

First Level University Master Course A.Y. 2004-2005

This Master is included in the project "Masters for the Balkans" promoted by Italian Institute for Foreign Trades - ICE (*Istituto nazionale per il Commercio Estero*) and funded by the Italian Ministry of Productive Activities - MAP (*Ministero delle Attività Produttive*) on the funds of the law 84/01

Geographic Information for Economic and Spatial Decisions

Objectives

The master is aimed at creating skilled professionals in Geographic Information, qualified to work proficiently in the geographical business. The geographical space is of paramount importance in analysis of market areas, best location, utilities and telecoms, geogovernance, transport management other than spatial planning in public bodies. Skilled professionals are therefore necessary in order to deal with spatial information management and analysis.

The course intends to train on issues concerning Geographic Information Systems (GIS) with particular reference to the study and analysis of space from the economical point of view. Economical, planning, statistical and legal aspects of spatial management will be considered together with the information technology skills.

The course will be focused in particular on the development of new technology and spatial economical instruments in the Balkan area countries. In the traineeship following the classroom phase specific aspects of Geographic Information regarding economical, business and planning aspects will be developed.

Who the course is aimed at

Candidates hold a University Degree (three years course minimum) with emphasis on: Architecture, Agricultural Sciences, Economics, Engineering, Geographical Sciences, Statistics. The application forms of graduates in others disciplines will be evaluated by a commission of examiners. Candidates from Balkans areas (Albania, Bosnia Erzegovina, Bulgaria, Croazia, Former Yugoslavian Republic of Macedonia, Romania, Serbia and Montenegro as in the Italian Law 84/01) will be considered in particular, as well as all the candidates interested in operating with the Balkan Countries.

Location

The Master Course in Geographic Information for Economic and Spatial Decisions will be based for the main teaching activities in the Gorizia branch of the University of Trieste, the *Polo Universitario Goriziano*. Part of the teaching activities will take place in Trieste. Gorizia is located on the State border with Slovenia, 45 km Northwest from Trieste. It is 30 km far from Trieste Airport and easily reachable by car and train from Trieste.

Course Structure

The Master is made up of a lectured part and a company internship. The lectured part will last four months, starting from April 11th 2005, with lectures held in English, followed by group sessions or exercises in the PC labs. A three-month company traineeship will follow, in which candidates will develop a personal project ending with a thesis to be defended in a viva voce dissertation. The Master course will be concluded officially on December 31st 2005.

Plan of teaching and training activities

The course is structured in six modules concerning:

1. Geography - *Geographic Information*
2. Statistics - *Spatial Statistics and Analysis*
3. Informatics - *Information Technology and Geographic Information*
4. Planning - *Spatial Planning and GIS*
5. Law - *Law and the geographical environment*
6. Economics & Business - *Economics & Business for Spatial Management and Organization*

Traineeship

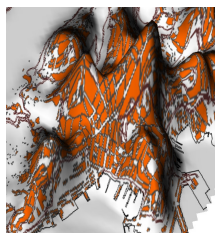
The Master course modules

The modules involve 282 hours of classes, integrated by individual study and a training period, for a maximum of 1.500 hours. Examinations will take place at the end of each module. The modules involve also 62 credits (*CFU – Crediti Formativi Universitari*) that the Master Graduates in Geographic Information for Economic and Spatial Decisions could benefit and use as part of the two-year postgraduate course degree in Economics of Tourism and Environment of the University of Trieste.

Module 1: Geographic Information

Coordinator:
Dr. Giuseppe
Borruso*

10 Credits
60 Hours



Objectives: become familiar with Geographic Information, in terms of cartography and GIS instruments and of geographic theory of spatial organization of industries, services, and settlements. Commercially available GIS packages will be examined.

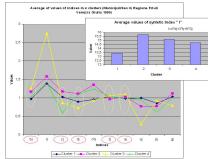
Contents:

Elements of Cartography
Introduction to GI instruments: GPS, Remote Sensing, GIS
Concepts of GIS
GIS algorithms and data structures,
GIS visualisation and analysis
Elements of Economic and Applied Geography
Theories of location of settlements, services, industries, transport

Module 2: Spatial Statistics and Analysis

Coordinator:
Prof. Gabriella
Schoier*

9 Credits
54 Hours



Objectives: Understand the principles underlying the analysis of spatial data. become familiar with statistical instruments for spatial analysis as well as spatial and non spatial data management.

