University of Nova Gorica (UNG) School of Environmental Sciences

Info Days for Bachelors and Masters Programs

15th February 2021

UNG Locations:

1 – Nova Gorica
2 – Vipava
3 - Ajdovščina

Student Accommodation

Student accommodation available in Nova Gorica, Vipava, Ajdovščina, Postojna

Accommodation also available in the Lanthieri Castle in Vipava (the location of the School of Environmental Sciences)

For more information, contact the Student Office at UNG: studentska.pisarna@ung.si

UNG – International Rankings

RUR – Round University Ranking 2020: UNG ranked 201st in the world

RUR
ROUND
UNIVERSITY
RANKING

"We have found a small, young, active and enthusiastic university with happy and satisfied students."

The statement of the evaluation committee of the European University Association, 2015

UNG – International Rankings

The excellence of UNG was recognized in the evaluation process.

"In terms of the impact of their research output measured by the impact factors of the journals in which they publish, the Weizmann Institute of Science in Israel and the **University of Nova Gorica in Slovenia stand out especially**. **They are followed by Oxford and Cambridge.** Four institutions stand out for their strong performances in terms of scientific impact, as they are always **among the top five according to the three citation-based impact measures: the University of Nova Gorica**, the University of Oxford, École polytechnique fédérale de Lausanne (EPFL) and ETH Zurich."

Pros of Studying at UNG

- Individualized approach, small study groups
- Interdisciplinary programs with mandatory practicums
- Students are involved in research and projects early on
- International student exchange programs
- High graduate employment rate

  (93 % are employed within a year after graduation – data from the Career Development Center at UNG, jan. 2021)

Pros of Studying at UNG

University of Nova Gorica: European Talent Support Network

ETSN | European Talent Support Network

UNG is a research-intensive university

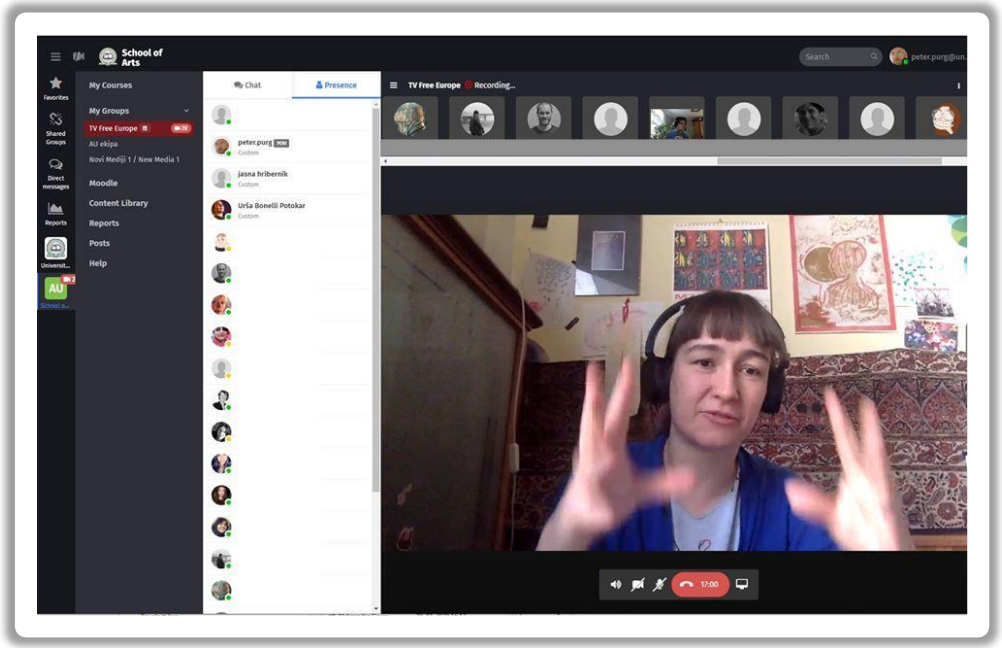
Approx. 200 employees, half of them hold a doctoral degree

Student-to-Employees with PhD ratio is 5:1

30 hour prep course in September (Physics, Math, Chemistry)

