NICOLAUS COPERNICUS
UNIVERSITY
IN TORUŃ
Faculty of Earth Sciences
and Spatial Management

geo.umk.pl



Earth
the everlasting inspiration







Contents

About us - 3

History - 4

Authorities - 5

Structure of the Faculty - 6

NCU Polar Station - 7

Scientific Centers of the Faculty - 8

Scientific research - 9

Scientific journals - 10

Cooperation with the economic environment - 11

Educational offer - 15

Student placements and internships - 20

Erasmus+ - 21

Tourist Summer Camps - 21

Student Scientific Circles - 22

There's more than just studying and working... - 23



About us



The Faculty of Earth Sciences and Spatial Management was established in 2012 by transformation of the Nicolaus Copernicus University's Department of Geography. Our Faculty is one of the best geography units in Poland, which was recognised by the awarded of Grade A in the field of Earth sciences by the Committee for Evaluation of Scientific Research Institutions in 2017. The Faculty has achieved such a high rank thanks to its academic staff and their scientific, organisational and educational accomplishments. The Faculty is fully authorised to confer doctoral degrees (PhD, habilitation). The Faculty facilitates interdisciplinary research in physical geography, human geography, geographic information science and cartography, geology, ecology and environmental protection, spatial management, tourism, sports and recreation. It is conducted in diverse spatial scales – from global problems to national and local issues, particularly vital for the Kujawsko-Pomorskie province. The Faculty operates its own Meteorological Observatory in Toruń, the Integrated Environmental Monitoring Station in the Chelmno Lakeland and the NCU Polar Station on Spitsbergen in the Arctic. The Faculty's employees and doctoral students actively participate in the implementation of the Excellence Initiative - Research University program.

Studies offered by the Faculty comprise two levels of higher education: first-cycle (undergraduate) programmes (geography, tourism and recreation), including an engineer programme (spatial development), second-cycle (Master's degree) programmes (geography, geographic environmental information, tourism and recreation, spatial development and geomanagement). The Faculty is open to young people willing to develop and pursue their passions. There is an active student government and a number of student scientific associations. The Faculty collaborates with foreign universities and our students can study in European countries and in China within the framework of the Erasmus+ Programme and in cooperation with the YUFE (Young Universities for the Future of Europe) consortium. Students are offered a range of extra activities to enhance their qualifications and various student placements/internships in Poland and abroad (as part of the PO-WER programme). The students at the Faculty come from a number of European countries (Erasmus+). Addressing the needs and expectations of the community, the Faculty has incorporated the idea of Life Long Learning (LLL) and offers courses for various age groups, from schoolchildren to postgraduates.

We are open to cooperation with institutions and businesses. We offer a wide range of research opportunities, the use of state-of-the-art equipment and participation in joint research projects with our experienced academic staff.

Please have a closer look into our offer.

Marek Kejna

Dean

dr hab. Marek Kejna, prof. UMK

History

The Faculty of Earth Sciences and Spatial Management of the Nicolaus Copernicus University (NCU) in Toruń upholds the rich traditions of the Stefan Batory University's geography and geology centre in Vilnius. It were professors from that university, later joined by academics from other Polish higher education institutions, who laid the foundation for earth sciences at the newly-established university in Toruń.

Early days of the earth sciences at NCU

The Department of Geography was the first geography unit of the NCU, set up as a section of the Faculty of Mathematics and Science on the 1st of October, 1945. Dr. Mieczysław Limanowski, a former professor of the Stefan Batory University (SBU) in Vilnius, was the first Chair of the department. At the same time, the Department of Geology was established and chaired by Dr. Edward Passendorfer, also a former SBU professor. The formation of the two departments enabled the university to launch its first geography courses in the autumn of 1945. At the end of 1945, the Department of Anthropogeography was formed as part of the Faculty of Humanities, and chaired by Professor Maria Kiełczewska-Zaleska. On the 1st of October 1950, the unit was assigned to the Faculty of Mathematics and Science as the Third Department of Geography. In the middle of 1946, Professor Rajmund Galon took over the original Department of Geography (later renamed the Department of Physical Geography). In 1947, the Department of Meteorology and Climatology was established with Professor Władysław Gorczyński as the Chair. The departments of geology, physical geography, anthropogeography, and meteorology and climatology all laid the groundwork for the future centre of earth sciences in Toruń.

Departments of Geography and Geology of the Faculty of Biology and Earth Sciences

On the 1st of September 1951, the Faculty of Mathematics and Science was reorganised, giving rise to the Faculty of Biology and Earth Sciences, which comprised the new Complex of Geography Departments.

