

Doctoral School of Environmental Sciences

(effective from 1 September, 2021)

Discipline: Science

Form of education: Doctor of Philosophy (Ph.D.) training

Program objectives: to acquire the academic degree training, acquisition of practice in higher education

Training time: 4 + 4 semesters

Training type: regular school

Financing: state-sponsored or tuition fee based

Entrance requirements: Master's degree and a successful entrance exam

Language requirements: State-recognized type "C" secondary (or equivalent) in English language and basic knowledge of a second language

The training ends with: Absolutorium (Thesis)

The number of credits required: 240

Ways of getting credits / modules: training credits (48), research credits (180) + other (see Regulations of The Doctoral School)

Responsible for the training: Dr. Tamás Turányi professor, head of the graduate school

Name of faculty responsible for training: Faculty of Science

Doctoral education programs: Environmental Biology, Environmental Physics, Environmental Chemistry, Environmental Earth Sciences

Program director:

Environmental Biology (KÖR-2/1):	Dr. Erika Tóth
Environmental Physics (KÖR-2/2):	Dr. Ákos Horváth
Environmental Chemistry (KÖR-2/3):	Dr. Tamás Turányi
Environmental Earth Sciences (KÖR-2/4):	Dr. Zoltán Szalai

Training / Learning Module:

KÖR-2/02 Meteorological modeling of the land-surface–atmosphere interactions:
a historical review Ács Ferenc

6 credits, theory, optional, no repetition

KÖR-2/03 Application of isotopes in environmental science Czuppon György

6 credits, theory, optional, no repetition

KÖR-2/04 Environmental climatology Bartholy Judit

6 credits, theory, optional, no repetition

KÖR-2/05 Microbial ecology of waters and aquatic habitats

Kériné Borsodi Andrea and Tóth Erika

6 credits, theory, optional, no repetition

KÖR-2/06 Environmental aspects of subsurface carbon dioxide storage Falus György

6 credits, theory, optional, no repetition

KÖR-2/07 The application of infrared spectrometry to Earth Sciences Kovács István János
6 credits, theory, optional, no repetition

KÖR-2/08 Writing scientific papers in English Böddi Béla
6 credits, theory, optional, no repetition

KÖR-2/09 Ecology of soil seed banks Csontos Péter
6 credits, theory, optional, no repetition

KÖR-2/10 Spatial and temporal analysis of environmental geochemical data Jordán Gyöző
6 credits, theory, optional, no repetition

KÖR-2/11 Volcanic heritage and geotourism Harangi Szabolcs
6 credits, theory, optional, no repetition

KÖR-2/12 Transboundary environmental impacts and international environmental cooperation
Farágó Tibor
6 credits, theory, optional, no repetition

KÖR-2/13 Environmental biophysics Horváth Gábor
6 credits, theory, optional, no repetition

KÖR-2/15 General and special aspects of plant mineral nutrition and the nutrient stress
Fodor Ferenc
6 credits, theory, optional, no repetition

KÖR-2/16 Micrometeorology Weidinger Tamás
6 credits, theory, optional, no repetition

KÖR-2/17 Sensory biophysics I.: Polarization sensitivity and its environmental optical aspects
Horváth Gábor
6 credits, theory, optional, no repetition

KÖR-2/18 Community ecology of tropics Hufnagel Levente
6 credits, theory, optional, no repetition

KÖR-2/19 Weather and climate models Breuer Hajnalka
6 credits, theory, optional, no repetition

KÖR-2/20 Nuclear environmental protection Homonnay Zoltán
6 credits, theory, optional, no repetition

KÖR-2/21 Radon in natural and artificial environments Horváth Ákos
6 credits, theory, optional, no repetition

KÖR-2/22 Bio-geochemical models Grosz Balázs Péter
6 credits, theory, optional, no repetition

KÖR-2/23 Soil organic matter research Szalai Zoltán
6 credits, theory, optional, no repetition

KÖR-2/25 Environmental sociology Izsák Éva
6 credits, theory, optional, no repetition

KÖR-2/26 Physics of environmental flows Jánosi Imre
6 credits, theory, optional, no repetition

KÖR-2/28 Grasslands ecology Kalapos Tibor
6 credits, theory, optional, no repetition

KÖR-2/34 Hydrobiology Török Júlia
6 credits, theory, optional, no repetition

KÖR-2/36 Geostatistical analysis in environmental science
Kovács József and Hatvani István Gábor
6 credits, theory, optional, no repetition

