

Studying Geoinformatics

UNIGIS Master of Science (CE)

tailored to your needs
supported by tutors
study at home
modular
applied
online

UNIGIS Salzburg

EDUCATING GIS PROFESSIONALS WORLDWIDE



Welcome!

Academic education is indispensable in domains that are as dynamic as Geoinformatics. Conceptual foundations develop together with the fast evolving technologies. Thus, life-long learning is an opportunity as much as it is a necessity.

UNIGIS is designed as an online academic program that is delivered to GI-professionals:

- to provide a solid, conceptual foundation for the acquired professional experience,
- to settle into an attractive sector of growing industry,
- to balance the study program with career and family,
- to study at the prestigious Department of Geoinformatics – Z_GIS at the University of Salzburg, and
- to earn an academic Degree as formal qualification.

Applying for a UNIGIS distance-learning program needs careful consideration. However, if you choose this path for your personal and professional future, we assure you our full engagement and support with our long-term experience to achieve this aim!

The study program **UNIGIS MSc** is a Degree program on an advanced scientific level and with that a stepping stone for your career.

Assoc. Prof. Dr. Gudrun Wallentin
Program Director

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UNIGIS in a nutshell

With UNIGIS, the University of Salzburg offers internationally recognised postgraduate qualifications in Geoinformatics. UNIGIS study programs are designed as academic education programs for working professionals with flexible and innovative forms of distance learning.

UNIGIS started in 1993, with the vision of offering distance learning programs in Geographical Information Systems and Science to professionals worldwide. The University of Salzburg is a founding member of the worldwide UNIGIS network.

Our students benefit from our department's international orientation and renown experience as competence centre in Geoinformatics. Two programs are offered in German, English, and Spanish language: UNIGIS professional and UNIGIS MSc.

UNIGIS professional

(2 semester)

for those, who are eager to get a comprehensive overview of the methods and tools in Geographic Information Technologies.

Details: > www.unigis.at/en/unigis-prof

UNIGIS MSc

(4 semester)

for those, who want to get a sound foundation in Geoinformatics and aim at an academic degree to advance their career.

Details: > www.unigis.at/en/unigis-msc

Both study programs provide students with a sound conceptual basis and a comprehensive set of application-oriented skills in geoinformatics. These competencies have proven to be indispensable qualifications in many domains.

UNIGIS is designed as an online, distance-learning study format to facilitate self-paced learning. This enables UNIGIS students to study next to the obligations in their professional or private lives. UNIGIS participants study from home or from their workplace, communicate with their lecturers and peers through digital channels, and build self-organised learning groups. Graduates join more than 5,000 alumni, who, nowadays, already excel as leaders and experts in institutions and companies worldwide.



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Studying at the University of Salzburg

The UNIGIS programs are offered by the Department of Geoinformatics - Z_GIS, University of Salzburg. Z_GIS is an interdisciplinary centre of competence for Geoinformatics. Our research is centred along seven research areas, where methodological excellency in the conceptualisation of spatial thinking is integrated with domain knowledge in addressing today's complex problems.

Besides its excellency in research, Z_GIS is recognised as a hub for graduate education in Geoinformatics with a distinct international orientation. It develops geospatial competences across disciplines, offering graduate study programs in residential as well as distance learning modes. A global network of partners from academia and industry serves as a strong platform for joint research and exchange of students and faculty.

Studying UNIGIS Salzburg remotely offers:

- Application of current GIS-software
- Flexible time management within the given modular structure
- Self-paced learning to meet your individual needs and interests
- Dedicated online learning materials on the Moodle e-learning platform with a mix of multiple learning media, including scripts, worked examples, hands-on exercises, tutorials, or videos
- Maximum compatibility with your job, as there are no obligatory residential phases
- Intensive tutoring and supervision by the UNIGIS team
- Frequent interaction with lecturers in discussion fora
- Possibilities to self-organise and exchange experiences with peers
- Highly competent lecturers from research and industry
- Embedded in the Club UNIGIS, the wider community of UNIGIS students and alumni

The UNIGIS MSc study program

UNIGIS MSc is an application-oriented study program in Geographic Information Systems. It is designed for persons who already have some experience with GIS-software and/or those who have some background in a spatial discipline. It offers a sound methodological and application-oriented background in Geoinformatics.

