

# Opasraportti

## FMed - Health Management Science, MHS (2020 - 2021)

University's new study guide for academic year 2020-2021 is published at <https://opas.peppi oulu.fi>

The study guide includes information on degrees, curriculums, courses and course timetables. Course registrations are still done in Oodi.

If you have questions on information in the study guide, please contact the study field's Academic Affairs Service Team <https://www oulu.fi/forstudents/faculty-study-affairs>

# MASTER'S PROGRAMME IN HEALTH MANAGEMENT SCIENCE MASTER OF HEALTH SCIENCES, 120 ECTS cr, 2020 – 2021

## Description

Master's Programme in Health Management Science is focused on management studies. After graduation the student can work in different kinds of jobs related to public and private sector administration and management. Minor subject studies and Master's thesis allow the student to direct their studies according to their career goals.

Studies in the Master's Programme of Health Management Science (120 ECTS credits) consist of the following: advanced studies in health management science, minor subject studies.

## Learning outcomes

**Large scale and specified knowledge in health management science and continuous learning:** Student is able to

- analyze and evaluate critically and use in an innovative way new scientific knowledge in social and health care and health management science from the viewpoint of health care management and use the knowledge when working as a manager or leader
- reflect the questions related to health management science and challenging situations related to management and also scientific research related to those
- continuously evaluate one's learning and develop one's know-how
- acquire competences in postgraduate studies in health management science and continuous learning.

**Analytical thinking and problem-solving skills:** Student is able to

- solve demanding problems using scientific research when managing, developing, exploring and innovating in different kinds of contexts and environments
- evaluate and develop own and other experts' work when working in public, private and third sector
- innovatively use different kinds of technical and digital solutions in working.

**Co-operation and internationality:** Student is able to

- work independently and in a society, also using the know-how of different professionals
- work and communicate flexibly in rapidly changing multiprofessional work communities at regional, national and international level as well as taking into account communal, ethical and legislative viewpoint.

**Leadership, innovation and development:** Student is able to

- lead own work, work communities, organizations and networks based on newest scientific research
- analyze, evaluate, manage and develop working and change processes as well as own management and know-how of other managers, experts and professionals when working in health service system in a future-oriented, renewal and client-oriented way
- promote use of complex and innovative methods in health care management, development, research and innovation work while working in different kind of environments
- lead and analyze change- and development processes in a relevant way from the viewpoint of social and health care system and clients when working together with other experts
- use knowledge related to marketing, financial management, and business when working as an expert, manager, researcher and consultant in social and health care.

## Tutkintorakenteet

### Master's Programme in Health Management Science, MHSc

Tutkintorakenteen tila: published

Lukuvuosi: 2020-21

Lukuvuoden alkamispäivämäärä: 01.08.2020

### Advanced Studies in Health Management Science (95 op)

This ePSP structure is only meant for students who have been granted their study right according to the 2020-2021 curriculum.

Advanced Studies in Health Management Science, according to the curriculum 2019-2020, are 95 ECTS credits in total (Health Management Science Studies 75 ECTS credits, Research Methodology Studies 20 ECTS credits).

A544703: Health Management Science, advanced studies, 75 - 95 op

*Advanced Studies in Health Management Science*

353330S: Health Management Science I, 10 op

353331S: Leadership and Management in Health Care, 10 op

353332S: Leadership and Management Training, 10 op

353333S: Health Management Science II, 10 op

353334S: Master's Thesis and Research Seminar, Health Management Science, 35 op

353205S: Written maturity test, 0 op

353316S: Research Methods in Nursing and Health Management Science, 5 op

353306S: Information Literacy and Data Analysis, 5 op

353307S: Planning and Conducting Scientific Research, 5 op

352252S: Methods of Statistical Analysis in Health Sciences, 5 op

**Minor Subject Studies (vähintään 25 op)**

Study module of at least 25 ECTS credits, completed at the University of Oulu or other university, according to electronic Personal Study Plan (ePSP).