The Institute of Geography of the Faculty of Biology and Earth Sciences

By order of the Minister of Education on the 1st of December 1969, the Institute of Geography was established as a separate unit of the NCU's Faculty of Biology and Earth Sciences. The Institute was comprised of the Complex of Geography Departments, as well as the Department of Geology and the Department of Petrography and Mineralogy. Professor Rajmund Galon was the first director of the Institute of Geogrpahy and held the position until 1975, followed by professors Władysław Niewiarowski (1975-1987), Zygmunt Churski (1987-1997), Jan Falkowski (1997-2002), Leon Andrzejewski (2003-2010) and Zbigniew Podgórski (2011-2012).



prof. dr hab. Rajmund Galon

The Faculty of Earth Sciences and Spatial Management

On the 29th of May 2012, the Rector of the Nicolaus Copernicus University approved a resolution to upgrade the status of the Institute of Geography transforming it into the new Faculty of Earth Sciences from the 1st of September 2012. It would become the 17th faculty of the university in Toruń. Professor Wojciech Wysota was appointed the first dean of the new faculty. In 2019, as a result of university reorganization, the faculty changed its name to The Faculty of Earth Sciences and Spatial Management.

Autorithies



Dean
dr hab. Marek Kejna, prof. NCU
phone +48 56 611 2585
+48 56 611 2619
marek.kejna@umk.pl



Deputy Dean for Education
dr hab. inż. Krzysztof Rogatka,
prof. NCU
phone +48 56 611 2560
krogatka@umk.pl



Deputy Dean for Students
dr hab. Marcin Świtoniak, prof. NCU
phone +48 56 611 2555
swit@umk.pl



Chair of the Scientific Discipline Board of Social and Economic Geography and Spatial Management and **Head of Postgraduate Studies**
dr hab. Elżbieta Grzelak-Kostulska, prof. NCU
phone +48 56 611 2604 grzelak@umk.pl



Chair of the Scientific Discipline Board of Earth and Related Environmental Sciences
dr hab. Piotr Hulisz, prof. NCU
phone. +48 56 611 2553
hulisz@umk.pl



Dean's Representative for Projects and Cooperation with Socio-Economic Environment
dr hab. Stefania Środa-Murawska, prof. NCU
phone +48 56 611 2559 steffi@umk.pl



Dean's Representative for Mobility
dr hab. Przemysław Charzyński, prof. NCU
phone +48 56 611 2625
pecha@umk.pl



Dean's Representative for PhD Students
dr hab. Edyta Kalińska-Nartiša, prof. NCU
phone +48 56 611 2581
edyta.kalinska@umk.pl



Dean's Representative for Student Internships
dr Barbara Szyda
phone +48 56 611 2569
bszyda@umk.pl



Dean's Representative for Student Internships
dr Marcin Sykuła
phone +48 56 611 2626
sykula@umk.pl

Structure of the Faculty



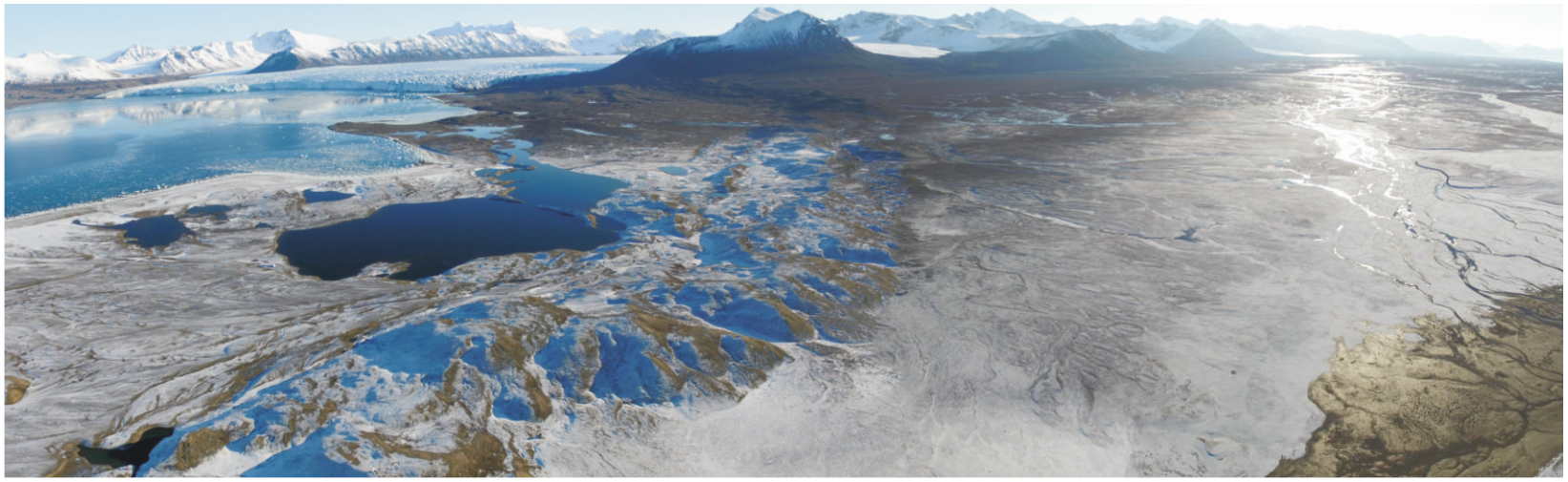
Departments:

