

Course Description PhD Program**OE661 Occupational and Environmental Health Seminar 1 (1-0-4)**

Enhancing academic skills of the students; improving their reading, writing, and presenting skills through practices of identifying and selecting literature related to occupational and environmental health; critically thinking and reviewing literature; summarizing and presenting findings; preparing them for entering disciplinary conversations

OE662 Thesis – Seminar - 1 1 (0-2-4)

Review of the literature related to the student's dissertation topic; selection of relevant research articles and explanation of sources, research methods, and key research findings for development of the dissertation topic; presentation for discussion in seminars

OE663 Thesis – Seminar – 2 1 (0-2-4)

Review of the literature related to the student's dissertation topic; selection of relevant research articles and explanation of sources, research methods, and key research findings for developing research questions, designing the research and designing the conceptual framework for the dissertation; presentation for discussion in seminars

OE664 Thesis – Seminar – 3 1 (0-2-4)

Review of the literature related to the student's dissertation topic; selection of relevant research articles and explanation of sources, research methods, and key research findings in depth for developing the research methodology; writing detailed research proposals and presenting them for discussion in seminars; for students who have passed the proposal defense, presenting their research progress and findings

OE601 Statistics and Research Methodology 3 (3-0-9)

Research principles and methodology; problem identification, research design; formulation of hypotheses and objectives; technology for information retrieval and literature review; development and validation of research instruments; data collection; statistical principles; error theory; sampling methods and sample size calculations; hypothesis testing and estimation through the hands-on use of a statistical software package; data management; analysis of descriptive and inferential statistics; ethics in research; report writing; writing for publication; program for referencing and plagiarism detection; data visualization; and research findings presentation

OE611 Occupational and Environmental Health Epidemiology 3 (3-0-9)

Concepts and principles of epidemiology; study designs and epidemiological methods; relationships between environmental exposures and occupational health problems related to illnesses, deaths, and accidents; risk factors for occupational and environmental diseases; application of epidemiological methods in occupational and environmental health; utilization of epidemiological methods and data for environmental and health risk assessment; epidemiological surveillance

OE621 Occupational and Environmental Health Toxicology**3 (3-0-9)**

Principles of toxicology; toxicants/chemicals in industrial and environmental settings; transformation, fate and bioaccumulation of toxicants in environments; route of exposure; dose–response relationship; toxicokinetic; target organ toxicity; cancer and mutation; toxicity testing and toxicity prediction methods; biomarker and bioindicators; role of toxicity for environmental and health risk assessment and environmental health monitoring and surveillance; integration risk management (socioeconomic, technique, public policy and other factors)

OE631 Future trend in Occupational and Environmental Health**3 (3-0-9)**

Conceptual framework of health; determinants of health; environmental and occupational health hazards; causes of illnesses resulting from environmental and occupational impacts; a holistic conceptual framework linking occupational and environmental health exposures; the occurrence of diseases or health deterioration; methods for implementation of occupational and environmental prevention and control; future trends in occupational and environmental health; future industries; data science; digital technology in data analysis and prediction; climate change; ISO 14064 Greenhouse Gas; sustainable development goals; field visit.

OE901 Thesis**48 Credits**

Identify interesting issues and present new innovations in occupational health and environmental health; conducting research ethically; data collection; in-depth data analysis; translating research outcomes into new knowledge that can address occupational health or environmental health problems; preparing reports; presenting research reports; publishing research findings in internationally recognized academic journals or publication