

Course syllabus for

Scientific methods 3 - scientific theory, method and study design, 9 credits

Vetenskap 3 - vetenskaplig teori, metod och studiedesign, 9 hp This course syllabus is valid from autumn 2019. Please note that the course syllabus is available in the following versions: <u>Autumn2018</u>, <u>Autumn2019</u>, <u>Autumn2020</u>, <u>Autumn2021</u>, <u>Autumn2022</u>, <u>Autumn2023</u>, <u>Autumn2024</u>

Course code	1AU063
Course name	Scientific methods 3 - scientific theory, method and study design
Credits	9 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Audiology
Level	G2 - First cycle 2
Grading scale	Pass, Fail
Department	Department of Clinical Science, Intervention and Technology
Decided by	Utbildningsnämnden CLINTEC
Decision date	2018-04-10
Revised by	Education committee CLINTEC
Last revision	2019-04-01
Course syllabus valid from	Autumn 2019

Specific entry requirements

For admission to the course, it is required that the student has managed at least 105 HE credits from Semester 1-4.

Objectives

The course is included in a scientific streak which includes total of 15 HE credits that runs in parallel with the study programme. The general aim with the scientific streak is to provide the student knowledge about research methodology and skills in scientific working methods. The specific aims of this course, Scientific methods 3 - scientific theory, method and study design, are to give the student basic knowledge in scientific theory, method, study design and statistics as well as good preparation for subsequent science courses in the streak.

The expected learning outcomes of the course On completion of the course, the student should be able to:

- explain scientific theoretical concepts and different research traditions within the audiological subject area
- explain and define different qualitative and quantitative methods and concepts
- apply statistical methods and hypothesis tests in calculations and arguments
- form a project idea that can lead to a degree project in the field of audiology or any nearby area

Content

The course consists of three modules:

Scientific concepts and research methodology, 1.5 hp

Grading scale: GU

The moment provides an introduction to scientific concepts to give an understanding of the differentt research traditions that occur in the field of audiology.

Quantitative method and statistics, 6.0 hp

Grading scale: GU

The moment focuses on quantitative methodology related to the subject area of audiology. The moment also provides an introduction to analysis with statistical software.

Project idea, 1.5 hp

Grading scale: GU

A project idea that can lead to a thesis should be formed. The work involves training in how to plan and post a study. As a support for the design of the project idea, a seminar in in-depth information search and reference management is given at the university library.

Teaching methods

Computer labs, lectures, group work, presentations, exercises, seminars and written assignments.

If absent from a compulsory part, the student is responsible for contacting the course coordinator for complementary assignments.

The examiner decides how absence from compulsory course elements can be made up. Study results cannot be reported until the student has participated in compulsory course elements or compensated for any absence in accordance with instructions from the course coordinator. Absence from a compulsory course element could mean that the student can not retake the element until the next time the course is offered.

Examination

Scientific concepts and research methodology 1,5 credits

Self-tests about scientific theoretical concepts Self-test about statistical concepts

Quantitative methodology and statistics 6,0 credits

Written laboratory reports An individual take-home examination

Project idea 1,5 credits

Oral presentation of the independently designed project idea PM about the independently designed project idea Page 2 of 4 For a Pass grade in the course, attendance and active participation in compulsory parts are also required.

Students who do not pass a regular examination are entitled to re-sit the examination on five more occasions. Each time the course is offered, one regular examination and two additional examinations are given. Each occasion the student participates in the same test counts as an examination. Supplementary addition to a written assignment is counted as one examination. Submission of a blank exam paper is regarded as an In case a student is registered for an examination but does not attend, this is not regarded as an examination.

If there are special grounds, or a need for adaptation for a student with a disability, the examiner may decide to deviate from the syllabus's regulations on the examination form, the number of examination opportunities, the possibility of supplementation or exemptions from the compulsory section/s of the course etc. Content and learning outcomes as well as the level of expected skills, knowledge and abilities may not be changed, removed or reduced.

Transitional provisions

Examination may take place under the previous reading list during a period of one year after the renewal of the reading list. Examination will be provided during a period of two years after a close-down of the course.

Other directives

The course evaluation will be carried out according to the guidelines that are established by the Board of Education. The course evaluation will be carried out both through a written course evaluation at the end of the course, and through an oral course forum at least once in connection with the course, during which the students can state their opinions.

Literature and other teaching aids

Mandatory literature

Ejlertsson, Göran **Statistik för hälsovetenskaperna** Tredje upplagan : Lund : Studentlitteratur, [2019] - 279 sidor ISBN:9789144122694 LIBRIS-ID:8jv80nr76h70c6m3 <u>Library search</u> Other relevant materials will be added.

Recommended literature

Bell, Judith; Waters, Stephen
Introduktion till forskningsmetodik
5., [uppdaterade] uppl. : Lund : Studentlitteratur, 2016 - 311 s.
ISBN:9789144110622 LIBRIS-ID:18719204

Library search

Bland, Martin An introduction to medical statistics

Fourth edition. : Oxford : Oxford University Press, 2015. - xviii, 427 pages ISBN:978-0-19-958992-0 LIBRIS-ID:21898377 Library search

Ejlertsson, Göran

Övningsbok i statistik för hälsovetenskaperna

1. uppl. : Lund : Studentlitteratur, 2012 - 190 s. ISBN:9789144070490 LIBRIS-ID:13565774 Library search

Bonita, R.; Beaglehole, R.; Kjellström, Tord Grundläggande epidemiologi

2., [rev.] uppl. : Lund : Studentlitteratur, 2010 - 292 s. ISBN:9789144053806 LIBRIS-ID:11770718 Library search

Kvale, Steinar; Brinkmann, Svend

Den kvalitativa forskningsintervjun

3. [rev.] uppl. : Lund : Studentlitteratur, 2014 - 412 s. ISBN:9789144101675 LIBRIS-ID:16763239

Library search

Rothman, Kenneth J.

Epidemiology : an introduction

2. ed. : New York, NY : Oxford University Press, cop. 2012 - viii, 268 s. ISBN:978-0-19-975455-7 (pbk. : alk. paper) LIBRIS-ID:13454717

Library search

Trost, Jan; Hultåker, Oscar

Enkätboken

5., [moderniserade och rev.] uppl. : Lund : Studentlitteratur, 2016 - 178 s. ISBN:9789144115450 LIBRIS-ID:19616911

Library search

Additional recommended literature:

*Hansson, Sven-Ove Konsten att vara vetenskaplig. https://people.kth.se/~soh/konstenatt.pdf

*Statens beredningsverk för medicinsk och social utvärdering (SBU) Utvärdering av metoder i hälso- och sjukvården och insatser i Socialtjänsten. En handbok. 2017 https://www.sbu.se/contentassets/d12fd955318f4feab3709d7ebcc9a72b/sbushandbok.pdf