Department of Geology and Hydrogeology
Department of Geomatics and Cartography
Department of Geomorphology and Quaternary Paleogeography
Department of Soil Science and Landscape Management
Department of Spatial Planning and Tourism
Department of Hydrology and Water Management
Department of Meteorology and Climatology
Department of Urban Studies and Regional Development
Department of Physical Culture

Other units:

Laboratory for Environmental Analysis
Nicolaus Copernicus University Polar Station on Spitsbergen
Meteorological Observatory in Toruń
Station of Integrated Environmental Monitoring in Koniczynka
Info-Publishing Unit
Polar Research Center
Polish-Chinese Center for Tourism Research

NCU Polar Station



Nicolaus Copernicus University Polar Station is one of the northernmost Polish research unit. It is located in the northern part of coastal plain called Kaffiøyra (Coffee Plain), on the northwestern Spitsbergen, the biggest island in the arctic archipelago Svalbard. NCU Polar Station provides facilities for the organization of Nicolaus Copernicus Polar Expeditions. So far there were orginized over fifty Expeditions. Members of them were scientist from both Polish and foreign research units, students, climbers, speleologists and divers. In base on Station we conduct research mainly in glaciology, hydrology, geomorphology and climatology.



Polish-Chinese Center for Tourism Research

The objective of the Center is to create favourable conditions for the development and promotion of tourism knowledge, as well as to develop partnerships between research centres in Poland and China, pursue joint research programmes and educational activities, including the development of student and staff mobility.



Polar Research Center

The Center has been established particularly to undertake scientific and research, educational and organisational activities related to Polar regions (the Arctic and the Antarctic) and glacierized areas, to liaise with national and international research centres and to create conditions for seeking participation in interdisciplinary research projects.



Both centres implement their objectives through lectures, talks, projections, meetings, grants, visits, projects, conferences and scientific publications.

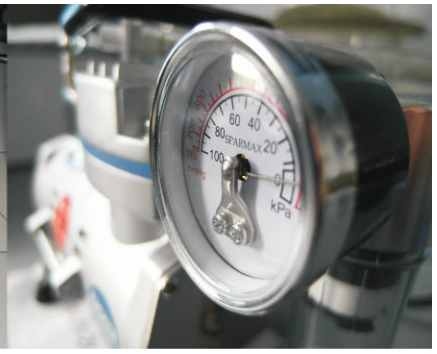
Scientific research

The Faculty of Earth Sciences and Spatial Management is high evaluated and the largest centre of geographic sciences in northern Poland. The high-class specialists employed in it represent various scientific disciplines within the area of natural sciences as well as architecture and urban planning, medicine, health and physical culture. The research staff of the Faculty are engaged in interdisciplinary research projects in the fields of **physical** and **socio-economic geography** in Poland and abroad, often pursued in collaboration with international partners.

The Faculty's scientific activities focus on the problems of the natural environment, its specific components, and human activity in geographical spaces. This includes, for example: the forms, phenomena and processes shaping the Earth's surface; hydrological problems; causes and effects of climate change; the application of modern geospatial technologies, including remote sensing data, to evaluate the condition of the environment; data sharing and publishing in multimedia atlases and cartographic studies; problems of landscaping; local government development planning; issues in renewable energy sources and the development of tourism economics, and studies of settlement units and the application of practical solutions to ensure their optimum development, including elements of population and demographic analysis. One of the key studies co-developed by the Faculty of Earth Sciences and Spatial Management is the Internet Atlas of Kujawsko-Pomorskie Province (a website and a web application).





