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CARINTHIA
UNIVERSITY
OF APPLIED
SCIENCES

FACHHOCHSCHULE
KÄRNTEN



SPATIAL INFORMATION MANAGEMENT

**INTERNATIONAL MASTER PROGRAM
TAUGHT IN ENGLISH**
DEPARTMENT OF GEOINFORMATION
CARINTHIA UNIVERSITY OF APPLIED SCIENCES



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MARSH KRENTNER & MAJOR TOMIAT



SPATIAL INFORMATION MANAGEMENT

“My name is Elaine Faith Sotacio. I come from the Philippines. Balancing my personal life, work and study is quite a challenge. I am married, with three children and am currently working at Infineon Technologies as a Test Development Engineer. My motivation in joining the SDSS program was out of practicality and interest. This is a multi-disciplinary field in terms of scope and application. I believe that an expert in this field will not run out of job opportunities. For my undergraduate studies, I majored in Electronics and Communications Engineering. SIM is a new field for me. I am always fascinated that I learn something new in every class. I find the methods used for each course very intuitive, practical and relevant to the study. Added bonuses are my classmates who come from different parts of the world to study here. It is interesting to learn about their cultures and how similar and different theirs are to mine. I am just happy to be here. I bet they are, too.”

Elaine Faith Sotacio, Philippines

This innovative Master degree programme in English aims to equip graduates with the skills necessary to find solutions to today's complex interdisciplinary challenges. These challenges include the increasing threats posed by terrorism, natural disasters, shortage of natural resources, global warming, migration, traffic congestion, air pollution, or health care failures. We educate “spatially aware” experts and professionals for the international market and contribute to the development of strategies to overcome these threats.

CONTENT

SPATIAL INFORMATION MANAGEMENT is a graduate program at the Department of Geoinformation. On completion of the program students will be awarded a Master of Science in GIS. The program's core curriculum provides students with a comprehensive knowledge in advanced concepts and applications of GIS, Spatial Data Management and Optimization Methods. After the first semester students choose either an IT or business technology management specialization.

The technological, IT-related focus of the **SPATIAL INFORMATION MANAGEMENT** master program is “**GIS and Decision Support**”.

Knowledge of spatial information, mathematical methods for simulation and advanced optimization processes are combined to design and improve models for complex “what if...” scenarios. These models provide decision makers with valuable insight and alternative perspectives enabling them to determine preventive actions or make comprehensive investment decisions.

“**Spatial Technology Management and Entrepreneurship**” is the second key area of this master program.

JOB

Spatial Information Management is offering a comprehensive solution framework for many fields of application. We educate future Spatial Information Management experts in developing comprehensive, interdisciplinary solution frameworks. Such knowledge and skills are in high demand. Depending on the chosen specialization, our graduates either simulate, optimize and visualize IT-related spatial scenarios for experts and decision makers or focus on the interface between technology and business. At this interface, their job is to develop and manage international funding proposals, project management, business development, sales, cost financing and marketing of (spatial) technology. For these reasons, our graduates have excellent and exciting international career opportunities – within a broad spectrum of application fields.



FACT BOX – OVERVIEW

SCHEDULE:
Full time (120 ECTS), Monday-Friday, around 23-25 lecture hours per week

DURATION: 4 semesters

STUDY-PLACES: 16

MODE OF STUDY: Full time

DEGREE: Master of Science in Engineering (MSc)



CAREER

Our graduates have excellent and exciting international career opportunities in academia and both the public and private sector, including areas such as

- Natural Hazard Management
- Utilities Planning and Optimization of Electric, Energy and Telecom Networks
- Water-Supply and Water-Information Management
- Traffic Simulation and Modeling
- Regional and Local Planning
- Location-Based Services
- Public Participation
- Health and Human Services
- Security and Intelligence Services
- Environmental Resource Management
- Sales and Technology Marketing

RESEARCH

The program has a major focus on applied research by solving real world problems with innovative methods and techniques. Most of the thesis projects are conducted in cooperation with our partners in public administration, academia and the private sector. Examples of challenging master thesis projects are:

- Development of a distributed Service Framework for Location-based Decision Support
- Comparison, Analysis and Visualisation of Multiple Scenarios for Network Infrastructures
- Application of SDSS Methods for Site Selection of Small Hydropower Plants in Bulgaria.

ECTS	Module	Semester	ECTS
30	Master Thesis	4. Semester	30
	special focus on Geoinformation and Decision Support	2. - 3. Semester	
8	Spatial Decision Support		
2	Knowledge Engineering and Human Computer Interaction		
8	Computer Science and Design Aspects		
	special focus on Spatial Technology Management and Entrepreneurship	2. - 3. Semester	
	Organizational & Institutional Aspects of GIScience		7
	Spatial Decision Support		2
	Technology Marketing and Sales		6
	Professional Communications		3
	Basic Moduls	1. - 3. Semester	
14	Advanced Concepts and Applications in GIS&T		14
7	Fundamentals		7
4	Spatial Decision Support		4
4	Computer Science and Design Aspects		4
12	Optimization Methods		12
5	Spatial Data Management and Analysis		5
2	Technology Marketing and Sales		2
6	Organizational & Institutional Aspects of GIScience		6
5	Knowledge Engineering and Human Computer Interaction		5
4	Professional Communications		4
9	Project		9
120	Total ECTS		120

ECTS: European Credit Transfer System



“During my Bachelor studies at the University of Udine I came to realize how great the additional value of Geoinformation Systems is. During an internship I worked with environmental data at a municipality. It soon became clear that Spatial Decision Support Systems were necessary to look at problems in a holistic way in order to solve them. With this unique master program at FH Kärnten (CUAS) in Villach I have found exactly the kind of education that allows me to learn these necessary skills.”

Emilio Politti, Italy



PROGRAM DIRECTOR
Mag. Dr. Gernot Paulus, MAS, MSc.

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