



## Information Systems Management and Spatial Applications

### KEYWORDS

Information systems management / Geographic information systems (GIS) / Intelligent transport systems / Information technology & communication networks / Knowledge management / Global Positioning System (GPS) / Decision making support

### OBJECTIVES

To learn how to supervise the design, development or management of an information system in all its dimensions: strategic, technological (information technology, networks and telecommunications solutions), human (change management, cognition, skills and knowledge management), financial (investments) and organizational. To find out how to integrate the geographic component into various professional applications of an information system.

### BACKGROUND

Good background in computer science, Internet related technology and mathematics is needed.

### LANGUAGE PROFICIENCY

**English:** when applying, students must provide evidence of proficiency in the English language. This could include:

- English as mother tongue;
- studies in an English-speaking country;

- acquisition of an English Language qualification (TOEFL : 575 / IELTS : 5.5 / TOEIC : 750 / Cambridge CAE). French: applicants for the Master in Information Systems Management and Spatial Applications are required to have the TEF II level or equivalent (pre-intermediate) as a minimum.

Nota: The program includes French courses for pre-intermediate and advanced level students (TEF II or III) throughout the whole program.

### ENTRY REQUIREMENTS

Young engineers and students with a Bachelor or equivalent to a 4 year degree in scientific field.

Applicants are selected following a close study of their application and an interview opposite a jury.

### IMPORTANT DATES

Application before	Mid May
Beginning of the courses	1st week of September
End of courses	End of June
Internship	July-December

### LOCATION

Lectures occur both within ENSG/ENPC buildings on the Polytechnicum campus of Marne-la-Vallée (20 minutes from Paris with public transportation) and Télécom Paris (southern part of Paris in the picturesque area of the "Butte aux Cailles").

### PROFICIENCIES AND CAREER PROSPECTS

This course of study aims at training students on a master's level to assume the responsibilities of information systems project management in an international context.

This field of specialization has arisen from the growing complexity and diversity of data processing tools and the increasing strategic and economic importance of information and communication systems.

The training includes the study of spatial analysis and geographic information systems.

Graduated students will have learned to:

- address complex issues and analyze them following sound methodologies
- conceptualize, develop and manage information systems from a technical and organizational perspective
- know the potential, costs and limitations of the main technologies available today
- understand the value added of geo-information and the tools to manage it
- join a team of professionals in an international context.

A majority of employers come from sectors managing digital and physical networks or geo-information (public administrations as well as private companies): water, energy, telecom, IT, ground and air transport, supply chain management, banking and insurance companies, positioning and cartography, development aid, etc. IT consulting and audit companies also represent a natural prospect for graduates.

Having acquired a solid background to address organizations' transversal issues, young graduates are rapidly faced with responsibilities.

## PROGRAM

Two semesters of intensive academic and practical training are followed by a 4 to 6 months internship (in a private company, an administration or a research laboratory).

The broad range of proposed courses (600 hours to choose from more than 1300) allows a unique customization of the curriculum to each student's profile and objectives.

Group projects and team-work are key elements of the program.

### Information technology and networks

- Networks and telecommunications
- Dynamic Internet technology
- Object-oriented programming: Java & C++
- Multimedia
- Image processing

### Architecture of information systems

- IS analysis & modeling (UML)
- Urbanization of IS
- IS networks installation and supervision
- Security
- IS Quality

### Geomatics

- Geographic information systems
- Positioning technology
- Space imagery
- Geographic information and decision making support
- Spatial analysis

### Management

- Corporate strategy
- IS project management
- Change management
- Information law
- Communication
- Groupware
- Supply chain management

### French Language

- Others languages proposed

### Option 1: Land planning and environment

- Natural and industrial hazards management

- Natural resources management
- Systems, networks and territories
- Urban planning

### Option 2: Corporate IS

- Data warehouse & data mining
- Knowledge management
- Economic and IT benchmarking
- Geomarketing & CRM

### Option 3: Intelligent transport

- Onboard systems engineering
- Transport systems security
- Railway systems management
- Managing urban networks and multimodal traveler information
- Communication, navigation, surveillance

## A JOINT PROGRAM

The Master is jointly managed by the École Nationale des Ponts et Chaussées ([www.enpc.fr](http://www.enpc.fr)), the École Nationale des Sciences Géographiques ([www.ensg.ign.fr](http://www.ensg.ign.fr)) and Télécom Paris ([www.enst.fr](http://www.enst.fr)). These three "grandes écoles" of engineering education, leaders in France and Europe for their domain of excellence, are fully connected to the international research community and business world.

## INFORMATION

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More information as well as electronic versions of application forms can be downloaded at: <http://msi.ensg.ign.fr>

*The tuition fee is 10 000 euros. Fees charged do not include living expenses. Scholarships are offered by the schools to the best candidates (see website).*