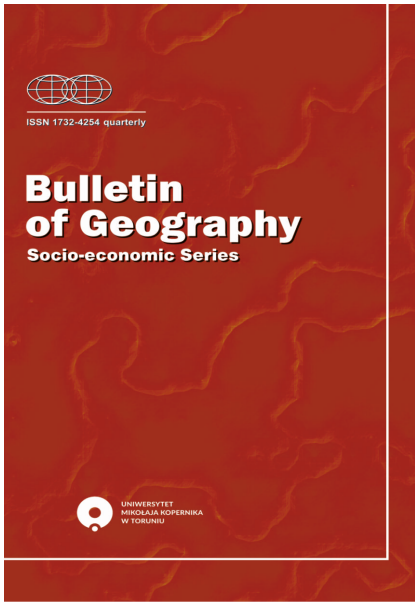






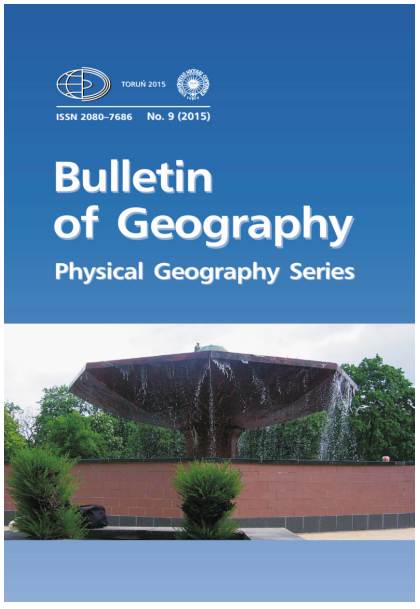
Scientific journals

Bulletin of Geography. Socio-economic Series* range from theoretical to empirical investigations dealing with issues of diverse spatial scales – local, regional, national, and international: human geography, demography, settlement geography, processes of urbanization and urban settlement systems, urban studies, spatial organization and territorial planning, regional policy, tourism and recreation, economic geography, trade geography, geography of services, political geography, human ecology, economics.



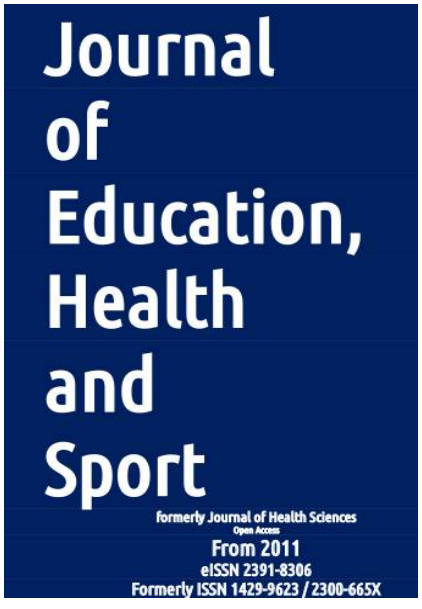
www.bulletinofgeography.umk.pl/

The main aim of **Bulletin of Geography. Physical Geography Series***, founded in 2009, is to present scientific findings in physical geography and related subjects. The journal covers the following fields/area: climatology, geomorphology, glaciology, hydrology, soil-science, biogeography and research methods in physical geography, with an emphasis on Poland, Europe, and polar regions.



www.bulletinofgeographybgps.umk.pl

Journal of Education, Health and Sport is a journal with an international reach, published in line with top standards applicable in scientific journals. Each issue contains original and review papers, and case reports of different medical specialties associated with the Education in Economy, Finances, Medicine, Biology, Physical Culture, Sport, Geography, Tourism.



https://apcz.umk.pl/JEHS

*These journals are included in the Scopus CiteScore Rank

Cooperation with the economic environment

The Faculty of Earth Sciences and Spatial Management has a sound research base of specialists in environmental and socio-economic sciences. The Faculty also offers opportunities for collaboration in such areas as:



Environmental Protection and Management

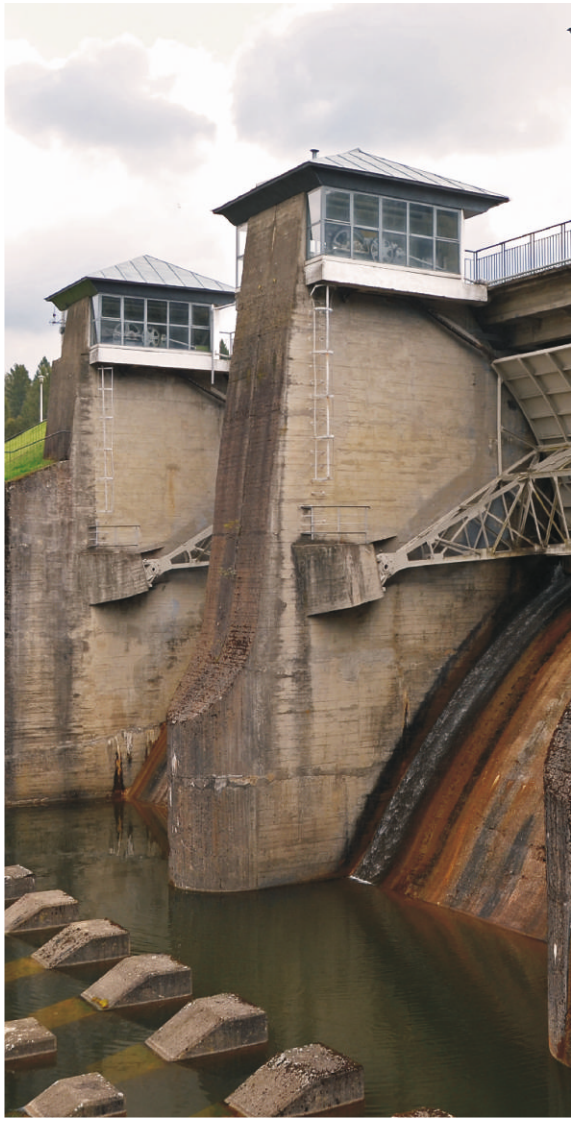
- Environmental analysis in the fields of geology, hydrology and geohazards;
- Comprehensive analysis of the natural environment based on archival data and current cartographic and remote sensing resources;
- Ecophysiographic, sozological, thematic geological and landscape studies, hydrogeological, geo-engineering, sozological and hydrographic mapping;
- Analysis of the environmental impact of industries (economy), reconstruction of natural and anthropogenic processes, noise level studies, sedimentological laboratory analysis;
- Expert reports on the effects of human activity on soil and soil remediation;
- Estimation of the value of use of agricultural and forest soils, laboratory analysis of the physical and chemical properties of soil and deposits;
- Expert reports on the management of organic waste;
- Water and wastewater management plans, water balance and water economy balance;
- Evaluation of catchment water resources; air flow modelling;
- Palynological studies, analysis of plant macroremains, sedimentological and physical and chemical analysis of deposits, sampling and analysis of biogenic deposits and cores with intact structure, sampling of bottom deposits from bodies of water.