**Opintojaksosten kuvaukset****Tutkintorakenteisiin kuuluvien opintokohteiden kuvaukset****A544703: Health Management Science, advanced studies, 75 - 95 op****Opiskelumuoto:** Advanced Studies**Laji:** Study module**Vastuuyksikkö:** Health Sciences**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Outi Kanste**Opintokohteen kielet:** Finnish

Ei opintojaksokuvauksia.

*Advanced Studies in Health Management Science***353330S: Health Management Science I, 10 op****Voimassaolo:** 01.08.2019 -**Opiskelumuoto:** Advanced Studies**Laji:** Course**Vastuuyksikkö:** Health Sciences**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Moona Huhtakangas**Opintokohteen kielet:** Finnish**Leikkaavuudet:**

ay353330S Health Management Science I (OPEN UNI) 10.0 op

**ECTS Credits:**

10 ECTS cr

**Language of instruction:**

Finnish

**Timing:**

Autumn, 1st autumn term 1st and 2nd period

**Learning outcomes:**

After the course the student is able to

- use new scientific research and focal concepts of health management science as well as use organizational theories in health management and show own knowledge in portfolio
- know health management science's place in the field of different sciences, knows the history of health management science and shows it in portfolio
- critically evaluate own knowledge and development needs as a manager and leader in portfolio and also in conversations with other students among the studies
- present portfolio with working life relevance and portfolio that supports own learning in leadership interactively using creatively information and communication technology.

**Contents:**

Health management science as a research field and discipline, central concepts and theoretical approaches. Phenomena of health care administration and management in working life. The course includes orientation to university studying and orientation to the research unit.

**Mode of delivery:**

Blended teaching

**Learning activities and teaching methods:**

Workshops 10 h (in Oulu), seminars 6 h (in Oulu), visits to companies/organizations 37 h (independently), portfolio 90 h and independent studying 117 h. Guidance from mentor teacher and orientation to university 10 h (in Oulu).

**Target group:**

Undergraduate health management science students

**Prerequisites and co-requisites:**

No previous courses.

**Recommended or required reading:**

Syväjärvi A & Pietiläinen V (toim.) 2016. Inhimillinen ja tehokas sosiaali- ja terveysjohtaminen. Tampere University press. Linkki e-materiaaliin: [https://tampub.uta.fi/bitstream/handle/10024/100410/Syvajarvi\\_%26\\_Pietilainen\\_OA.pdf?sequence=1](https://tampub.uta.fi/bitstream/handle/10024/100410/Syvajarvi_%26_Pietilainen_OA.pdf?sequence=1)

Hallinnon tutkimus journals. Focus Localis journals. Other relevant research and literature.

**Assessment methods and criteria:**

Active participation in workshops, seminars and web-based learning. Producing a portfolio, oral presentation of portfolio, visits to companies/organizations.

The grading is based on portfolio, its presentation and active participation in workshops and seminar.

Read more about [assessment criteria](#) at the University of Oulu webpage.

**Grading:**

1-5 / fail

**Person responsible:**

Outi Kanste, Paula Vieresjoki

**Working life cooperation:**

Reflection of own knowledge with relation to the needs of working life. Visits to companies/organizations.

**353331S: Leadership and Management in Health Care, 10 op**

**Voimassaolo:** 01.08.2019 -

**Opiskelumoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Health Sciences

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Outi Kanste

**Opintokohteen kielet:** Finnish

**ECTS Credits:**

10 ECTS cr

**Language of instruction:**

Finnish. When necessary, the course can be completed in English.

**Timing:**

1st spring term, 3rd and 4th period.

**Learning outcomes:**

After the course the student is able to

- apply independently the concepts and models of health care management and social and health system from the viewpoint of organization theories and show ones know-how in written group work based on working life examples
- analyze and critically evaluate health care management and leadership as a whole, leadership in health care and leading workplace from the viewpoint of new scientific research and showing one's know-how in individual written essay and in exam in Exam system
- interpret, analyze and reflect in group work exercise not only the challenging situations of leadership and change processes in health care in demanding expert tasks of social and health care, but also related scientific research
- evaluate critically and create different solutions to these actual situations at work
- during a visit of an external expert ask questions and make comments relevant from the viewpoint of health care management
- in presentation of the group exercise use digital learning methods in a relevant way which also motivates other students to participate
- evaluate and give feedback on solutions of other students and
- receive constructive feedback on group exercise.

