TELECOM SudParis

COMPUTER SCIENCE FOR COMMUNICATION NETWORKS
MASTER OF SCIENCE

ACCREDITATION
Program accredited by the French Minister of Higher Education and Research.
This MSc can lead to enrollment in a PhD program.

KEY WORDS
Network modeling, Network analysis, Virtualization, Software defined networks, Security dependability, SW engineering, Middleware.

SCHOOL PROPOSING THE MASTER
Telecom SudParis

LOCATION
Telecom SudParis has a 12-acre campus situated 35 minutes from the center of Paris and 20 min away from the gorgeous "Forêt de Fontainebleau", thus offering the advantages of both the city and the countryside.

STRONG POINTS OF THE SCHOOL
Telecom SudParis is one of the French leading Graduate Schools of Engineering in the field of Information Technology. More than 60 different nationalities are represented on its campus. Telecom SudParis is a flagship in the French research environment.
Strong links with industry have made it possible for Telecom SudParis to reach excellence in active pedagogy, project-based teaching and top-level research. Telecom SudParis, as a member of Institut Mines-Telecom, is a founding member of the Paris-Saclay University.

INDUSTRIAL PARTNERS
(COURSES AND INTERNSHIPS)
Thales, Orange (France Telecom), Bouygues Telecom, SFR, Alcatel-Lucent and Alcatel-Lucent Bell Labs.

LANGUAGE OF TEACHING
Two years totally taught in English.
Intensive courses of French are available for students prior to the MSc program.

ENVIRONMENT
The rapid evolution of the communication networks and the competition between operators and the telecommunication companies demand highly qualified specialists mastering both the technical and the economic parameters of modern networks. The constant need for increasing performance, for mobility and the convergence of computers science and of networks demand that more and more scientists be aware of the last concepts in design and architectures of networks.

OBJECTIVES
The Master gives students the opportunity of being initiated to research and to acquire strong practical and theoretical knowledge in the network and computer science area. The broad range of proposed modules gives students the opportunity to deepen their technical knowledge and discover new emerging research topics.
A number of labs and projects are scheduled for students to practice and assimilate concepts more easily. The projects and the master thesis are useful for testing students' ability and motivation to conduct research and to work well in a team.

PROGRAM
This is a 24-month and full-time program. The first semester is dedicated to networking and computer science fundamentals, and the next two semesters are more advanced and research-oriented modules enriched by three projects. An eliminatory examination is scheduled at the end of the last semester to evaluate the capabilities of students to pursue the program. The fourth semester is for students performing an internship in an industrial R&D laboratory or an academic research laboratory.
All courses are taught in English, but French classes are scheduled for students to improve their French.

1st semester
> Computer Science
> Effective Communication
> Mathematics
> Wireless Data Networks
> Computer Networking
> Software Engineering
> French as a foreign language

2nd semester
> Computing Project
> Engineering for Quality of Service
> Advanced Formal Software Engineering
> Object Oriented Computing and Distributed Systems
> Scientific Project
> Performance evaluation and Metrics
> French as a foreign language

3rd semester
Mandatory courses
> Middleware and distributed Systems
> Simulation and Metrology
> Evaluation of network Algorithm Efficiency
> Research Project

Optional courses
> Advanced Network Algorithm for the QoS
> Advanced Performance Evaluation
> High-Performance computing
> Network security
> Probabilistic Model checking and Applications
> Protocol Testing
> Software Dependability
> Software Engineering for Game/Mobile Development
> Software Testing and Metrics

4th semester
Master thesis carried out in an industrial R&D entity or an academic research laboratory

ADMISSION REQUIREMENTS
1st-class Bachelor's degree or a four- year degree in one of the academic topics offered by the Master's course.
Good background in computer science and basic knowledge in networking are required.

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LANGUAGE REQUIREMENTS

English

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

> having English as mother tongue

> work/studies in an English-speaking country

> English language official qualification such as:
  - TOEFL: 550/677 (Paper-based) or 213/300 (Computer-based) or 79/120 (Internet-based)
  - IELTS: 5.5/9
  - TOEIC: 750/990
  - Cambridge: CAE (Certificate of Advanced English)

French

A good knowledge of French is not mandatory before arrival in France.

Intensive courses of French are available for students prior to the beginning of the program. French language classes are included in the course program.

APPLYING

On-line application at:
http://www.telecom-sudparis.eu/msc

COMPETENCES ACQUIRED

Strong practical and theoretical knowledge in the network and computer science area. MSc training also focuses on teamworking, communication skills, innovation and project management.

TYPICAL JOBS

Technical and Commercial Engineers, R&D Engineers.

COST

12,000 Euros
8,000 Euros Europe and Erasmus zone

SCHOLARSHIPS

Scholarships are available depending on academic records and countries of origin (companies, governments, embassies etc.). It has to be mentioned that internships are paid and cover living expenses during the last semester.

DURATION

2 years.

LODGING

Located at the heart of the campus, the Maison des élèves (MAISEL) has 902 comfortable bedrooms and small flats providing accommodation for all students who wish to live on-campus. The monthly rate varies depending on the type of accommodation. Students may be able to claim housing benefit subject to certain conditions.

Services included:

> Private bathrooms

> Shared kitchens

> Washing machines and tumble-dryers • Ironing rooms

> TV / Games rooms

> Internet

CONTACT

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