



INSA TOULOUSE GRADUATE SCHOOL - FRANCE

Masters of Science offered in 2013-2014

<http://www.insa-toulouse.fr> > international

Prepare for an international career in Science and Technology
Experience French culture in the Aeronautic Capital of Europe

International Master of Science in Fluids Engineering for Industrial Processes	INSA Master of Engineering through N+i	International Master of Science in Electronics for Embedded Applications
<p>This education program is focused on Fluids Engineering for Industrial Processes. Applications are related to fluid flows in petroleum engineering, chemical engineering, energy transformation... The purpose of the lectures is concerned with the physics and modelling of transport phenomena in multiphase flows (bubbles, drops, granular media, emulsions and foams). Exercises and practical training complement advanced courses on turbulence, coupling chemical reactions and flows, heat and mass transfer. The students will be trained to work with Computational Fluid Dynamics tools (commercial codes but also research and industrial software's). Along the two years of formation, the contact with our industrial partners (TOTAL, AREVA, CEA, EDF ...) is strengthened by research and industrial projects (8 + 6 weeks) and a long internship (5 months).</p> <ul style="list-style-type: none"> • Semester 1: Scientific basis, cultural integration, linguistics and methodology. • Semester 2: Core courses on fluids mechanics, heat and mass transfer and engineering applications. • Semester 3: Multiphase flows, heterogeneous media, computational fluids mechanics. • Semester 4: Graduation Internship (5-6 months) in academic Laboratories or in Industrial companies. • The 2-year program prepares future researchers and executives for international careers in the sectors of petroleum, nuclear and chemical engineering. 	<p>This Master program is a top level engineering training in two years for international students with a Bachelor (or equivalent) degree. In order to contribute to the training of engineers with a dual qualification, from their home country and from a European country, INSA has opened a two-year program for students aiming at an international career through the French engineering diploma, an internationally recognized diploma equivalent to the Master of Sciences degree.</p> <p>Around 40 places are offered to students holding a Bachelor's degree in Science or Engineering prepared over four years in their home country.</p> <p>The program of engineering includes different packages (for cultural, linguistic and methodological integration) which are organized by a network of over 75 engineering schools which have decided to work together to offer a better welcome for these students : "N+i" program. The remainder of the course is organized by INSA.</p> <p>The specializations offered are :</p> <ul style="list-style-type: none"> • Automatic control, Electronics • Biochemical Engineering • Chemical Engineering. • Civil Engineering • Computer & Network Engineering • Mechanical and modeling Engineering • Mechanical Engineering • Physics Engineering • System Engineering <p>New ! Optional courses in 2nd year: Energy, Risk, Urban Engineering.</p>	<p>This degree targets the field of electronic systems for embedded applications and communications (ESECA). The courses focus on the design of integrated, RF circuits, antennas and digital signal processing and image. The fundamental teachings relate the basics of signal theory, signal processing, electromagnetics, circuit theory and is based on project-oriented learning. Lessons are delivered within 24 months of training, since students are required to work on research departments from our industrial partners and will be welcomed in training on production sites or in laboratories of research and development.</p> <ul style="list-style-type: none"> • Semester 1: Scientific basis, cultural integration, linguistics and methodology (Establishment of a transition semester "n + i"): modular training in analog and digital electronics, microwave and signal processing. • Semester 2: Core courses and IC design, microwave, signal processing. • Semester 3: <ul style="list-style-type: none"> ◦ Analog Integrated circuits (8 ECTS), ◦ Digital Systems (8 ECTS) ◦ Mixed-system architecture (5 ECTS) ◦ MEMS and SIP (3 ECTS) ◦ Optoelectronic systems (2 ECTS) ◦ Energy power management (2 ECTS) ◦ EMC and reliability (2 ECTS). • Semester 4: Graduation Internship (5-6 months) in academic Laboratories or in Industry. <p>This International Master is a joint program with ENSEEIHT engineering school, member of the National Polytechnic Institute of Toulouse (INPT). More information:</p>
<p>Contact : nicolas.dietrich@insa-toulouse.fr</p>	<p>Contact : master_bachelor@insa-toulouse.fr</p>	<p>Contacts : etienne.sicard@insa-toulouse.fr julien.perchoux@n7.fr</p>
<p>Web site: http://masterfluidsprocesses.inp-toulouse.fr/</p>	<p>Web site: www.nplusi.com</p>	<p>Web site: http://www.insa-toulouse.fr > International ENSEEIHT: http://www.enseeiht.fr/fr/master.html</p>
<p>Cost: 9,000€/year – 4,000€/year if partnership with home university</p>	<p>Cost: 10 000 € total for the two years</p>	<p>Cost: 5000 €per year</p>
<p>Language: English/French</p>	<p>Language: Mainly English in System Eng, mainly French in other specializations</p>	<p>Language: English/French</p>
<p>Duration: 2 years</p>	<p>Duration: 2 years</p>	<p>Duration: 1 or 2 years</p>
<p>First three semesters: mainly lectures, tutorials and lab work; fourth semester: internship</p>	<p>First three semesters: mainly lectures, tutorials and lab work; fourth semester: internship</p>	<p>Integration package through www.nplusi.com First three semesters: lectures, tutorials, lab work; fourth semester: internship</p>
<p>Required level: Bachelor of Science, Engineering degree, 4 years of higher education</p>	<p>Required level: Bachelor of Science, Engineering degree, 4 years of higher education</p>	<p>Required level: Bachelor of Science, Engineering degree, 4 years of higher education</p>
<p>Degree awarded: International Master of Science Deadline for application: session 1: December 1st; session 2: April 15th.</p>	<p>Degree awarded: Diplôme d'ingénieur INSA Deadline for application: session 1 : November 18, 2012; session 2 : March 17, 2013</p>	<p>Degree awarded: International Master of Sciences Deadline for application: May 1, 2013</p>