**Contents:**

Concepts, models and theoretical starting points of health care management and leadership. Organizational and administrative theories. New scientific research at the area. Challenging situations in management at work. Orientation in university studies and integration to scientific community.

**Mode of delivery:**

Blended teaching

**Learning activities and teaching methods:**

Workshops 20 hours including lecture of a visiting working life expert (of which 10 h with possibility for time-bound distance learning via web-based attendance). Preparing for exam and e-exam 70 h (e-exam taken within the exam period available). Studying in small groups 100 h (web-based student interaction is possible). Independent studying 70 h. The course uses web-based learning environment. Orientation to university and guidance from mentor teacher 10 h.

**Target group:**

Students in health management science.

**Prerequisites and co-requisites:**

Student must complete 353330S Health Management Science I before this course.

**Recommended optional programme components:**

None.

**Recommended or required reading:**

Literature for exam. Choose three titles from the following list:

- Ferlie Ewan, Montgomery Kathleen & Pedersen Anne R (Eds.) (2016) The Oxford handbook of health management. Oxford: Oxford university press.
- Fried Bruce J., Fottler Myron D. (Eds.) Human resources in healthcare: managing for success. 4th ed. Chicago: Health Administration Press; Arlington, Va.: Association of University Programs in Health Administration, 2015.
- Paasivaara, Leena & Suhonen, Marjo & Virtanen, Petri (2013): Projektijohtaminen hyvinvointipalveluissa. 2., tarkistettu ja ajantasaistettu laitos. Tietosanoma, Helsinki.
- Pietiläinen, Ville & Syväjärvi, Antti (toim.). 2019. Johtamisen psykologia. PS-kustannus, Jyväskylä. 2., uudistettu painos.

- Wolf Jason A. ym. (eds.). Organization development in healthcare: conversations on research and strategies. Bingley: Emerald Group, 2011.

Supplementary course literature:

- McLaughlin, Daniel B, Julie M. Hays. Healthcare operations management / Daniel B. McLaughlin, Julie M. Hays. Chicago: Health Administration Press; Washington, DC: AUPHA Press, 2008.
- Schwalbe, Kathy, Furlong Dan. Healthcare project management. Minneapolis, NN: Schwalbe Publishing, 2013.
- Hyryläinen Esa (toim.) Näkökulmia hallintotieteisiin. Vaasa: Vaasan yliopisto, 2012. [http://www.uwasa.fi/materiaali/pdf/isbn\\_978-952-476-380-6.pdf](http://www.uwasa.fi/materiaali/pdf/isbn_978-952-476-380-6.pdf) (IF APPLICABLE)
- Virtanen, Turo ym. (toim.) Suomalainen hallinnon tutkimus: mistä, mitä, minne? Tampere University Press, 2011.
- Scientific, peer-reviewed journals, such as: International Journal of Healthcare Management; Leadership in Health Services; International Journal of Quality in Health care; Journal of Health Care Compliance.

#### **Assessment methods and criteria:**

Independent and group work, exercises, exam, active participation in contact teaching. The total grade will be determined based on the grade of the group exercise and individual assignment. In case when the grade is settling between two grades the student can receive the higher one with active participation in contact teaching. Continuous assessment will be applied.

Read more about [assessment criteria](#) at the University of Oulu webpage.

#### **Grading:**

Total grade: 1-5 / fail. Grading of the group exercise and individual assignment: 1-5/fail. Grading of exam: pass / fail.

#### **Person responsible:**

Moona Huhtakangas, Outi Kanste

#### **Working life cooperation:**

Learning assignments with working life relevance, lecture by visiting working life expert.

### **353332S: Leadership and Management Training, 10 op**

**Voimassaolo:** 01.08.2019 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Health Sciences

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Elina Laukka, Heidi Pirkola

**Opintokohteen kielet:** Finnish

#### **ECTS Credits:**

10 ECTS cr

#### **Language of instruction:**

The language of instruction is Finnish. When necessary, the course can be completed in English.