In the core modules, students get skilled in the acquisition, modelling, analysis, and visualisation of geospatial data as well as process-automation of GI-workflows. Learning materials are based on conceptual methodological foundations that will outlast dynamic technological product cycles. However, this program is clearly focussed on the application-side of Geoinformatics. Examples and exercises are at the centre of the learning experience. Multiple GIS-software packages, related geospatial technology and tools will be used.

Graduates from the UNIGIS MSc program will be awarded with the **Master of Science (CE)** degree from the University of Salzburg. "CE" stands for *Continuing Education*.

UNIGIS MSc is structured into nine core modules, an Academic Work block, the Electives, the Master Thesis, and the Final Exam. Each module is worth six European credit points (ECTS), where one ECTS equals 25 hours of workload, on average, for a student. Depending on a student's prior knowledge, the individual time affordances may be significantly lower for particular subjects. Averaged over the program, UNIGIS students report a weekly workload of approximately 12-15 hours.

The sequence of core modules is predefined, where each module has a duration of eight weeks:

- Module 1: Introduction to Geoinformatics
- Module 2: Data Modelling and Data Structures
- Module 3: Data Acquisition and Data Sources
- Module 4: Geo-DBMS
- Module 5: Application Development
- Module 6: Spatial Analysis
- Module 7: Visualisation and Cartography
- Module 8: Spatial Statistics
- Module 9: OpenGIS and Distributed GI Infrastructures
- Module 10: Academic Work
- Electives



Students communicate with the UNIGIS lecturers and the UNIGIS team via the Moodle e-learning platform, email, discussion fora, and online conferencing software. As UNIGIS is a program that can be studied fully online, these communication channels form an important part of the learning environment. Although distant, UNIGIS students are never alone!

At the program start, participants get all necessary materials and software licences that are needed for the module work. Also, in the online introductory workshop right at the beginning, students meet each other and they also get to know the UNIGIS team. All the information on the study organisation is collected in the virtual UNIGIS campus, which can be revisited throughout the studies.



The requirements for the admission to the UNIGIS MSc program are:

1. A Bachelor degree in a related discipline, i.e. either a "spatial" or an IT-related discipline, from recognised national or international universities.
2. English language proficiency: prove sufficient English language skills to read and write complex, academic texts.

The program director decides on the admission to the study program considering available study places, the application documents, and the orientation interview.

Language

English will be used throughout the program in the materials and the communication channels. Besides the English-language programs, the University of Salzburg also offers UNIGIS programs in German and in Spanish language. If interested, ask the UNIGIS office for more information!

Open for students from many disciplines, e.g.:

Agronomy – Environmental Management – Architecture – Archeology – Geology – Economics – Forestry – Geography – Geophysics – Informatics – Cartography – Hydrology – Meteorology – Natural Hazard Mitigation – Criminology – Ecology – Emergency Response Management – Spatial and Landscape Planning – Regional Sciences – Biology – Geodesy and Surveying – Zoology – Geomatics – Civil Engineering – Business Administration – Sociology

Alumni work, for example, in the following companies or institutions:

European Commission, Joint Research Centre – International Committee for Red Cross – Dynafrica IT Solutions – Earth Observation, Singapore – Electricity Authority, Nepal – German Corporation for International Cooperation, Tajikistan – United Nations, Nairobi – HERE Technologies – European Food Safety Authority – WWF, Bhutan – Ministry for the Environment, Sustainable Development and Climate Change, Malta – Bristol Zoological Society, UK – Postdoctoral researcher, Ecole normale superieure Paris-Saclay, France – Ministry for Agriculture and Rural Development, South Africa – Reibo Software Consulting, Belgium – Forest Reserach Institute Ticino, Switzerland – TDB Consultants Inc., Canada – Mesh urban planning and design Ltd., Australia

Study performance: assignments and exams

In the UNIGIS curriculum, a student's performance is assessed based on a set of assignments. An assignment is a homework with tasks that a student needs to work on. After the completion of a module, a solution document is compiled and delivered.

Typical types of assignments are applied tasks that a student needs to work on:

- Geoprocessing of spatial data with GIS-software. In addition to the results, the steps of the workflow need to be documented.
- Delivery of specific geospatial products, like: maps, analysis reports, graphs, etc.
- Reading assignments and essay-based discussions on a topic.

At the end of each module, the students load their solution documents onto the e-learning platform. From here they are passed on to the lecturer, who grades students within 3 weeks after the deadline. Grades range between Excellent (grade: 1) and Failed (grade: 5) according to the Austrian grading schema. In addition to the grade, a student gets detailed written feedback on each assignment. The overall performance assessment in the final certificate averages the module grades.