Tourism Economics

- Market research and monitoring of tourist flows, tourism audits;
- Development of tourism product strategies;
- Valuation of natural and cultural spaces for tourism and recreation purposes, tourism development plans;
- Meteorological and bioclimatological observations and analysis;
- Development of marketing materials for tourism and recreation.



Cooperation with the economic environment



Spatial Management

- Development strategies, prospective analysis (demographic, studies of rural and infrastructural development), urban physiography, socio-economic and demographic analysis (demographic growth scenarios), economic analysis (e.g. the directions and shaping of specialised service markets), and functional and spatial analysis (e.g. studies of the correlations in public transport);
- Ex-post and ex-ante evaluation of projects financed with European funds;
- Spatial delimitations, location analysis and geosegmentation;
- Analysis of threats and valuation of investment spaces;
- Analysis of changes in land cover and use;
- Landscape auditing;
- Expert reports on transformation of urban and rural areas in the context of their regeneration.

Renewable Energy Sources

- Assessment of wind resources for the purpose of location of wind turbine generators; assessment of solar resources for PV and solar thermal energy systems;
- Renewable energy resources in social and economic development plans;
- Measurement of flow rates in water courses;
- Bathymetric surveys of reservoirs;
- Analysis and assessments in hydrology and water management;
- Examination of geothermal waters and their use in balneology and recreation.



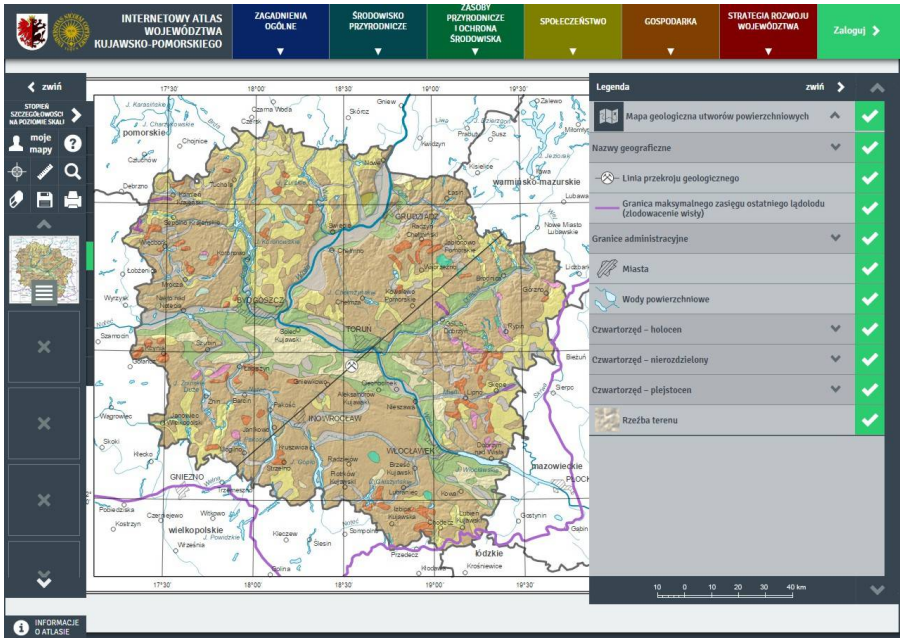
Cooperation with the economic environment

Geographic Information and GIS Implementations

- Acquisition – including by means of unmanned aerial vehicles (UAVs) – and processing of spatial data in Geographic Information System environments;
- GIS-standard development of the results of geological and hydrogeological surveys and data acquired from sozological mapping;
- Design of spatial databases for GIS;
- Analysis and 2D/3D visualisation of the spatial distribution of features and phenomena (e.g. analysis of changes in land cover and use, ecophysiographic studies, analysis of transport accessibility, medical geography analysis, analysis of digital elevation models, etc.);
- Development of 3D models in Google Sketch Up using a photogrammetric system;
- Geo-archaeological analysis (LiDAR detection of archaeological features, analysis of the morphometrics of archaeological structures, visualisation and reconstruction of cultural landscapes);
- Spatial analysis based on digital elevation data (LiDAR, DEM, DTED, SRTM, ASTER) – slope, exposure, visibility range, identification of catchment and runoff directions, changes in the level and resources of water reservoirs, detection of changes in surface features, analysis of potential washout erosion, multi-aspect interpretation of aerial photographs and satellite images.