Athletes-friendly university

E-support, Distance Learning



- **Distance learning: The MiTeam platform**
- **Additional support: virtual classrooms, recorded lectures, online one-on-one sessions, option for remote performance evaluation, remote thesis defense**

COVID-19 adaptation of the learning process in 2020/21:
Uninterrupted learning process, hybrid or distance learning methods

*All students unable to be physically present at UNG due to health, administrative (visa), accommodation or other circumstances can attend lectures and seminars remotely. Info: studentska.pisarna@ung.si

School of Environmental Sciences
Vipava, The Lanthieri Castle

Laboratories in Vipava, The Lanthieri Castle

School of Environmental Sciences

- Environment: the only university program of its kind in Slovenia
- Environment (1st level) : theoretical and practical basic training, environmental processes, human impact, methods of environment protection
- Qualification title: diplomirani okoljski tehnolog (UN) (equivalent to Bachelor in Environmental Technology)
- Environment (2nd level): specialization (wide range of content and seminars available)
- Qualification title: magister okoljskih ved (equivalent to Master of Science in Environment)

Graduate School (PhD Programs)

- Environmental Sciences (3rd Level)

School of Environmental Sciences

Bachelor's programme in Environment (1st level)

A double degree option with the University of Bihać (BIH)

Study programme Environment is an interdisciplinary Bachelor's program. It covers all important subjects of natural, technical and social sciences that are related to the problems in the environment, for example soil, water and air pollution, measurements in the environment, ecotoxicology, environmental health, waste management, nature protection, environmental policy, environmental impact assessment, environmental economics, environmental law and communication.

More info: http://www.ung.si/en/study/school-of-environmental-sciences/

Admission Requirements

- "Splošna matura" (or any four-year high school program completed prior to 1st June 1995)
- "Poklicna matura" (high school programs in the sciences, mathematics, engineering, production technology and construction, fisheries, agriculture, forestry, veterinary science, health care and social security) and an additional examination in one of the "matura" subjects
- No entrance examination

More info: studentska.pisarna@ung.si

Applications Deadlines for the 2021/22 Academic Year

Bachelors Programs

EU citizens	Slovenes without the Slovene nationality and foreign nationals of non-EU countries
Application cycle 1: 16. 2. – 19. 3. 2021 Application cycle 2: 20. – 27. 8. 2021 Seats to be filled between 23.9. and 24. 9. 2021 12 PM CET	Application cycle 1: 16. 2. – 30. 3. 2021 Application cycle 2: 1. 5. – 1. 7. 2021 Application cycle 3: 1. 8. – 1. 9. 2021 Seats to be filled between 10. 9. and 24. 9. 2021 12 PM CET

- **Applications to be submitted through an online system "eVŠ"**

More info: studentska.pisarna@ung.si

Courses – 1st year

BASIC COURSES
- Biology
- Physics
- Chemistry
- Mathematics

ENVIRONMENTAL COURSES
- Environment and Society
- Environment information systems and GIS
- The fundamentals of Environmental Science

- Statistics
- Introduction to Group Project Work

Courses – 2nd year

COMPULSORY COURSES

- Biochemistry
- Ecology
- Geology
- Hydrology
- Meteorology
- Instrumental Methods of Analysis
- Environmental Microbiology and Bioremediation
- The atmosphere: gases, aerosols and climate change

Group project

SPECIALIZED ELECTIVE SUBJECTS (applicative)

- Biotechnology and Environment
- Environmentally Friendly Technologies
- The Fundamentals of Environmental Engineering

SPECIALIZED ELECTIVE SUBJECTS (general)

- Ecophysiology
- Environmental Chemistry
- Environmental Policy

Courses – 3rd year

COMPULSORY COURSES

- Environmental Economics
- Environmental Management
- Environmental Monitoring
- Measurement and improvement of air quality
- Modelling
- Nature Protection
- Waste Treatment and Management
- Water and Wastewater Technology

Practical Placement

Diploma Seminar

Electives – 2nd and 3rd year

- Basic Karstology
- Ecotoxicology
- Green Chemistry
- Health Ecology
- Land Ecosystems
- Limnology
- Marine Ecology
- Technologies of Biomass Exploitation
- Conservation Biology and Biogeography
- Ecology of Groundwater
- Environment and Agriculture
- Environmental Impact Assessment
- Programming for process control
- Radioactivity and Radiation Protection
- Toxicology and Cancerogenesis

