Doctoral Program in Preventive Medicine

Mandatory subjects

Program Director: *Prof. Dr. Edit Paulik, head of department, full professor*

Epidemiological Methods (Lead instructor: Prof. Dr. Edit Paulik; 28 hours/6 credits, semester 1 or 3)

Prevention of Chronic Non-Communicable Diseases (Lead instructor: Prof. Dr. Edit Paulik; 28 hours/6 credits, semester 1 or 3)

Environmental Health Science (Lead instructor: Prof. Dr. Edit Paulik; 28 hours/6 credits, semester 2 or 4)

Course description

Informing students on course requirements

Program: full-time PhD program, mandatory subject
Course: **Epidemiological Methods**
Course code: **IODI-PREME-01**
Academic year/Semester: 1 or 3 semester
Educator and contact details (e-mail): Prof. Edit Paulik MD, PhD paulik.edit@med.u-szeged.hu Mária Kucsera PhD, marko-kucsera.maria@med.u-szeged.hu
Type of course: lecture/seminar/practice/laboratory
Weekly hours of the course: 2
Credit value of the course: 6
Type of examination: final exam at the end of semester, practice exam, other: five-scale report
Preliminary requirements (preliminary academic performance or completed course required to fulfill the purposes and requirements of the course): no
Purpose of course: The students become familiar with the epidemiologic methods of measuring health, and with the planning and preparation of epidemiological researches.
Outcome requirements of the course (specific academic results to be established by the course):

Knowledge:
Knows the main types of epidemiological studies. He/she has detailed knowledge of epidemiological indicators and databases that characterize the health of the population.
Knows the methodology of planning epidemiological studies, familiar with the main steps of the studies.
Skills:
Analyses the health status of the population with the help of the indicators in the statistical databases
He/she is able to determine the purpose of the epidemiological study, to select the appropriate type of study for the disease to be detected and to determine the target population.
Carries out and evaluates epidemiological studies
Attitude:
Interested in a complex description of the health status of a particular population group and is willing to take part in its necessary data collection and monitoring.
Interested in planning and implementing epidemiological studies.
Responsibility-autonomy:
Makes independent suggestions on the areas of intervention based on the analysis and evaluation of statistical data.
Able to perform epidemiological studies independently and collaborates with others to perform epidemiological studies.

Topics:
The concept and history of epidemiology. Concepts of modern epidemiology. Epidemiological rates, measuring disease frequency. The main sources of morbidity data. Measuring risk in epidemiology.
Classification of epidemiological studies. Characteristics of ecological and cross-sectional studies (give examples)
Characteristics of case-control and cohort studies (give examples)
Characteristics of randomized controlled clinical studies (give examples)
Characteristics of systematic reviews and meta-analyses (give examples)
The concept of clinical epidemiology, the basic principles of evidence-based medicine (give examples)
The concept of health indicators. Core health indicators and database of WHO. Health indicators and databases in the European Union.
Methodological and practical aspects of health interview surveys (give examples)
The main phases of planning an epidemiological study. Research ethics.

Supporting methods to achieve learning outcomes:

- lectures
- consultations
- control tests

Evaluation of the acquisition of expected learning outcomes:
The course will be held as lectures and consultations**.** The PowerPoint presentation of the lectures will be uploaded to the “Educational materials” folder in pdf form. Each lecture is accompanied by a series of control-test questions (5 questions will belong to each lecture); test questions will also be uploaded on the CooSpace. Students must complete these tests till the end of the semester. A test can be fulfilled several

times (up to 3 times), but at least once 60% performance has to be per each test, which is the condition of accepting the semester. The exam will be organized as CooSpace test. The material that must be known for the examination is the “Educational materials” (lecture slides, other documents) uploaded on the CooSpace. The course ends with a five-grade exam; there will be 25 test questions on the CooSpace. Every correct answer is equal with 1 point (partial point cannot be gained), maximum 25 points can be gained. Exam mark is calculated according to the following: 25–24 points: excellent (5) 23–22 points: good (4) 21–19 points: accepted (3) 18–17 points: passed (2) 0–16 points: failed (1) Conditions of signing the semester At least once 60% performance has to be reached per each test.
Mandatory reading list: “Educational materials” uploaded on the CooSpace.
Recommended reading list: R. Bonita, R. Beaglehole, T. Kjellström Basic epidemiology /. 2nd edition. World Health Organization 2006 https://apps.who.int/iris/bitstream/handle/10665/43541/9241547073_eng.pdf;jsessionid=E2E375E766BE7BE2978674A6E052CF5F?sequence=1

Course description

Informing students on course requirements

Program: full-time PhD program, mandatory subject
Course: **Prevention of Chronic Non-Communicable Diseases**
Course code: **IODI-PREME-02**
Academic year/Semester: 1 or 3 semester
Educator and contact details (e-mail): Prof. Edit Paulik MD, PhD paulik.edit@med.u-szeged.hu Andrea Szabó PhD, szabo.andrea@med.u-szeged.hu
Type of course: lecture/seminar/practice/laboratory
Weekly hours of the course: 2
Credit value of the course: 6