#### **Timing:**

Master degree studies, 2nd autumn semester, 1st and 2nd period. Practical training can be completed during summer.

#### **Learning outcomes:**

Upon completion of the course, the student is able to:

- analyze, interpret, critically evaluate and reflect on one's management competence in the field of administration, management or research in practical social and health care
- apply one's field-specific skills independently and in groups in practical training in accordance with the requirements of the duties in the chosen training job (knowledge of legislation, project management skills, financial administration skills)
- demonstrate in a portfolio one's development and competence as an expert and ability to apply knowledge in managerial, coordination, planning and organizational tasks in social and health care, and
- demonstrate one's performance, communication and technology skills when presenting the portfolio.

**Contents:**

Workplace visits and presenting them in the first seminar in small groups. Practical training as part of the course in national or international health care organization in accordance with personal training plan. In the second seminar one presents one's portfolio.

**Mode of delivery:**

Blended teaching

**Learning activities and teaching methods:**

Individual guiding in choosing the practical training place (2 h, in Oulu), group work in workplace visit and web-based work (6 h), practical training (6 weeks, 225 h), seminars (8 h, in Oulu) and independent work (29 h) in addition to practical training.

**Target group:**

Master Degree students in health management science.

**Prerequisites and co-requisites:**

353330S Health Management Science I and 353331S Leadership and Management in Health Care have to be accomplished before this course.

**Recommended optional programme components:**

None.

**Recommended or required reading:**

Relevant scientific articles and other literature.

**Assessment methods and criteria:**

Participation in seminars, workplace visit and group work. Practical training in management in Finland or other countries and producing a portfolio.

Read more about [assessment criteria](#) at the University of Oulu webpage.

**Grading:**

Pass / Fail

**Person responsible:**

Paula Vieresjoki

**Working life cooperation:**

Practical training, learning assignments with working life relevance.

**353333S: Health Management Science II, 10 op**

**Voimassaolo:** 01.08.2019 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Health Sciences

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Paula Vieresjoki

**Opintokohteen kielet:** Finnish

**ECTS Credits:**

10 ECTS cr

**Language of instruction:**

Finnish

**Timing:**

2nd year autumn and spring semesters, 2nd and 3rd periods.

**Learning outcomes:**

After the course the student is able to:

- retrieve newest scientific research and create in written assignment a research-based conceptual unity of a specific field of health care using the main concepts, models and theories of health management science and administrative studies

- analyze and compare different kinds of viewpoints in health care management and leadership and critically evaluate own know-how in health management at the individual written assignment and oral presentation
- analyze in written assignment one's knowledge in health management science and consider it in relation to working life, especially to practical administration and management as well as critically evaluate, how scientific information and knowledge in health management science shows in developing health care,
- analyze scientific research related to management and leadership in book summary and
- present one's written assignment orally and apply digital learning methods when doing so.

**Contents:**

Knowledge of health management science in health care development and management. Organizational theories in structuring leadership.

**Mode of delivery:**

Web-based teaching

**Learning activities and teaching methods:**

Book summary 108 h, independent studying (including individual written assignment and learning in web-based environment) 162 h.

**Target group:**

Health management science students.

**Prerequisites and co-requisites:**

Student must complete following courses before this course: 353330S Health Management Science I, 353331S Leadership and Management in Health Care, and 353332S Leadership and Management Training.

**Recommended or required reading:**

Current research.

**Assessment methods and criteria:**

Active participation in web-based learning, writing a book summary, writing an individual written assignment, oral presentation in web. Teacher assessment, peer evaluation and self-assessment. Read more about [assessment criteria](#) at the University of Oulu webpage.

**Grading:**

Book summary and participation in doctoral defense: pass/fail. Independent written assignment 1-5 / fail. The assessment is based book referate, and on individual written assignment, oral presentation and active participation at the course.

**Person responsible:**

Outi Kanste

**Working life cooperation:**

A written assignment related to health care working life.