KÖR-2/39 Hydrogeology of karst systems Mádlné Szőnyi Judit
6 credits, theory, optional, no repetition

KÖR-2/40 Basic microbiological processes for environmental protection Márialigeti Károly
6 credits, theory, optional, no repetition

KÖR-2/42 Modelling of deposition of trace gases Mészáros Róbert

6 credits, theory, optional, no repetition
 KÖR-2/45 Atmospheric aerosols and environmental impacts Salma Imre
 6 credits, theory, optional, no repetition
 KÖR-2/47 Sustainable energy management Munkácsy Béla
 6 credits, theory, optional, no repetition
 KÖR-2/52 Cycling of elements Szabó Csaba
 6 credits, theory, optional, no repetition
 KÖR-2/55 How to measure size and shape of nano- and micro size particles? Szalai Zoltán
 6 credits, theory, optional, no repetition
 KÖR-2/56 Pedogenesis Szalai Zoltán
 6 credits, theory, optional, no repetition
 KÖR-2/57 Introduction to digital surface modelling Székely Balázs
 6 credits, theory, optional, no repetition
 KÖR-2/61 Scale dependent atmospheric dispersion models Weidinger Tamás
 6 credits, theory, optional, no repetition
 KÖR-2/63 Environmental analysis Záray Gyula
 6 credits, theory, optional, no repetition
 KÖR-2/65 Thermal waters and geothermal energy Mádlné Szőnyi Judit
 6 credits, theory, optional, no repetition
 KÖR-2/66 Introduction to Prokaryotic taxonomy Tóth Erika and Vajna Balázs
 6 credits, theory, optional, no repetition
 KÖR-2/72 Groundwater flow systems in sedimentary basins Mádlné Szőnyi Judit
 6 credits, theory, optional, no repetition
 KÖR-2/73 Generation of air pollution in combustion systems Turányi Tamás
 6 credits, theory, optional, no repetition
 KÖR-2/75 Hyphenated techniques for element speciation Mihucz Viktor
 6 credits, theory, optional, no repetition
 KÖR-2/76 Advanced Separation Science Eke Zsuzsanna
 6 credits, theory, optional, no repetition
 KÖR-2/77 Methods of multivariate data analysis 1. Héberger Károly
 6 credits, theory, optional, no repetition
 KÖR-2/78 The global carbon cycle Barcza Zoltán
 6 credits, theory, optional, no repetition
 KÖR-2/82 Radiobiology and environmental radiohygiene Turai István
 6 credits, theory, optional, no repetition
 KÖR-2/83 Soil microbiology Borsodi Andrea and Szili Kovács Tibor
 6 credits, theory, optional, no repetition
 KÖR-2/84 Environmental health Vargha Márta
 6 credits, theory, optional, no repetition
 KÖR-2/89 International conventions on environmental protection and nature conservation
 Faragó Tibor
 6 credits, theory, optional, no repetition
 KÖR-2/90 Soil protection measurements on the field
 Jakab Gergely / Farsang Andrea (SZTE) / Barta Károly (SZTE) / Centeri Csaba (SZIE)
 6 credits, theory, optional, no repetition
 KÖR-2/91 Environmental science and policy related international cooperation: its
 development, organisations, fora, programmes and agreements Faragó Tibor
 6 credits, theory, optional, no repetition
 KÖR-2/93 ~~SEK~~ Atmospheric icing of structures Kollár László
 6 credits, theory, optional, no repetition
 KÖR-2/94 Human biology and environmental science Tóth Gábor Antal