Besides the assignments, a module always also offers exercises that help to prepare for the assignments, or offer the possibility to delve deeper into one or another aspect. Exercises can be openly discussed with other students and the lecturer. These activities are optional and they are not part of the performance assessment.

Like any exam, assignments adhere to the terms and regulations for University examination standards, this means that a student has the right to repeat the exam by means of a second set of assignments. After positive assessment of all study items, including the Master Thesis and Master Exam, the University of Salzburg will issue the Master of Science (CE) degree. CE stands for Continuing Education and is as of university law §56(2) equal to other academic master studies.

The quality of UNIGIS learning materials and their didactic presentation is subject to continuous monitoring. UNIGIS quality management operates at multiple levels. After each module, students are asked to fill in an evaluation form to provide anonymous feedback. We highly appreciate the high response rate that greatly helps in the continuous update of learning materials in the highly dynamic field of Geoinformatics.



Study support = distant, but always connected

Pursuing an academic study program via distance learning asks for the support from many sides: this includes the support of friends and family. Also, the value of exchanging experiences with other students or in small learning groups should not be underestimated.

From the UNIGIS team you can expect the following support:

- **Lecturers** offer help in content-related questions in the context of the study materials, exercises, and assignments.
- A **supervisor** will advise on your thesis research.
- Our **UNIGIS faculty** and **tutor** guide you through the study program. They monitor your state, give advice, and guide you smoothly through your study. There is no organisational or technical issue with which you could not approach our team.

- The **UNIGIS office** is responsible for administrative workflows like tuition fees, enrolment, issuing of certificates and degrees.
- The „**ClubUNIGIS**“ is the community of UNIGIS students and alumni. Thus, you will continue to be a part of it also after graduation. This is, how students get connected with alumni from the very first module onwards. Make use of the extensive ClubUNIGIS network!

At UNIGIS, communication takes place in discussion fora, emails, and online meetings. Right from the first module onwards, there will be an intensive exchange between students, with the lecturer, and the UNIGIS team. In our experience, active communication is one of the main success factors. It not only supports you where help is needed, but also refuels personal motivation. The more actively you participate in the communication, the more you will

benefit yourself - and with you the entire student cohort of your intake.

None of your questions shall remain un-answered.

Don't be shy to ask, there are no "stupid" questions!

Your study progress matters to us.

Your UNIGIS Team

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The UNIGIS Team
is looking forward to
guiding you through your studies
and to provide advice and support whenever needed!



Define your individual learning pathway

The UNIGIS MSc program is structured into 9 core modules, Academic Work, the Electives, the Master Thesis and the Defence. The program starts twice a year, on March 1st, and on October 1st. In total, the UNIGIS MSc takes four semesters to finish. However, an extension of an additional year to up to three years of study duration is possible and free-of charge.

The schedule of the **core modules** follows a predefined sequence. Deviations thereof are possible, but need to be agreed on with the UNIGIS team. Altogether, each module takes 8 weeks. Within these weeks, time management is fully flexible. The repeating structure of modules will help you with this task. No matter, if you are a late-night worker or prefer to get up early: you are free to work according to your own pace.

The **Electives** cover a total amount of 24 ECTS-credits. This provides the opportunity, to forge your own speciality and learning pathway.

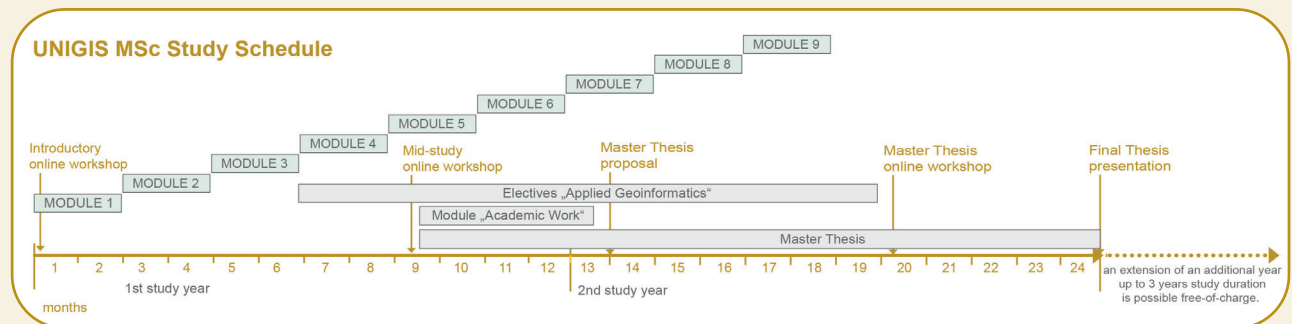
The techniques and standards of **academic work** are introduced in a dedicated module and practiced in three online workshops. This study phase is continued over the entire duration of the MSc program. It starts with the introductory workshop at the very beginning and finishes with the final presentation of the thesis.