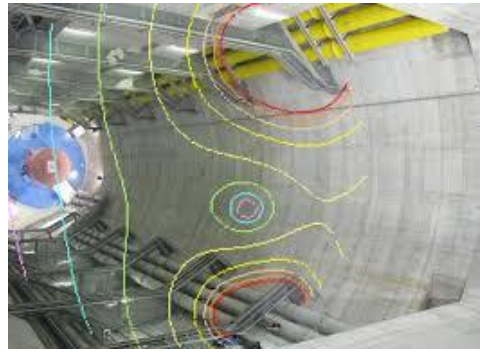
2nd year: 4 Elective courses (12 ECTS)
3rd year: 3 Elective courses (9 ECTS)

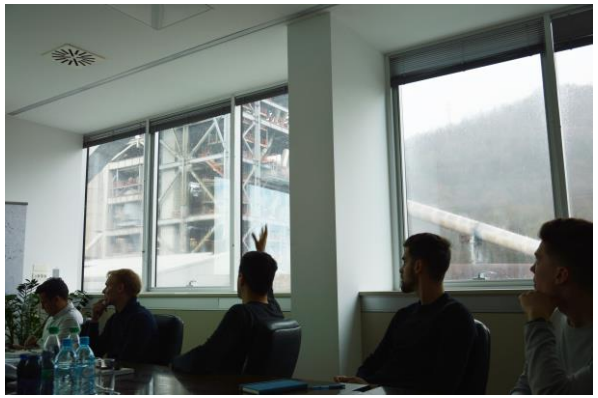
Field Work

Determining the presence of plastics and organic pollutants in water, water quality control …

Intro to Modern Technology

- Hydroelectric power plants (Soške Elektrarne)
- Waste processing (CERO Dolga Poljana)
- Avče Pumped Storage Plant
- Water plant Hubelj
- Wastewater treatment plants
- Energetski poligon Velenje
- Nuclear Power Plant Krško
- Cement Factory Anhovo





Group Projects

The students gain valuable experience in scientific research, laboratory and field work by working on group projects that are part of the curriculum in all three years. They learn to formulate a scientific problem, survey the literature, compile a report, and present their results in written and oral forms.

Examples:

- ✓ Efficient degradation of organic pollutants by photocatalysis
- ✓ The influence of pyrotechnics on air quality
- ✓ Emerging Ecosystems in the Karst biosphere region
- ✓ Objective and perceived environmental quality in the towns of Zenica and Maribor
- ✓ Identification of environmental stress conditions by comparative analysis of peroxidase activity in Vipava and Ljubljana

Internships and the Bachelors Seminar

The students undertake internships in various companies and organizations, and share their experience among each other in a seminar course.

Examples:

- ✓ Establishing ideal conditions for the maintenance of spontaneous Karst plants in the Carsiana Botanical Garden
- ✓ Carniola, d. o. o. – the life of Slovene forests
- ✓ Reducing the carbon footprint at Porsche Inter Auto

School of Environmental Sciences

Master's study programme Environment (2nd level)

The master study programme is distinctly interdisciplinary and research-oriented. The most important fields of Environmental Sciences are covered by the programme, such as water, air and soil pollution; measuring techniques for identification and control of pollution; waste treatment and consequences of its disposal; chemical, physical, biological, health effects of pollution; legislative, economical and managing aspects of environmental protection.

English and Slovene are languages of instruction.

More info: http://www.ung.si/en/study/school-of-environmental-sciences/

Admission Requirements

- Bachelors degree with a minimum of 180 ECTS (or an undergraduate degree in a program approved before 11th June 2004) in the fields of the sciences, biotechnology, or engineering

- If the requirements are not met, a petition must be submitted to the Study Committee of the School
  - The committee may assign additional coursework
  - If the committee assign coursework in excess of 30 ECTS, those must be completed prior to enrolment in the program
  - If the committee assigns coursework of 30 ECTS or less, those must be completed prior to entering the second year of the program

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Applications Deadlines for the 2021/22 Academic Year

Masters and PhD Programs

All Applicants

Application cycle 1: 16. 2. – 30. 3. 2021
Application cycle 2: 1. 4. – 1. 7. 2021
Application cycle 3: 1. 8. – 1. 9. 2021