**353334S: Master's Thesis and Research Seminar, Health Management Science, 35 op**

**Voimassaolo:** 01.08.2019 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Diploma thesis

**Vastuuyksikkö:** Health Sciences

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Marjo Suhonen, Outi Kanste

**Opintokohteen kielet:** Finnish

**ECTS Credits:**

35 ECTS cr

**Language of instruction:**



Teaching language is Finnish. If needed the course can be completed in English.

**Timing:**

Master's degree studies 1st spring semester, 4th period and 2nd autumn semester, 1st and 2nd periods and 2nd spring semester, 3rd and 4th periods. Thesis started earlier can be continued during summer.

**Learning outcomes:**

Upon completion of the course, the student is able to

- search, use, evaluate and apply scientific information independently and on that basis, produce an acceptable written research plan in Finnish or in English
- justify critically and plausibly one's research topic with working life relevance
- evaluate, apply and justify methodological decisions in different phases of a research process
- analyze and give feedback on peer research plan using information and communication technology
- present and justify chosen topic and methodological decisions in different phases of a research process
- analyze orally, evaluate critically, independently and in small groups, one's own and other group members' research process and its different phases
- apply team work skills, flexibility and negotiation skills
- use digital learning solutions and demonstrate one's own performance skills and information and communication technology skills while presenting research plan
- apply and analyze information and skills on research methodology gained during one's studies and prepare independently or as a member of a research group a thesis or scientific article
- based on one's expertise, produce a thesis with working life relevance on schedule agreed on in agreement of supervision
- justify and master research methods she/he has used in her/his thesis, analytical reasoning and problem-solving skills
- evaluate critically and draft conclusions critically and justify decisions made within one's thesis as well as during the tutor groups
- get readiness for participate in scientific discussions and postgraduate studies.

**Contents:**

Idea paper and agreement of supervision. Drafting an idea paper and a research plan. Scientific small group discussions and guidance. Peer group work involving group assignments. Independent assignments. Working on web-based learning environment.

International scientific research related to the topic and research methods of the master's thesis. Producing a thesis or a scientific article in accordance with criteria set for scientific research. Critical discussion on thesis and presentation of results and conclusions.

**Mode of delivery:**

Blended teaching

**Learning activities and teaching methods:**

Info 2 h (time-based remote teaching), small group guidance 6 h (teaching requiring presence in Oulu), working in peer groups, group assignments and individual pre-assignments 24 h (time-independent remote teaching), reading of the scientific literature, writing an idea paper and research plan and writing of a thesis or an article 909 h (time-independent remote teaching). The participation in the conference 4 h (teaching requiring presence in Oulu). The course uses web-based learning environment.

**Target group:**

Master's degree students in health management science.

**Prerequisites and co-requisites:**

The student must have completed all research methodology studies.

**Recommended optional programme components:**

None

**Recommended or required reading:**

Where applicable:

- Curtis E, Drennan J (eds.) (2013) Quantitative health research: Issues and methods. Open University Press, Maidenhead. eBook.
- Denzin NK & Lincoln YS (eds.) (2018) The SAGE handbook of qualitative research. SAGE, Los Angeles.
- Kyngäs H, Mikkonen K, Kääriäinen M (eds.) (2020) The application of content analysis in nursing science research. © Springer Nature Switzerland AG.
- Polit DF & Beck CT (2017) Nursing research: generating and assessing evidence for nursing practice. Wolters Kluwer Health, Philadelphia.

- W. Paul Vogt (ed.) (2011) SAGE Quantitative research methods. SAGE Publications, Inc., Thousand Oaks. eBook.
- International and national scientific articles.

**Assessment methods and criteria:**

Discussions of topic/idea of the thesis will take place in spring. On the basis of discussion, the student will be able to rework one's thesis also during summer. The student will prepare the thesis either alone or with another student under supervision of 1–2 teachers. When agreed on separately, the Master's thesis can also be produced in form of a scientific article. Continuous assessment is applied in the course and teacher, self and peer-assessment.

Read more about [assessment criteria](#) at the University of Oulu webpage.