6 credits, theory, optional, no repetition
 KÖR-2/95 Introduction to light pollution studies Kolláth Zoltán
 6 credits, theory, optional, no repetition
 KÖR-2/96 Radiation transfer in Earth's atmosphere Kolláth Zoltán
 6 credits, theory, optional, no repetition
 KÖR-2/100 Survival kit for scientific life Torma Csaba Zsolt
 6 credits, theory, optional, no repetition
 KÖR-2/101 New approaches to urban studies Berki Márton
 6 credits, theory, optional, no repetition
 KÖR-2/102 Methods of applied statistics Keszei Ernő
 6 credits, theory, optional, no repetition
 KÖR-2/103 Modern reaction kinetics Keszei Ernő
 6 credits, theory, optional, no repetition
 KÖR-2/104 Introduction to Separation Sciences Zsigrainé Vasánits Anikó
 6 credits, theory, optional, no repetition
 KÖR-2/105 Basics of reaction kinetics Túri László
 6 credits, theory, optional, no repetition
 KÖR-2/106 Chemometrics Tóth Gergely
 6 credits, theory, optional, no repetition
 KÖR-2/107 Theory of NMR techniques Rohonczy János
 6 credits, theory, optional, no repetition
 KÖR-2/108 NMR spectroscopy of solids and solutions Rohonczy János
 6 credits, theory, optional, no repetition
 KÖR-2/109 Methods of multivariate data analysis 2. Héberger Károly
 6 credits, theory, optional, no repetition
 KÖR-2/110 Karst hydrogeology Kovács Attila
 6 credits, theory, optional, no repetition
 KÖR-2/113 European regional climate modelling practices:
 EURO-CORDEX and Med-CORDEX Torma Csaba Zsolt
 6 credits, theory, optional, no repetition
 KÖR-2/115 Exploration and utilization of geothermal energy László Lenkey
 6 credits, theory, optional, no repetition
 KÖR-2/116 New approaches to cultural geography Berki Márton
 6 credits, theory, optional, no repetition
 KÖR-2/120 Theoretical and practical solutions of environmental technologies
 Kardos Levente
 6 credits, theory, optional, no repetition
 KÖR-2/121 Global and regional climate scenarios Pongrácz Rita
 6 credits, theory, optional, no repetition
 KÖR-2/122 Trends in modern ecology Herczeg Gábor, Szentesi Árpád, Török János
 6 credits, theory, optional, no repetition
 KÖR-2/123 Raman spectroscopy and its applications to environmental science Vácz Tamás
 6 credits, theory, optional, no repetition
 KÖR-2/124 Genetic dissection of beneficial interactions between legumes and arbuscular
 mycorrhiza fungi and nitrogen-fixing rhizobia Kaló Péter
 6 credits, theory, optional, no repetition
 KÖR-2/125 Plant-fungi interactions Barna Balázs
 6 credits, theory, optional, no repetition
 KÖR-2/-201 Special topics in environmental science I.
 6 credits, theory, optional, no repetition
 KÖR-2/202 Special topics in environmental science II.

- 6 credits, theory, optional, no repetition
 KÖR-2/203 Special topics in environmental science III.
 6 credits, theory, optional, no repetition
 KÖR-2/-204 Special topics in environmental science IV.
 6 credits, theory, optional, no repetition
 KÖR-2/205 Special topics in environmental science V.
 6 credits, theory, optional, no repetition
 KÖR-2/206 Special topics in environmental science VI.
 6 credits, theory, optional, no repetition
 KÖR-2/-207 Special topics in environmental science VII.
 6 credits, theory, optional, no repetition
 KÖR-2/208 Special topics in environmental science VIII.
 6 credits, theory, optional, no repetition
 KÖR-2/209 Special topics in environmental science IX.
 6 credits, theory, optional, no repetition
 KÖR-2/-210 Special topics in environmental science X.
 6 credits, theory, optional, no repetition
 KÖR-2/211 Special topics in environmental science XI.
 6 credits, theory, optional, no repetition
 KÖR-2/212 Special topics in environmental science XII.
 6 credits, theory, optional, no repetition

KÖR/RK-KV Part-time Training / Credit Transfer

Credits can be obtained by part-time doctoral training in other domestic or foreign institutions. The training program of part-time work, based on a proposal by the supervisor and program director, must be approved by the Council of the Doctoral School.

KÖR/ET Accounting Previous Performance

The Council of the Doctoral School, based on a proposal by the supervisor and program director, can recognize by credits previous studies and/or research fitting into the training program.

The total number of credits obtained during the training period by credit transfer, part-time training, or by previous performance cannot be more than 50 % of the demanded academic credits.

Teaching activity: KÖR-2/OKT

6 credits maximum during the first 4 semesters, practice, optional, repeatable

Publication: KÖR-2/PUB

Papers in international refereed journal

6 credits/paper

Papers in foreign language in Hungarian journals , foreign language book chapter

4 credits/paper

Papers in Hungarian

2 credits/paper

Abstract, poster presentations

1 credit/abstract or poster

Research Module:

KÖR-2/KUT Supervised research

30 hours of student activities (learning, research, teaching and others) = 1 credit point
optional, repeatable

Acquisition of skills for scientific research, active participation in research
24 Hours/week.

Evaluation and control

Fulfilments of requirements of a given course is evaluated and recorded in the transcript by the lecturer on a five-point scale (1-2-3-4-5, 1: failed 5: excellent).

Research activities are evaluated and recorded in the transcript by the supervisor on a three-point scale (excellent – acceptable - failed).

Credits are approved by the program directors.