Seats to be filled between 10. 9. and 24. 9. 2021 12 PM CET

- **Applications to be submitted through an online system “eVŠ”**

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Courses

1st year
COMPULSORY COURSES
- Instrumental Techniques in Environment
- Transport and fate of pollutants in the environment

Individual Project I

2nd year
COMPULSORY COURSES
- Social and legal aspects of the environment
- Soft skills for career development

Individual Project II

Masters Thesis

1st year: 4 Specialised elective courses (32 ECTS)
1 Elective course (6 ECTS)
2nd year: 3 Elective courses (18 ECTS)

Specialized Elective Courses – 1st Year

- Environmental Epidemiology
- Environmental Impact Assessment
- Strategies and Technologies for Reducing Atmospheric Pollution
- Strategies and Technologies for Reducing Water Pollution
- Strategies and Technologies for Waste Treatment
- Systems ecology

Elective Courses – 1st and 2nd Year

- Geographic information systems
- Environmental Trace Element Cycling
- Methods of Biostatistical Analysis
- Nonionizing Radiation and Health Risks
- Ecological Data Analysis with Machine Learning Methods
- Oceanography and Protection of Coastal Seas
- Shallow Subterranean Habitats: Ecology, Evolution, and Conservation
- Optimization procedures in environmental protection
- Radiation Biology and Biophysics
- Remote Sensing of Environmental Pollution
- Biomonitoring
- Geochemistry
- Radioecology
- Cancer and Environment
- Colloid Chemistry in the Environment
- Karstology and Development Challenges
- Geographic information systems
- Process simulation and control

An Independent Project

Students develop the following skills:

- Ability to analyze a problem
- Design and planning of projects
- Execution of projects
- Data analysis

Examples:

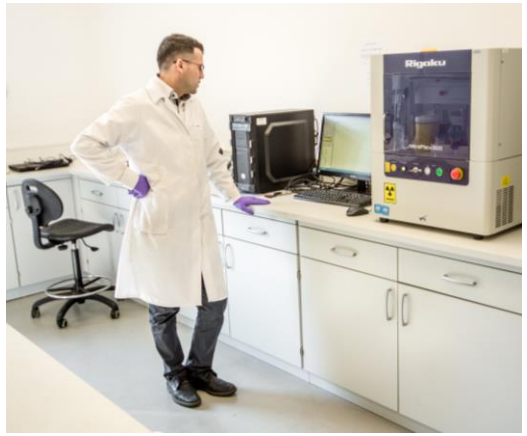
- ✓ The economics of biofuel and bioplastics production from industrial hemp
- ✓ The economics of waste vaporization
- ✓ Fostering pro-environmental behavior with the help of environmental sciences
- ✓ The zooplankton dynamics in Lake Bled
- ✓ The dynamics of benthos of two alpine lakes in the Julian Alps
- ✓ The influence of truck traffic on local pollution and potential improvements by road system modifications
- ✓ The development of an electrochemical device prototype
- ✓ Combined sewage sludge and micro- or nanoplastic toxic effects evaluation on plants at physiological level
- ✓ The design of a high-throughput platform for basic toxicologic analysis of environmental samples
- ✓ Recycling of grape skins: the influence of fermented grape skins on soil microorganisms

Laboratory for Environmental and Life Sciences Nova Gorica, Rožna dolina

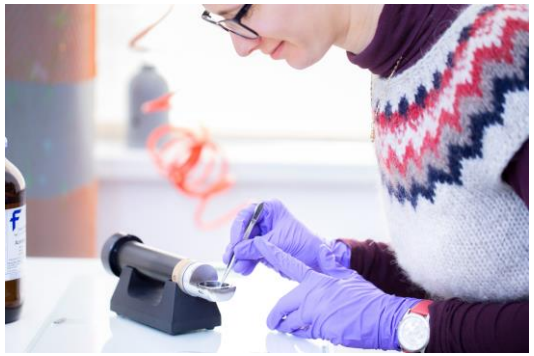
- Laser analysis methods
- Organic substances in the environment: monitoring, conversion
- Materials for photocatalysis and environmental applications
- Molecular biology and biotechnology