**Grading:**

Master's thesis 1–5/fail, assignments pass/fail

**Person responsible:**

University lecturer Outi Kanste

**Working life cooperation:**

Topic of the thesis related to health care and with working life relevance will be discussed and chosen in collaboration with representation from working life. The student is able to produce a thesis that has working life relevance and supports student's own expertise. Collaboration with working life during the data collection phase.

**353205S: Written maturity test, 0 op**

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Health Sciences

**Arvostelu:** 1 - 5, pass, fail

**Opintokohteen kielet:** Finnish

**ECTS Credits:**

0 ECTS cr

**Language of instruction:**

Finnish or Swedish; English, if the Master thesis has been written in English.

**Timing:**

Varies. The student must complete written maturity test in connection with and as a part of the student's Master's thesis. The student can register for maturity test as soon as she/he has submitted the thesis for review and the supervisor has given her/his permission to register.

**Learning outcomes:**

The student is able to communicate in Finnish or Swedish and show thorough knowledge of the field of his / her thesis. If the student has taken the maturity test in connection with the Bachelor degree and showed good command in Finnish or Swedish language in it, she/he doesn't have to show it anymore in connection with the Master's degree. However, the student must still take the maturity test and show in it thorough knowledge of the field of her/his thesis.

**Contents:**

Maturity test connected to the field of the student's Master's thesis

**Mode of delivery:**

Written maturity test connected to the master thesis

**Learning activities and teaching methods:**

The student writes the maturity test usually in one of the national languages of Finland (Finnish or Swedish), in which she/he has received her/his school education. If the mother tongue of the student is other than Finnish or Swedish, the Faculty of Medicine will determine separately required language studies.

**Target group:**

Master degree students in nursing science, health science teacher education and health management science

**Prerequisites and co-requisites:**

Master's thesis and supervisor's permission to register for maturity test

**Assessment methods and criteria:**

See [general instructions](#) of the maturity test at the University of Oulu (in Finnish). An abstract of the Master thesis can be accepted as a maturity test if the student has showed good command of language in written maturity test of the Bachelor thesis. Read more about [assessment criteria](#) at the University of Oulu webpage.

**Grading:**

Pass / fail

**Person responsible:**

Supervisor of the Master thesis and teacher of the university's Languages and Communications of the Oulu Extension School

**353316S: Research Methods in Nursing and Health Management Science, 5 op**

**Voimassaolo:** 01.08.2019 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Health Sciences

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Heidi Siira, Outi Kanste

**Opintokohteen kielet:** Finnish

**Leikkaavuudet:**

ay353316S    Research Methods in Nursing and Health Management Science (OPEN UNI)    5.0 op

**ECTS Credits:**

5 ECTS cr

**Language of instruction:**

Finnish

**Timing:**

1st autumn term, 1st period

**Learning outcomes:**

Upon completion of the course the student will be able to:

- compare and interpret the approaches and the nature of scientific research and to draw conclusions on common methodological issues
- describe different data collection and analysis methods
- organise and combine the stages of the research process to form a logical whole
- analyse and evaluate the reliability and validity of research and ethical issues
- communicate according to good scientific practice and principles
- utilise digital solutions in learning.

**Contents:**

Different study designs, the main stages of the research process, methods in data collection and data analysis, evaluation of reliability and validity and ethical premises.

**Mode of delivery:**

Blended teaching

**Learning activities and teaching methods:**

Preliminary assignment in the beginning of the course. Online learning and completion of assignments in the online learning environment 132 h (including lectures on different themes, independent and collaborative online learning, self and peer assessment) and online examination 3 h. Time-based remote teaching 15 h and time-independent remote teaching 120 h.

**Target group:**

Nursing Science, Health Sciences teacher, and Health Management students.

**Recommended or required reading:**

- Curtis E, Drennan J (eds.) (2013) Quantitative health research: Issues and methods. Open University Press, Maidenhead. eBook.