Cooperation with the economic environment





Digital and Analogue Cartography

- Development and cartographic editing of analogue and digital maps and thematic layers for geoportals and interactive map systems;
- Geological cartography (e.g. a detailed geological map of Poland, hydrological maps of Poland in 1:50,000 scale, hydrogeological maps of the uppermost water-bearing stratum);
- Development of geomorphological, sozological, hydrographical, pedological maps, etc.;
- Digitisation, calibration and rectification of analogue material.

Social Economics and Medical Geography

- Analysis and expert studies of demographic growth, forecasting,
- Studies of morbidity and mortality, living standards and quality of life, social pathologies;
- Monitoring of pollen counts in the context of allergies.

GEOGRAPHY AND ENVIRONMENT MANAGEMENT
BSc

SPATIAL DEVELOPMENT
BSc (engineering studies)

TOURISM AND RECREATION
BSc, MSc

GEOGRAPHY
MSc

SPATIAL DEVELOPMENT AND GEOMANAGEMENT
MSc

ENVIRONMENTAL GEOINFORMATION
MSc



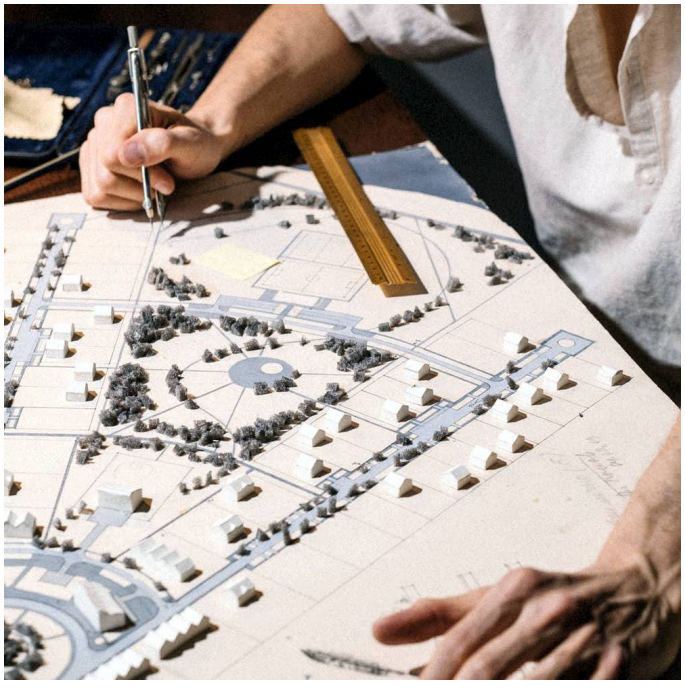
GEOGRAPHY AND ENVIRONMENT MANAGEMENT

Studies preparing for work as a geoanalyst at various levels of local and government administration and in state services responsible for e.g. crisis management and environmental protection and rational management of its resources, also for public opinion research. Graduates are well prepared to work in research institutions, domestic and foreign consulting companies preparing planning studies (e.g. environmental impact assessment of a planned investment, landscape audits), or in geomarketing studios (e.g. location studies) or in companies dealing with creating numerical thematic studies.

SPATIAL DEVELOPMENT

An interdisciplinary field, enabling students to gain knowledge and skills in the organisation of space in socio-economic development processes on the local and regional levels. The curriculum combines elements of technical (architecture, city planning, geodesy and cartography), natural (geography, geology, environmental protection) and social knowledge (law, economy, sociology, management and administration). Students learn to solve problems of sustainable development, and the shaping and managing of space. Graduates are awarded an engineer's degree.





TOURISM AND RECREATION

A course for energetic, active, resourceful and adventurous students. Tourism and recreation services are dynamically-growing sectors of the economy in Poland, Europe and elsewhere in the world. Appropriate theoretical and practical knowledge will give graduates the possibility to find employment with good career development opportunities, or to seek self-employment in various forms of business and social activity. Graduates include future managers, holiday and resort representatives, tour guides, cultural animators, agents, tour operators, lecturers, instructors and trainers with a broad range of professional competences.

GEOGRAPHY

A fascinating scientific discipline encompassing a broad spectrum of research possibilities that combines natural aspects (physical geography), with social issues (socio-economic geography). Geography deals with more than just the distribution and location of features and phenomena on Earth, but also with studies into their reasons and the human impact on them. Geographic studies teach students to acquire, process and use spatial information for research purposes and practical applications. In recent years, due to dynamic growth in the sphere of spatial data acquisition and analysis (Geographic Information Systems), geography has become an increasingly popular and attractive field of study.