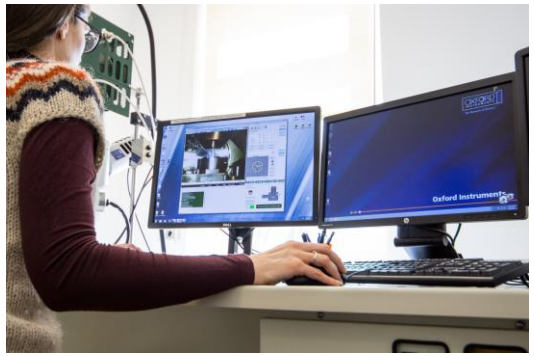
More info: http://www.ung.si/en/research/laboratory-for-environmental-and-life-sciences/

Materials Research Laboratory Ajdovščina



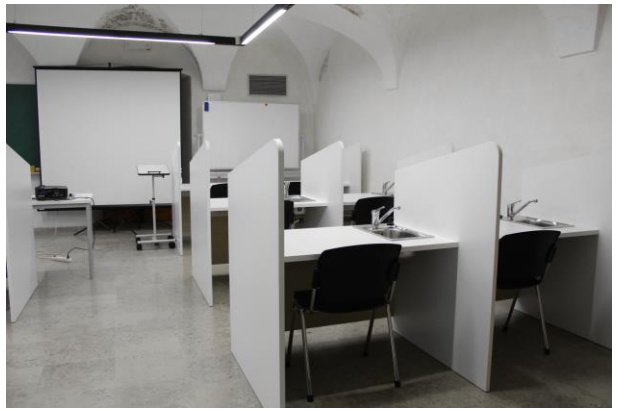
- Synthesis and crystal chemistry
- Functional material
- Materials and processes for catalysis and photocatalysis
- Surface science
- Grid energy storage
- Theoretical and computational chemistry





More info: http://www.ung.si/en/research/materials-research-laboratory/

Wine Research Centre Vipava



- Quality control of various plant-based samples
- Optimization of viticultural and wine technologies
- Grape and yeast metabolomics
- Microbiology of vine, grapes, wine, fruits
- Molecular biology of yeast

More info: http://www.ung.si/en/research/wine-research-centre/

Labs outside of UNG

National Institute of Biology (NIB)

- Department of Organisms and Ecosystems Research (prof. dr. Anton Brancelj)
- The Marine Biology Station Piran (prof. dr. Valentina Turk)

The National Institute of Chemistry (KI)

- Department of Polymer Chemistry and Technology (pridr. prof. dr. Andrej Kržan)

The "Jožef Stefan" Institute (IJS)

- Environmental Science - O2 (prof. dr. Janez Ščančar, prof. dr. Janja Vaupotič, prof. dr. Radmila Milačič)

ZRC SAZU

- The Karst Research Institute (izr. prof. dr. Tanja Pipan)

Student Mobility

Dual Bachelors degree option with the University of Bihać (BiH)

More info: http://www.ung.si/sl/studij/fakulteta-za-znanosti-o-okolju/dvojna-diploma/

Erasmus+ interinstitutional agreements with the School

Avstria
Universität Wien

Czech Republic
VŠB-Technical University of Ostrava

Estonia
Tallinn University

Greece
Technical University of Crete
University of Patras

Croatia
University of Zagreb, Faculty of Chemical Engineering and Technology
University of Zagreb, Faculty of Geotechnical Engineering

Erasmus+

Student Mobility

Erasmus+ Interinstitutional agreements with the School

Italy
Ca' Foscari University of Venice
Politecnico di Bari
University of Padova

Latvia
University of Latvia

Germany
Goethe University

Norway
Hedmark University College

Portugal
Universidade de Trás-os-Montes e Alto Douro

Romania
University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca
Transylvania University of Braşov