- Denzin NK & Lincoln YS (eds.) (2018) The SAGE handbook of qualitative research. SAGE, Los Angeles.
- Kyngäs H, Mikkonen K, Kääriäinen M (eds.) (2020) The application of content analysis in nursing science research. © Springer Nature Switzerland AG.
- Polit DF & Beck CT (2017) Nursing research: generating and assessing evidence for nursing practice. Wolters Kluwer Health, Philadelphia.
- Ruusuvaori J, Nikander P, Hyvärinen M (toim.) (2010). Haastattelun analyysi. Vastapaino, Tampere. eBook
- W. Paul Vogt (ed.) (2011) SAGE Quantitative research methods. SAGE Publications, Inc., Thousand Oaks. eBook.
- National and international scientific articles.

**Assessment methods and criteria:**

Active participation in online learning and completion of online assignments. Peer and self-assessment, teacher assessment.

Read more about [assessment criteria](#) at the University of Oulu webpage.

**Grading:**

1-5 / fail

**Person responsible:**

Nursing Science and Health Management Science university lecturers.

**353306S: Information Literacy and Data Analysis, 5 op**

**Voimassaolo:** 01.08.2019 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Health Sciences

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Mimmi Tolvanen

**Opintokohteen kielet:** Finnish

**Leikkaavuudet:**

ay353306S Information Literacy and Data Analysis (OPEN UNI) 5.0 op

**ECTS Credits:**

5 ECTS cr

**Language of instruction:**

Finnish

**Timing:**

1st year spring term, 4th period

**Learning outcomes:**

The student is familiar with the research process and with the characteristics of scientific information including an ability to obtain and process scientific information, and to report and apply the results especially in the health sciences.

The student knows the role of scientific publications, can use and evaluate information sources critically. The student will be able to search research articles using basic literature retrieval methods and to use bibliographic databases available at the Medical Faculty.

The student knows basic principles in publication process, research ethics and good scientific practice.

The student is familiar with the basic research studies. The student is familiar with requirements for high quality reporting of research findings. Further, the student is able to analyze data with basic statistical methods, use basic statistical significance tests and inference methods, and evaluate critically scientific research reports.

**Contents:**

Scientific information:

Principles of scientific research, ethics in research, research methods in the main disciplines (clinical medicine, epidemiology, biomedicine and health sciences).

Scientific communication:

Scientific journals, research articles, critical evaluation of research findings, ethics in scientific publication and bibliometrics.

Data analysis:

Aims and phases of statistical research, planning statistical research, obtaining data, variable distributions (frequencies, graphs and statistics), basics in statistical inference and methods (estimates, significance tests and confidence limits), basic methods in comparing groups and estimating associations between variables, specific methods applied in medical research. Critical reading of published research articles.

**Mode of delivery:**

Blended teaching

**Learning activities and teaching methods:**

Lectures, small group lessons, assignments and exam.

**Target group:**

Master students in health sciences

**Recommended optional programme components:**

352252S Methods of Statistical Analysis in Health Sciences

**Recommended or required reading:**

Material in lessons and small group lessons.

**Assessment methods and criteria:**

Regular and active participation in lectures, small group lessons, readiness tests and completion of practical projects and exams.

Read more about [assessment criteria](#) at the University of Oulu webpage.

**Grading:**

1-5 / fail

**Person responsible:**

Mimmi Tolvanen

### **353307S: Planning and Conducting Scientific Research, 5 op**

**Voimassaolo:** 01.08.2019 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Health Sciences

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Outi Kanste, Heidi Siira

**Opintokohteen kielet:** Finnish

**Leikkaavuudet:**

ay353307S Planning and Conducting Scientific Research (OPEN UNI) 5.0 op

**ECTS Credits:**

5 ECTS cr

**Language of instruction:**

Finnish

**Timing:**

1st autumn term, 2nd period

**Learning outcomes:**

Upon completion of the course the student will be able to:

- critically justify choice of a research topic and define key concepts
- analyse the topic in relation to current scientific and societal discussions

- evaluate approaches in research related to the research topic and choose appropriate methods
- apply and justify the methodological solutions made at different stages of research and justify reliability and validity during the different stages of the research process
- evaluate key ethical issues related to conducting research
- develop a research plan
- clearly and creatively present his/her research plan and respond to questions received regarding the thesis
- evaluate the research topics and plans of other students participating in the course and present constructive questions and give feedback to other students on their research plans
- utilise digital solutions in learning.