SPATIAL DEVELOPMENT AND GEOMANAGEMENT

The field of spatial management offers modern interdisciplinary Master's studies combining theoretical and practical knowledge. Classes will be conducted by specialists in the field of spatial planning, geography, architecture and urban planning, management and economy, with the participation of practitioners and employees of local government institutions. A large number of practical classes - auditoriums, laboratories, field exercises and workshops, guarantees gaining highly valued skills on the labor market. Graduates will be prepared to effectively solve new and difficult problems arising at the interface of economic and social processes at various spatial scales. The study program takes into account the needs of the labor market and the expectations of local government and state institutions that create and manage the socio-economic infrastructure of the region and the country.

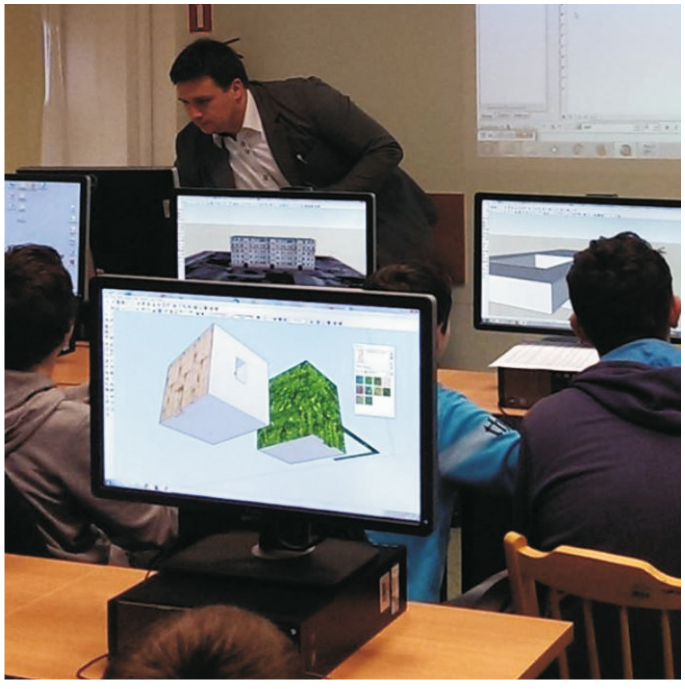


ENVIRONMENTAL GEOINFORMATION

A unique interdisciplinary course combining knowledge of geographic, geodetic, cartographic and information sciences to train high class specialists, who will be prepared to provide comprehensive analysis of the condition and resources of geographical environments and manage information on their components using state-of-the-art IT tools and geomatics. Graduates will have extensive knowledge of the geographical environment and its components, as well as GIS. Their strengths will include unique experience in the combined use of the theory and practice of geographic information science.







Student placements and internships

Practical training is an integral part of the learning process in all courses offered by the NCU Faculty of Earth Sciences and Spatial Management. It takes between 40 and 160 hours in total and the placements are selected according to the graduate profile of a specific field of study. The students usually choose institutions which deal with spatial management (commune and municipal offices, district administration offices), surveying & mapping or hydrogeological services. Tourist agencies or hotel and accommodation facilities are also common places to serve internships. As interesting alternatives, national parks, landscape parks, forest district agencies and consulates are chosen.

The '**Geocompetence in Practice – the Road to Success**' programme offers the best graduates of the Faculty of Earth Sciences and Spatial Management an opportunity to serve paid internships with selected companies in Poland. After the first edition of the programme almost a half of the interns found employment in their jobs.







Erasmus +

Students of the **Faculty of Earth Sciences and Spatial Management** can enjoy the possibility of participating in the Erasmus+ exchange programme, studying at more than 70 European universities and higher education institutions. Studies abroad are both an amazing adventure and an exceptionally valuable experience, which will pay off in future professional and personal lives:
“Tests done before students left for international scholarship programmes and just after their return have proven that the students come back not only more confident and tolerant of other cultures, but also capable of solving problems more quickly, adapting to new circumstances and demonstrating better organisational skills. Incidentally, these are the qualities a majority of employers value most.” (Szczerbak 2014, Polityka).



Tourist Summer Camps

Training courses for students from partner universities in China. During their ten-day stay, students take part in an educational programme on tourism in Poland, including culinary tourism, health and wellness tourism, extreme tourism, water tourism and eco-tourism. This is supplemented by thematic trips and tours: sightseeing in Toruń and the tri-city of Gdańsk, Gdynia and Sopot, a visit to a regional winery, a high ropes course, visit to Ciechocinek health resort, and more. The course ends with a two-day visit to the Brodnica Lake District, where students will extend their knowledge of the geographic environment, taking a canoe ride down the Drwęca River.