The schedule of the UNIGIS MSc study program:

The **Master Thesis and the Defensio (Master Exam)** mark the last quarter of the program. It is the final "masterpiece", in which students can show their competencies in a subject of their own choice.

For more detailed information, you can download the current UNIGIS MSc curriculum here:

> www.unigis.at/en/unigis-msc





CORE MODULE 1: Introduction to Geoinformatics

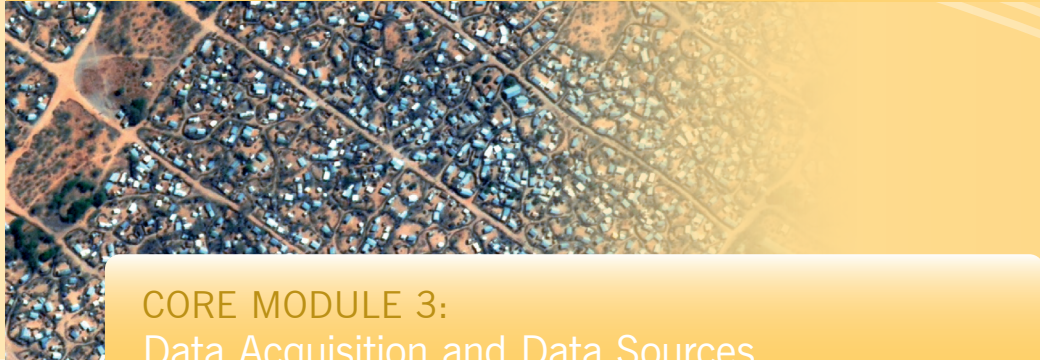
This introductory module has a special position as a first study component of the curriculum. It provides orientation and sets the frame for working with the subsequent modules. Specifically, it supports the development of a personal style working with the distance-learning materials. In addition to these objectives regarding the study format, the following domain-related content is offered:

- Terminology and functional characteristics of geographical information systems
- Typical applications of geographical information processing
- Current trends in Geoinformatics
- Overview of secondary information resources for GIS in the sense of life-long learning.
- Practical training to use professional GIS-software
- Competent use of coordinate systems and projections in the practical work of GIS

CORE MODULE 2: Data Modelling and Data Structures

This module provides a profound overview of common data structures and models of geographic information systems. It explores how the real world around us can be mapped clearly, in all its complexity, with comprehensible data models and structures. Specific module contents include:

- Modelling spatial information
- Spatial models – data models – data structures
- Vector model
- Raster models (grid)
- Representation of surfaces
- Multidimensional spatial data models
- Object-oriented data models
- Data modelling with UML
- Introduction to mark-up languages (XML, GML)



CORE MODULE 3: Data Acquisition and Data Sources

The third module is dedicated to the process of collecting real-world information. It gives an overview of the diversity of primary and secondary acquisition methods. It thereby creates insight in the genesis and the related suitability-for-use of spatial data for specific use cases. It makes aware about digital resources, and introduces standards-compliant documentation. It will also focus on the management of GI-projects. Specific module contents include:

- Identifying adequate data sources for specific applications and user needs
- National and global spatial data sources, OGD, SDI, INSPIRE
- Primary collection methods: surveying, photogrammetry, laser scanning, GPS, remote sensing
- Secondary acquisition methods: scanning, digitising, vectorising
- Raster to vector conversion, indirect position data, geocoding
- Data transfer, norms and standards, format transformations
- Metadata, metadata standards
- Data quality and cost
- Legal aspects, copyright and copyleft, open licenses



CORE MODULE 4: Geo-DBMS

In this module, the theoretical foundations of conventional geodatabase management systems are introduced. Based on the lesson on data models, students will use Entity-Relationship-Modelling and its formal notation to structure their data. With the help of the Structured Query Language, students build and query their own databases. Finally, data management of database with GeoDBMS-tools in general and spatial databases specifically is discussed. Specific module contents includes:

- Architecture of database management systems
- Relational data modelling, ER, ER-notation
- Normalisation
- Solid basics of the SQL query language as a universal language for data definition, data control, and data management.
- Glossary of terms relating to geographic data base systems
- Spatial models in DBMS
- Spatial indexing



CORE MODULE 5: Application Development

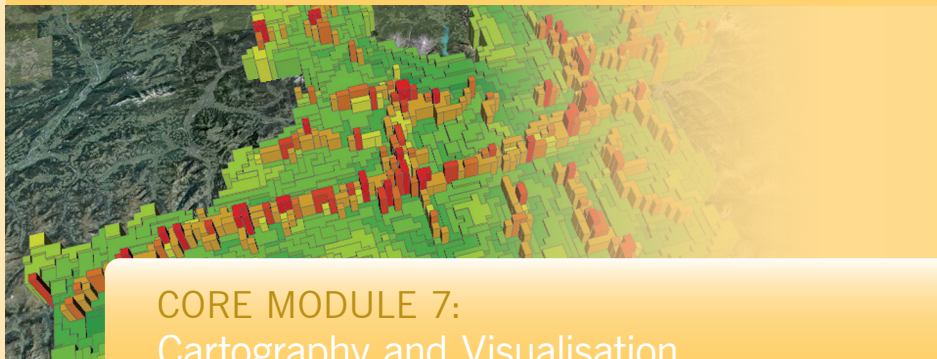
This module introduces to software engineering and scripting of geospatial applications. It covers an overview to programming languages and their paradigms in general, an introduction to Python in particular, and the supporting frameworks for the development of applications such as IDE and Git. Specific module content includes:

- Concepts and paradigms of programming
- Overview of programming languages and their typical areas of application
- Introduction to the Python scripting language
- Code development in Visual Studio Code
- Introduction and the version control system Git for distributed code development
- Software documentation Markdown markup language
- Using the interactive Jupyter Notebook web application to create and share code
- Introduction to UML, patterns, refactoring, testing, and software architecture

CORE MODULE 6: Spatial Analysis

Spatial analysis methods are a central feature of all geographic information systems. This core area of Geoinformatics aims at a transfer of domain issues towards an adequate use of analytical methods and tools of the Geoinformatics, by adequate problem structuring and conceptualisation. This module introduces the fundamental methods and techniques of geographical analysis. Specific module contents include:

- Horizontal techniques (neighbourhood analysis, distance functions, filter, interpolation, diffusion).
- Vertical multi-thematic integration (intersection, assessment, multi-criteria method).
- Grid analysis and map algebra: local, focal, and zonal operators.
- Cost surfaces
- Terrain analysis (slope, exposure, visibility)
- Multivariate classification and regionalisation
- Understanding of the formation of dynamic models and simulation
- Route optimisation and allocation in networks



CORE MODULE 7: Cartography and Visualisation

Knowledge on the visual communication of spatial issues is essential because almost every GI-professional actively designs maps at some point. This module aims at professionals from different domains to take advantage of cartographic data processing for their respective tasks. Specific module contents related to conventional as well as digital publication forms (web-mapping, mobile-mapping) include:

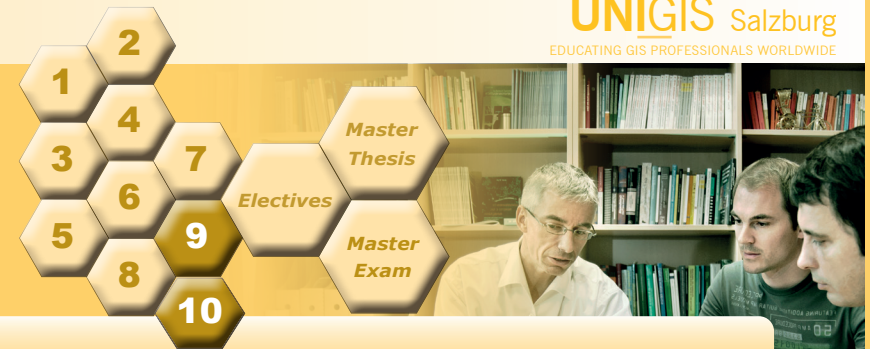
- Cartographic application fields and paradigms
- Cartographic design process, generalisation, and classification
- Perception of forms and visual variables, colour models and colour use, consideration of colour vision deficiency
- Development of map annotation, map symbols, and interaction
- Thematic maps, diagrams, and diagram maps
- Map design and layout
- Reproduction, digital devices, and output formats.
- 2.5D/3D visualisation
- Web-mapping technologies, and APIs
- Dynamic visualisation