The student will achieve the ability to conduct their Master's thesis.

**Contents:**

Familiarisation with different kinds of research methods and research process. Practicing to design and plan a research plan according to select research topic, planning the different stages of the research process, justification of made choices, familiarisation with concepts and literature related to selected research topic, evaluation of the reliability and validity and research ethics.

**Mode of delivery:**

Blended teaching

**Learning activities and teaching methods:**

Online learning and completion of assignments in the online learning environment 132 h (including lectures on different themes, development of the research plan, independent and collaborative learning, peer and group assessment) and online examination 3 h. Time-based remote teaching 15 h and time-independent remote teaching 120 h.

**Target group:**

Nursing Science, Health Sciences teacher, and Health Management students.

**Prerequisites and co-requisites:**

353316S Research Methods in Nursing Science and Health Management Science 5 ECTS credits

**Recommended or required reading:**

- Curtis E, Drennan J (eds.) (2013) Quantitative health research: Issues and methods. Open University Press, Maidenhead. eBook.
- Denzin NK & Lincoln YS (eds.) (2018) The SAGE handbook of qualitative research. SAGE, Los Angeles.
- Kyngäs H, Mikkonen K, Kääriäinen M (eds.) (2020) The application of content analysis in nursing science research. © Springer Nature Switzerland AG.
- Polit DF & Beck CT (2017) Nursing research: generating and assessing evidence for nursing practice. Wolters Kluwer Health, Philadelphia.
- Ruusuvoori J, Nikander P, Hyvärinen M (toim.) (2010). Haastattelun analyysi. Vastapaino, Tampere. eBook
- W. Paul Vogt (ed.) (2011) SAGE Quantitative research methods. SAGE Publications, Inc., Thousand Oaks. eBook.
- National and international appropriate scientific articles.
- National and international literature relevant to the research plan.

**Assessment methods and criteria:**

Active participation in online learning, development of a research plan. Peer and group assessment, teacher assessment. The research plan is evaluated numerically.

Read more about [assessment criteria](#) at the University of Oulu webpage.

**Grading:**

1-5 / fail

**Person responsible:**

Nursing Science and Health Management Science university lecturers.

**Working life cooperation:**

The student is able to conduct a working life-oriented scientific research.

**352252S: Methods of Statistical Analysis in Health Sciences, 5 op**

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Health Sciences

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Mimmi Tolvanen

**Opintokohteen kielet:** Finnish

**ECTS Credits:**

5 ECTS cr

**Language of instruction:**

Finnish

**Timing:**

Master degree studies, 1st autumn term 1st period

**Learning outcomes:**

Upon completion of the course the students are able to plan collection of data, to transfer the data into a form which can be processed with a computer and to use independently statistical software for processing and analysis of data. The students are able to apply basic statistical methods in analysis of research problems. The students know multivariate and other special statistical methods used for analysis of data in health sciences. Additionally, the students are able to report research results and to recognize the issues which are important in interpreting the results published in international publications of health sciences.

**Contents:**

Basic concepts of statistics. Design of studies. Data collection. Data preparation. Using statistical software. Choosing the methods of analysis. Comparing groups. Repeated measurements. Studying associations. Multivariable methods. Regression models. Reliability. Reporting the results. Article evaluation.

**Mode of delivery:**

Contact teaching and group exercises.

**Learning activities and teaching methods:**

Lectures 28 h, group exercises 20 h and learning assignments.

**Target group:**

From 2019-2020 Curriculum onward Master students of health sciences.

**Recommended or required reading:**

Lecture presentations and supplementary group work materials. Uhari M ja Nieminen P: Epidemiologia ja biostatistiikka. ("Epidemiology and biostatistics"; no translation in English.) 2nd edition Duodecim, 2012.

**Assessment methods and criteria:**

Accepted learning assignments and participation in group exercises.

Read more about [assessment criteria](#) at the University of Oulu webpage.

**Grading:**

Pass / fail

**Person responsible:**

Mimmi Tolvanen