Contents:

Exploratory (Spatial) Data Analysis;
Spatial data analysis;
Computational Statistics;
Spatial and non spatial Data Mining and Data Warehousing
Analysis of point, network, area processes.
Analysis of geodemographic data

Module 3: Information Technology and Geographic Information

Coordinator:
Prof. Renato
Pelessoni*

9 Credits
54 Hours

Popolazione del Comune di Trieste (giugno 2002)

CITTADINANZA	RESIDENTI	Stranieri
JUGOSLAVIA	3626	39.13
CROAZIA	1310	14.14
ALBANIA	819	9.90
ITALIA	441	4.76
SLOVENIA	291	3.13
BOSNIA	241	2.60
ERITREO	184	1.97
GERMANIA	162	1.64
GRAN BRETAGNA	142	1.53
ROMANIA	133	1.44
FRANCIA	117	1.26
AUSTRIA	107	1.15
RUSSIA	98	1.06

Residenti totali: 213.398 (213.025 preferenziali)
Nota: elaborazione dei dati forniti da Anagrafe del Comune di Trieste

Objectives: Become familiar with IT instruments, particularly related to spatial elements, as software packages for spatial analysis and GIS, spreadsheets and database management systems. Operations Research.

Contents:

IT for spatial data
Database Management Systems and GIS
Elements of programming and query languages
Operations Research and (Spatial) Decision Support Systems

Module 4: Spatial Planning and GIS

Coordinator:
Dr. Cristina
Bradaschia**

5 Credits
30 Hours



Objectives: Understand the principle of spatial and planning, with particular reference to urban areas the relations and interactions between built environment and space.

Contents:

Elements of spatial and environmental planning
Structures of urban and non-urban areas
Sustainable cities
Transport and space

Module 5: Law and the geographical environment

Coordinator:
Prof. Giuseppe
Citarella*

5 Credits
30 Hours



Objectives: Understand the issues related with electronic processing and distribution of spatial personal data. Privacy and data security. Spatial Data and Public Administration. European and Environmental law

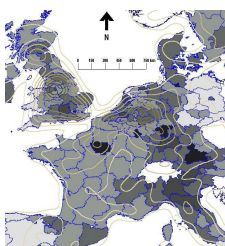
Contents:

Private Law
Legal aspects of electronic data processing and distribution
Spatial data and privacy.
Environmental law.
European perspectives

Module 6: Economics and Business for Spatial Management and Organization

Coordinator:
Prof. Gianluigi
Gallenti*

9 Credits
54 Hours



Objectives: become familiar with spatial issues related to economical activities, both in terms of the instruments for analysis the economical environment and in terms of management of corporate spatial choices and projects.

Contents:

Elements of Regional Economics (urban, industrial, transport economics)
Environmental Economics and Sustainability
Agricultural politics and economics
Spatial Marketing
(GIS) Project management
GIS and organizations

* = Faculty of Economics; ** = Faculty of Architecture

Traineeship and dissertation

At the end of the lectures, candidates will be involved in a three-month traineeship period in private and public bodies where they will apply and deepen the knowledge on spatial economical issues tackled during the class phase. In such context candidates will develop and individual project, to culminate in a written thesis to be defended in a viva voce dissertation at the end of the Master course. The traineeship plus viva voce defense will count for 15 Credits

How to join and assessment

The registration fee is 3.000,00 euros. A maximum of 30 participants will be admitted. 10 grants for covering registration fee and expenses (8.000,00 euros) are available for candidates from countries of the Balkan areas (Albania, Bosnia Herzegovina, Bulgaria, Croazia, Ex-Yugoslavian Republic of Macedonia, Federal Republic of Yugoslavia, Romania).

Other grants, called "Voucher Formativi", will be available for candidates from the Friuli Venezia Giulia Region and will cover 80% of the registration fee.

Detailed information about the "Voucher Formativi" and the application form are available on the University of Trieste website <http://www.units.it> under the heading 'Master'.

The application form and the information about the Course are available at <http://www-amm.univ.trieste.it/master.nsf?OpenDatabase>; look for "*I livello in Scienza dell'Informazione Geografica per l'Analisi e le Decisioni Economiche e Spaziali (Master in Geographic Information Science for the Spatial and Economic Analysis and Decisions)*" and download 'Bando' and 'Modulo' (application form)

Applications form must be submitted by March 10th, 2005 at the Secretariat of the University of Trieste

(Segreteria Laureati - Corsi di Perfezionamento e Master - Università degli Studi di Trieste), P.le Europa 1,
34127 Trieste (Italy).

Course Management

Director of Master Course

Prof. Pio Nodari

(Department of Geographical and Historical Science)

Course Co-ordinator

Dr. Giuseppe Borruso

(Department of Geographical and Historical Science)

Contacts and Info

<http://www-amm.univ.trieste.it/master.nsf?OpenDatabase>

<http://www.units.it/~balkan>

balkan@units.it