Student Scientific Circles

Student Scientific Circle of Geographers

The Circle holds scientific sessions and popular science meetings with interesting people, travellers and explorers, and gives accounts of own expeditions. It also collaborates with the academic staff, especially during field studies. For many years, the Circle has been having summer Science Camps. In recent years the members have been specialising in the development of digital sozological maps for landscape parks.
skng.umk.pl/pages/main_page

Student Scientific Circle of Hydrologists

The Student Scientific Circle of Hydrologists joins students of the Nicolaus Copernicus University in Toruń who are interested in water in any state. The Circle organises scientific meetings at different levels and in different forms, promotes the knowledge of water, holds meetings with interesting people, travellers and explorers and gives accounts of own expeditions.
hydrolodzy.umk.pl

Student Scientific Circle – Space Creators

The objectives of the Circle include the promotion of the fields of science which deal with urban studies, spatial management and space and its creation in a broad meaning of the term, as well as student orientation in research work, enhancement of their knowledge of various aspects of modern and historical settlement, with a focus on towns, and the problems of urban planning and architecture.
https://www.facebook.com/KreatorzyPrzestrzeni/

Nicolaus Copernicus Adventure Club

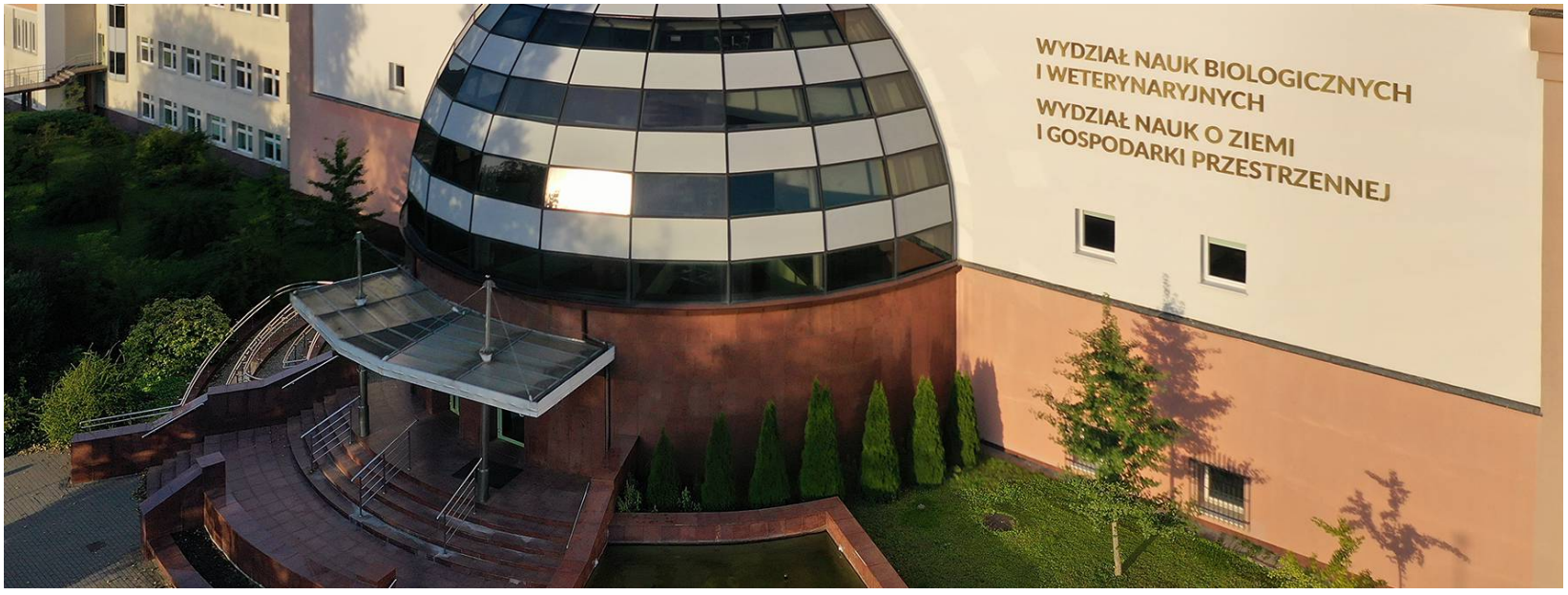
The Nicolaus Copernicus Adventure Club (NCAC) is a young scientific circle of tourism and recreation, established at the NCU in 2008. The Club includes the students of tourism and recreation, geography and other fields. Its objective is to promote the university by disseminating the ideas of tourism, sport and recreation as forms of active leisure.
www.facebook.com/KNNCAC/

There's more than just studying and working...









NICOLAUS COPERNICUS UNIVERSITY IN TORUŃ

Faculty of Earth Sciences and Spatial Management

CONTACT:

Lwowska 1, 87 - 100 Toruń, POLAND
phone +48 56 611 25 85
phone/fax +48 56 611 25 86
e-mail: wnozigp@umk.pl

USEFUL LINKS:

Nicolaus Copernicus University in Toruń:
http://www.umk.pl/en

Faculty of Earth Sciences and Spatial Management:
https://www.geo.umk.pl/
https://www.facebook.com/wnozigpumk/