CORE MODULE 8: Spatial Statistics

This module reviews and reinforces fundamental concepts and techniques of spatial statistics. On this basis, the principle of spatial autocorrelation as a basis for understanding the specifics of spatial statistics will be presented and the main methods of spatial statistics will be discussed. Specific module contents includes:

- Comparison between non-spatial and spatial statistics
- Specifications and terms of spatial statistics, in particular, spatial autocorrelation and spatial variability
- Point-pattern-analysis
- Geographically weighted regression
- Exploratory spatial data analysis
- Deterministic interpolation
- Probabilistic interpolation (kriging, spatial statistics)
- Validation of interpolation results



CORE MODULE 9: OpenGIS and Distributed GI Infrastructures

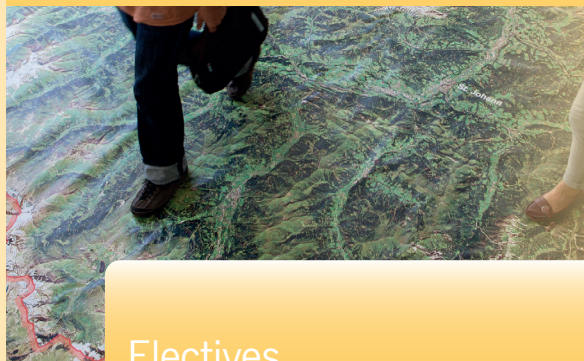
Spatial Data Infrastructures (SDI) consists of technology, standards, guidelines and legal aspects, and human resources. This module introduces the key standards specified by the Open Geospatial Consortium (OGC) and shows the role of these standards for achieving interoperability in the context of Spatial Data Infrastructures. Specific module contents includes:

- Specific interoperability issues
- Overview of standards, OpenGIS and distributed architectures
- Concepts, models and interfaces related to OpenGIS (e.g.: XML, geography markup language (GML), Web Map Service (WMS), Web Feature Service (WFS), metadata and catalogue services, OGC API)
- Design of strategic geographical information projects – Spatial Data Infrastructures
- Metadata and data catalogues

MODULE 10: Academic Guidance and Support

This study phase guides students through their studies and gradually introduces them into the scientific approach. While the workshops in the introductory phase have a stronger focus on giving general guidance and advice, the roles are increasingly switched. Students take the lead and develop their own areas of research, while supervisors revise and refine. In the final online meeting, students wrap up their theses' outcomes.

- Introductory online workshop
- Mid-study online workshop
- Master Thesis online workshop
- Final presentation of the Master Thesis



Electives

Elective subjects advance and/or complement skills and knowledge acquired on UNIGIS core modules for specialised topics. In the Electives, a total of 24 ECTS are to be selected.

There are various ways to cover the electives. Most importantly, UNIGIS offers a variety of Optional Modules that cover a broad range of conceptual and application-oriented topics in Geoinformatics. However, students can get credits for a range of other courses and achievements, successful participation in a Summer School, scientific publications, select online training courses, or MOOCs.

Before signing up to optional courses, we recommend to discuss individual preferences with the faculty to get the most out of the Electives for yourself.

The following subjects are currently available as Optional Modules:

- Automated GIS Workflows with QGIS and Python
- Enterprise GIS
- Environmental Monitoring
- EuroGIS – The European Dimension of GIS
- Remote Sensing
- Spatial Simulation
- Developing Web-Application with JS and Leaflet
- Automated Data Processing with R
- LiDAR in Theory and Applications

For detailed information on module contents, see:

> www.unigis.at/en/optional-modules



ACADEMIC WORK

This module marks the starting point for the work on the thesis. It guides students through the challenging process from a general area of interest to a sharp research question. After successful completion of the modules, students are capable of formulating a sound research proposal. Specific module contents include:

- Positioning the scientific method in the wider context of the Philosophy of Science.
- Effectively reading scientific literature.
- Writing scientific texts with an appropriate style and structure.
- Presenting scientific work in graphical, written and verbal form.
- Referencing scientific literature appropriately and formally correct.
- Requirements of writing a UNIGIS Master Thesis at the University of Salzburg.