Serbia
Singidunum University
University of Niš
University of Novi Sad

Spain
Universidad de Las Palmas de Gran Canaria

Turkey
Ankara University

More info: http://www.ung.si/en/international-project-office/mobility/

Completed Projects with Student Participation

- ✓ Publication of an educational ecological story Bistra's Adventures - student environmental project “Raising environmental awareness in children though exposure to nature“
- ✓ The possibility of utilizing a by-product of the cement industry with a high salt content (with Salonit Anhovo)
- ✓ Preparation of a modern packaging concept for Intra lighting products
- ✓ Biodiversity and Natura 2000 in the Logarska dolina Landscape Park
- ✓ UV stability, mechanical and surface properties of selected materials in the production system of TKK Srpenica
- ✓ Lichen map of the Škocjan Caves Park, Slovenia (in cooperation with the Škocjan Caves Park)
- ✓ Mycotoxins and their instrumental analysis (in collaboration with Mlinotest)
- ✓ Modeling of electricity consumption forecast
- ✓ eBook - study materials for the Moodle tool for mobile applications

Student Achievements

Tine Bizjak, Urban Česnik, Tamara Gajšt, Tjaša Grivec and Urša Pipan published their research work about microplastics in the Slovene sea with their mentors, doc. dr. Andrej Kržan and Andrej Palatinus, univ. dipl. ekol., in *Marine Pollution Bulletin* (2018)

Tanja Batkovič co-authored a paper Exposure to Black Carbon during Bicycle Commuting–Alternative Route Selection in *Atmoshpere* (2017)

Dušan Alašević and his mentor dr. Romino Rodela published a paper Interdisciplinary engagement across the Slovene research community in *Science of the Total Environment* (2016)

Nana Ivana Hrastnik published a paper Combination therapy in the management of giardiasis: what laboratory and clinical studies tell us in *Acta Tropica* (2016)

Nina Kobal, the finalist for the Saubermacher environment prize (2013) for her Bachelors thesis: Analiza učinkovitosti ravnanja z odpadki iz zdravstvene dejavnosti v UKC Ljubljana

Tina Kocjan, the Nahtigale award for a research project Energy-efficient external lighting

Anja Soklič, the first author of a paper Deposition and possible influence of a self-cleaning thin TiO_2-SiO_2 film on a PV module efficiency published in *Catalysis Today* (2015)

Ivana Kacafura, received an award for the best energy concept in the category of small businesses at the conference of European Energy Managers (2015)

Sara Spačal, the winner of the business competition POPRI 2014 in the undergraduate student category

Who are our graduates?

The objective of the program is to educate experts with interdisciplinary knowledge, who are able to understand and perform demanding tasks in environment, which are on the intersections of natural and technical as well as social and economic sciences. A master of environmental sciences is expected to successfully investigate, analyze and link relationships between various phenomena in environment, society, technology and economy. This is demanded for the assurance of sustainable development. Graduates of this program should also be capable of establishing creative relationships between experts from different scientific fields, who must cooperate in solving problems in the environment.

High graduate employment rate

(93 % are employed within a year after graduation – data from the Career Development Center at UNG, jan. 2021)

Graduate Placements

Industry

technologist and analyst at **Krka**; company **Uren**, efficient use of energy, **Hidria, Rotomatika** (laboratory work, wastewater treatment plants), **Trbovlje** thermal power plant, nuclear power plant in **Krško** (engineering), expert associate in the field of ecology in **KIV** Vransko, ecologist in **Salonit Anhovo**, in the company **Letrika**, **Phenolit**, **SolChem**, international company **Veolia** (wastewater treatment), developer in the cleaning company **Kimi**

Service

waste technologist at **Saubermacher Slovenia**, ecologist at the **Hydraulic Engineering Bureau** (a company for consulting, design and manufacture of devices for chemical water treatment and wastewater treatment), head of collection centers at **Komunala Nova Gorica**, **Koper Health Care Institute**, **Atlas Trading** (installation of energy efficient heating and cooling systems), **RACI** energy and ecological engineering

Government

Ecologist and consultant in the Velenje, Log, and Ajdovščina municipalities, customs office in Nova Gorica

Research and Development

Upper Gorenjska **Development Agency**, RDA Zeleni kras, **Bia Separations** (researcher, technologist), PhD students at various universities and institutes, **Institute of Ecological Engineering** Maribor, **Institute of Chemistry**, project manager at **Golea**, work on environmental projects in the **Notranjska Regional Park**

High graduate employment rate

(93 % are employed within a year after graduation – data from the Career Development Center at UNG, jan. 2021)

Questions about the admissions, accommodation and the learning process

Secretariat of the School

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