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International Master in Risk Engineering

The objective of this **one-year Advanced Master course** is to offer lectures in English dealing with generic aspects of risk management and their applications in various domains of engineering.

The first semester (30 ECTS) contains 3 parts.

Part A concerns generic knowledge, including concepts of risk, risk identification, analysis, evaluation, and treatment, communication and consultation, safety management system, legal and human factors in risk management.

Part B deals with application fields: Process safety, toxicological risks for human health, environmental risks associated with toxic products, natural and technological risks for construction, dependability of computing systems, risks associated with radiation, safety of electrical systems. This second part does not require deep knowledge of each domain as an introduction to useful skills will be supplied. A large part of the lectures is provided by professionals.

Part C focuses on professional skills including Conferences and Projects.

The second semester is dedicated to an internship in firms (30 ECTS).

The program is **targeted to jobs** in international firms accountable for controlling induced risks, business units dealing with safety regulations, consulting and auditing firms and public administrations. **Sectors of employment** include aerospace, railways, construction, production, energy, agriculture, medicine, and pharmacy.

Contact: gilles.motet@insa-toulouse.fr

Web site : <http://www.pole-masteres-risques.org>

Cost: 5 000 €

Language: English

Duration: 1 or 2 years

1 semester lectures, case studies, projects, 1 semester internship

Required level: Master of Science, Engineering Degree

Degree awarded: INSA International Master of Sciences

Deadline for application: **May 1, 2013**

Advanced Master Business Engineering and International Affairs

With the Master MSIAI, INSA Toulouse offers a top-level training that enables engineers to acquire double skills in Engineer and in Industrial Affairs.

The Advanced Master relies primarily on an **intensive training** over 600H all taught by professionals still in activity, and who are now real specialists in their field. Emphasis is placed on the Business Project Management, management techniques, international trade, negotiation and interpersonal skills. The courses are concentrated mostly in the **beginning of the year**.

Starting December, **the export mission** occupies at least 50% of working engineers: they practice their knowledge and expertise, since the study phase to the movement in the country (ies) target (s).

From May to September **an internship is scheduled** that usually corresponds to a period of pre-employment. The **thesis work** is evaluated in September and represents the last step before graduation.

Since 1997, around **one hundred** companies have relied on MSIAI engineers to defend their interests abroad: Russia, Tanzania, PECO, Germany, USA, Italy, Norway, Switzerland, Turkey, etc. ...

Contact: msiai@insa-toulouse.fr

Web site : <http://www.msiai.insa-toulouse.fr>

Cost: 8 700 €

Language: English and French

Duration: 1 year

1 semester lectures, tutorials, projects, 1 semester internship

Required level: Master of Science, Engineering degree, 5 years of higher education

Degree awarded: Advanced Master Certificate

Deadline for application: **June 1, 2013**

Advanced Master in Engineering and Finance Models

The Advanced Master « Engineering and Finance Models » combines the expertise of three higher education institutes of Toulouse: *Groupe Ecole Supérieure de Commerce*, the ISAE and INSA Toulouse.

This Advanced Master has been established to respond to the tremendous evolution of the content of **bank intervention**, the nature of their operations, the diversity of their products and their management.

The Master is therefore primarily targeted to jobs offered by financial institutions that require the ability to model and formalize financial mechanisms.

Program outlines:

- Financial markets
- Financial Modeling
- Financial Mathematics
- Stochastic calculus
- Statistics of financial processes
- Econometrics of Financial
- Risk Management
- Quantitative portfolio management
- Mergers, acquisitions
- Computing, numerical methods

The advanced master is completed by the implementation of a project corresponding to a complete task of Quantitative Finance at a financial institution or a research laboratory.

Contact : benoit.truong@insa-toulouse.fr , masteres@esc-toulouse.fr

Web site: <http://www.esc-toulouse.fr>

Cost: 6 000 €

Language: French

Duration: 1 year

1 semester lectures, projects, 1 semester internship

Required level: Master of Science, Engineering degree, 5 years of higher education

Degree awarded: Advanced Master Certificate

Deadline for application: **March 1, 2013**