MASTER THESIS AND DEFENSIO (MASTER EXAM)

In the Master Thesis, a student shows the ability to do independent research in a selected topic in the field of "Geographical Information Science & Systems". As such it is a "business card" for career development. Students are required to meet the principles of scientific work in terms of formal presentation, methodological approach, and its content according to current scientific standards.

The definition of a thesis topic – thesis proposal – typically takes place in the middle of the study program. The online master thesis workshop focuses on the in-depth discussion of the thesis topic with the UNIGIS team. Additional thesis supervision through an external expert in the respective field is recommended.

Master Theses that have been successfully submitted to graduate from the UNIGIS MSc program can be found online:

> www.unigis.at/en/master-thesis/

The university study program UNIGIS MSc (CE) is completed with the Master Exam (3 ECTS credits), in which students defend their Master Thesis. The prerequisite for the defense is the positive assessment of all other study items, including the Master Thesis.



The tuition fee amounts to 12,500 EUR. It covers the costs of your study and includes registration, tuition, supervision, examination and graduation. Moreover, it covers your obligatory membership in the Austrian Student Union. The full amount of the tuition fee has to be transferred to the university at the latest by the following deadlines: February 07, for the start in March, and September 07, for the start in October.

Any bank transfer charges must be covered by the sender. Credit Cards are accepted. It is possible to split the payment into two annual installments of 6,500 €. Once the program has started, no reimbursements are possible.

The (GIS-)software that is used in the core modules is provided free of charge during the entire duration of your studies, limited to study purposes. Any (GIS-)software that is used in optional modules is free, at least for the duration of the module.

Study extension

An extension of up to 3 years study duration is free of charge. In case a student exceeds the maximum program duration, no further university services can be consumed, including tuition, supervision, or examination. However, students can apply for a further extension phase, for which extension fees will apply.

Further costs may arise for

- optional travels to Salzburg, e.g. to the ClubUNIGIS meeting at the annual GISalzburg conference
- any optional summer schools or training courses with your Electives
- costs for the broadband internet access and data download
- the hardware for your personal workplace
- Printing and mailing your Master Thesis

Learning materials

Learning materials are developed by domain experts, are continuously updated, and are carefully designed. The scripts, exercises, and tutorials support students in acquiring the conceptual background and methodological skills to solve complex tasks in spatial data handling, and analysis. Scripts are provided in bookdown-format as interactive web-books. For offline use, the scripts can also be downloaded as printable pdf-format or eBook-format.

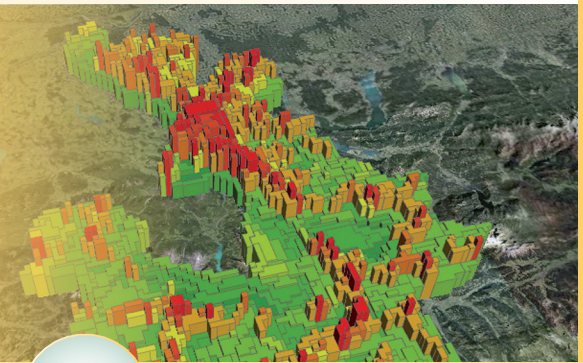
The UNIGIS e-learning platform Moodle provides a single access point to all learning materials, assignments, software, discussion fora, and the organisational guidelines. This way, materials can be easily updated and students are always provided with the latest versions.

Thanks to our software partners, students can gain ex-

perience with the main GIS software packages in Geoinformatics and Remote Sensing (mainly student licences), for example:

- ArcGIS Pro (ESRI)
- ERDAS Imagine (Hexagon)
- FME (Safe Software)
- Quantum GIS (open source)
- PostGIS/PostgreSQL (open source)

Beyond that, students have the possibility to explore further software products. Test licences can be provided for e.g. Geomedia (Hexagon), Smallworld (GE Network Solutions), or AutoDesk Map 3D (Autodesk). Moreover, materials in Optional Modules cover several open source applications, e.g. R or GAMA.





What is needed for your workplace

In order to study Geoinformatics from home, you need your own workplace, most importantly, a reasonably new computer on which you have installation rights.

Hardware

Here are the specifications for a computer that is adequate as UNIGIS workplace. The required hardware specs are mainly imposed by the GIS-software.