Type of examination: final exam at the end of semester, practice exam, other: five-scale report
Preliminary requirements (preliminary academic performance or completed course required to fulfill the purposes and requirements of the course): no
Purpose of course: To be familiar with the health status of the population, to review the epidemiological situation and complex prevention of chronic diseases of public health significance.
Outcome requirements of the course (specific academic results to be established by the course): Knowledge: Being aware of the frequency of major non-communicable diseases, their risk factors and methods for their prevention. To be familiar with international and domestic screening programs. Skills: Providing advice on the prevention of non-communicable diseases. Able to understand and interpret the screening system, and to inform individuals and communities about screening. Attitude: He/she considers the importance of the prevention of non-communicable diseases. Motivate the population to participate in screening tests. Responsibility-autonomy: He/she participates in communication with those belonging to risk groups of chronic diseases.
Topics: Demographic characteristics of the world population Epidemiological situation of chronic noncommunicable diseases in the world population and in the European Union The basic principles of the prevention of noncommunicable diseases The role of screening in the prevention of chronic noncommunicable diseases (give examples) Epidemiological characteristics of cardiovascular diseases (risk factors, prevention) Epidemiological characteristics of malignant tumours (risk factors, prevention) Epidemiological characteristics of chronic respiratory diseases (risk factors, prevention) Epidemiological characteristics of chronic gastrointestinal diseases (risk factors, prevention) Epidemiological characteristics of mental diseases and suicide (risk factors, prevention) Inequalities in health. The health status of disadvantaged populations (migrants, Roma population, unemployed etc.) The role of primary medical care in the prevention and treatment of chronic diseases International programs (WHO, EU) focusing on the reduction of chronic diseases related morbidity and mortality
Supporting methods to achieve learning outcomes:

- lectures
- consultations
- control tests

Evaluation of the acquisition of expected learning outcomes:
The course will be held as lectures and consultations**.** The PowerPoint presentation of the lectures will be uploaded to the “Educational materials” folder in pdf form. Each lecture is accompanied by a series of control-test questions (5 questions will belong to each lecture); test questions will also be uploaded on the CooSpace. Students must complete these tests till the end of the semester. A test can be fulfilled several times (up to 3 times), but at least once 60% performance has to be per each test, which is the condition of accepting the semester.
The exam will be organized as CooSpace test. The material that must be known for the examination is the “Educational materials” (lecture slides, other documents) uploaded on the CooSpace.
The course ends with a five-grade exam; there will be 25 test questions on the CooSpace. Every correct answer is equal with 1 point (partial point cannot be gained), maximum 25 points can be gained.
Exam mark is calculated according to the following:

25–24 points:	excellent (5)
23–22 points:	good (4)
21–19 points:	accepted (3)
18–17 points:	passed (2)
0–16 points:	failed (1)

Conditions of signing the semester
At least once 60% performance has to be reached per each test.

Mandatory reading list:
“Educational materials” uploaded on the CooSpace.

Recommended reading list:
Global action plan for the prevention and control of noncommunicable diseases 2013-2020. World Health Organization, 2013
https://www.who.int/iris/bitstream/10665/94384/1/9789241506236_eng.pdf

Course description

Informing students on course requirements

Program: full-time PhD program, mandatory subject
Course: **Environmental health**
Coruse code: **IODI-PREME-03**
Academic year/Semester: 2 or 4 semester
Educator and contact details (e-mail): Prof. Edit Paulik MD, PhD paulik.edit@med.u-szeged.hu Zsuzsanna Máté PhD, mate.zsuzsanna@med.u-szeged.hu
Type of course: lecture/seminar/practice/laboratory
Weekly hours of the course: 2
Credit value of the course: 6
Type of examination: final exam at the end of semester, practice exam, other: five-scale report
Preliminary requirements (preliminary academic performance or completed course required to fulfill the purposes and requirements of the course): no
Purpose of course: The students become familiar with the environment as a health influencing factor, and with the most important aspects of the prevention of environmental problems.
Outcome requirements of the course (specific academic results to be established by the course): Knowledge: Knows the health-damaging effects of the macro- and microenvironment and knows how to prevent them. Skills: Analyses the risk factors coming from the environment at a given population group or at individual level. Attitude: Seeks to convey a preventive approach to environmental health. Responsibility-autonomy: Makes independent suggestions on the areas of environmental protection. Keeps an eye on environmental awareness.
Topics: Environment and health: physical, chemical, biological and social determinants. Avoidance of damages of environmental origin, concept and levels of prevention. Air hygiene: Composition of the atmosphere, air pollutants and their sources, air pollution and its health consequences, norms, regulation.

Water hygiene: Water reserves of the Earth, human activities affecting the state of natural bodies of water, production of drinking water, health effects of drinking water composition, the problems of wastewater.
Soil hygiene: properties and self-purification of the soils, sources of soil pollution, connections between the soil and other environmental media, health effects of soil pollution. Wastes and their environmental hygienic effects. Communal and hazardous waste. Health effects of the built environment (settlements, dwellings, institutions).
Settlement hygiene. Hygienic requirements of educational and healthcare facilities.
Working place as micro-environment, effects of physical and mental burden on health.
Physical health-damaging factors: extremes of temperature and barometric pressure, noise, vibration.
Physical health-damaging factors: ionizing and non-ionizing radiation, dusts and aerosols.
Chemical health-damaging factors: general toxicology, chemical safety, risk assessment and management.
Chemical health-damaging factors: toxicology of gases, solvents and metals.
Chemical health-damaging factors: toxicology of plastics, pesticides and persistent organic pollutants.
Biological health-damaging factors: pathogens, parasites, general epidemiology. Some important infectious diseases.
Carcinogenic and teratogenic environmental influences. Allergens.
Health effects of foodstuffs as substances of environmental origin.

Supporting methods to achieve learning outcomes:

- lectures
- consultations
- control tests

Evaluation of the acquisition of expected learning outcomes:
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18–17 points:	passed (2)
0–16 points:	failed (1)

Conditions of signing the semester At least once 60% performance has to be reached per each test.
Mandatory reading list: “Educational materials” uploaded on the CooSpace.
Recommended reading list: Paulik E (ed.): Public Health and Preventive Medicine. Medicina Publishing House, Budapest, 2013