes (ILO)

Upon completion of the course the student should have the ability to:

Knowledge and understanding

- describe implementation of research and development outcomes from an evidence-based perspective
- demonstrate an understanding of the structure and key elements of a research proposal.

Skills and abilities

- compare different research designs and methodologies used in research related to assistive technologies and identify appropriate designs for different research questions
- develop a concise statement of the problem and rationale based on a critical literature review and justification of research ideas.
- discuss and debate important issues in research ethics, including responsibility for research, data management, ethical vetting, and scientific misconduct
- use different qualitative and quantitative approaches for data analysis
- describe and discuss the interrelationship between research aims/questions, methods, and expected results.

Judgement and approach

- critically assess the need for ethics in research and development
- critically evaluate the quality of published scientific literature in the context of supporting research ideas.

Contents

- foundations of scientific theory and their role in the choice of scientific methods
- effective search strategy
- writing a research proposal
- research ethics
- research design
- scientific rigour and quality
- implementation of evidence-based practice

Type of instruction

The course is implemented through lectures, case studies, written assignments and group tutorials.

The teaching is conducted in English.

Prerequisites

The applicant must hold a minimum of a Bachelor degree or equivalent (i.e. the equivalent of 180 credits at an accredited university) in prosthetics and orthotics or mechanical engineering. Proof of English proficiency is required. Also the applicant must have taken the course Co-production in Health and Welfare, 7.5 credits.

Examination and grades

The course is graded A, B, C, D, E, FX or F.

Examination of the course will be based upon individual written assignment, group presentation and seminars.

A senior lecturer serves as examiner for the course.

Registration of examination:

| Name of the Test | Value | Grading |
|-------------------------------|-------------|----------------|
| Individual written assignment | 1.5 credits | U/G |
| Group presentation | 0.5 credits | U/G |
| Seminars | 5.5 credits | A/B/C/D/E/FX/F |

Course literature

Creswell, J.W., & Creswell J. D. (2017). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th.ed.). SAGE Publications Inc.

Gastel, B., & Day, R. A. (2022). *How to write and publish a scientific paper* (9th.ed.). Greenwood Publishing Group Inc.