Minimum requirements / recommended

- CPU with 4 cores (10 cores)
- 8 GB RAM (16 GB)
- 100 GB free disk space
- Graphics card: DirectX 11, OpenGL 4.3 (4.5), 6 GB
- CPU-speed: 3 GHz
- Display: min. 19"
- Broadband internet access
- Mic, speakers, headset, and Webcam

If you plan to buy a (new) computer, we are happy to advise you!

No specific software needed

GIS-software: GIS-software is provided. Thanks to our cooperation with ESRI, we can offer a full licence for ArcGIS Pro including all extensions for the duration of your studies.

Operating System:

The following Operating Systems are supported:

- Windows 10 Home, Pro and Enterprise (64 Bit)
- Windows 11 Home, Pro and Enterprise (64 Bit)

There is no specific support for Mac or Linux. However, students have successfully used Mac computers for their UNIGIS studies.

Text processing software: While we recommend MS-Word for Windows, you can use any alternative software (e.g. OpenOffice) that offers the possibility to generate a pdf.

Browser: Any common internet browser like Mozilla Firefox, Google Chrome, or Microsoft Edge, in a recent version. Often, it is recommendable to have two alternatives installed.

Communication: Student email accounts will be deleted after graduation, so we recommend using your own email account. The main communication platform is the e-learning platform "Moodle".

What else can UNIGIS offer?

For all UNIGIS students

GI-Software

In case you have an interest in a specific GIS-related software that is not covered in the modules, it is worthwhile to enquire at the UNIGIS office. Due to our activities in research and teaching, we may as well have a test licence available.

Software Training

UNIGIS students can access the majority of courses that are offered by the ESRI Academy Plattform free of charge (> training.esri.com).

University Library

The university offers (almost) all of its journals and some textbooks in electronic format. As student of the University of Salzburg you have full access to these resources.

ClubUNIGIS

UNIGIS students have the exclusive possibility to continue their life-long learning pathway even after graduating.

Alumni have the life-long right to sign up for an Optional Module.

The ClubUNIGIS is a network of approximately 2700+ students and alumni, who are or have been enrolled to one of the UNIGIS Salzburg programs. ClubUNIGIS members are connected through several channels like LinkedIn, Instagram, Facebook, Twitter, our newsletter, or the UNIGIS blog. Become an active part of the community: in today's society, it is a key asset to be part of the professional community in your field! Moreover, ClubUNIGIS offers a number of discounts and services, e.g. the exclusive right to sign up for Optional Modules for reduced prices, and a special discount at the annual GI_Salzburg conference.

Find out more about the benefits of ClubUNIGIS on the website:

> www.unigis.at/en/clubUNIGIS

Contact

Let's get in touch!

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For any open question, please do not hesitate to get into touch via email or phone.

...that's what UNIGIS-alumni think about the study programs

Patric Loydell

I have recently completed my Professional Diploma from UNIGIS Salzburg, and I now want to enrol in the UNIGIS MSc program. Whilst doing my Professional Diploma, it has allowed for me to expand my working knowledge of GIS as well as teaching me many new disciplines within the field of GIS. The manner in which the course is structured allowed for me to continue with my full time job whilst being able to keep my studies on track. When I encountered any issues in my studies, they were tended to by the UNIGIS Salzburg team in a very quick and professional manner. I would recommend UNIGIS to anybody who is interested in the field of GIS.

**Mohammed Salim
AL Sulaimani**

The impression I got about the UNIGIS Program was exceeding my expectation. It involves different GIS aspects and applications. I have learnt so much from all constructive input and guidance through each lesson of each module. I have spent an enjoyable and non-forgettable time studying within UNIGIS. I would like to express my gratitude to both professional administrative and academic teams for the intensive support that they have provided.

Jim O'Leary

I have put in an uncountable number of hours in the past two years working on my courses in the UNIGIS MSc program, but I can say in truth that I have enjoyed every one of those hours. I have learned a tremendous amount about the deeper subjects in GIS, which was my goal when I entered the program.

Ivo Planötscher

My UNIGIS knowledge contributed significantly to the fact that I was able to found a private IT company, which is still successfully operating on the European IT market today. Looking back I can say without doubt that the UNIGIS courses are designed in such a way that all theoretical approaches are conveyed to the students as practically as possible, so that they are able to exercise the profession of a GIS analyst in the best possible and immediate way in their daily work.

UNIGIS Salzburg

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