

**National Institute of Applied Sciences, Lyon-France****Computer Science Department****In-Company internships**

During the five years of studies at INSA (National Institute of Applied Sciences), students in the Computer Science Department acquire scientific and technical knowledge which allows them either to carry on with postgraduate studies or to find a position in computer engineering. During their studies, students carry out in-company/laboratory internships. They occur at the end of the 3<sup>rd</sup>, 4<sup>th</sup> and during the 5<sup>th</sup> year. The contractual and administrative sides are specified by means of a convention signed by the department and the host company.

**• SHORT INTERNSHIP (END OF 3<sup>RD</sup> YEAR)**

The third year enables students to become familiar with programming techniques, designing methods and to reach the level of a programme analyst. This internship enables them to put into practice, in a real-life environment, the theoretical knowledge and technical skills, and to grasp the structure and functioning of the host company.

Internship period	Duration	Period for sending offers
from June until September 15 <sup>th</sup>	2 to 3 ½ months	from October to March

**Skills:**

- Programming languages and data bases : C, C++, Java, Assembler 68000, Oracle, SQL
- Operating systems : Linux/Unix, Windows, VxWorks
- Networks : Basics for networks, Network functions, ISO architecture, internet architecture, data links, IP, local Area Networks
- Design methods : MERISE, UML
- Tools : Matlab, Eclipse, NetBeans

**• LONG INTERNSHIP (END OF 4<sup>TH</sup> YEAR)**

This internship aims at having students tackle real and manageable projects. Indeed, the fourth year of computer science training enabled them to face more complex problems in various fields in informatics, as well as to sensitise them to teamwork and project management. This internship is directed towards analysis/design activities and most often up to implementation.

Internship period	Duration	Period for sending offers
from May to early October	4 to 5 months	from October to March

**Skills (besides those in previous year) :**

- Programming Languages : Java, C, C++, Prolog, Starlet (language for compilers), XML
- Data bases : Oracle, SQL
- Operating systems : Unix/Linux, Windows, VxWorks

- Networks : Architectures, internet, fixed and mobile telecommunications, networks administration and security
- Designing and specification methods, process modelling : UML, MERISE, SART, USDP, ERP
- Tools : Eclipse, Matlab, Visual C++, RSA (Rational Software Architect), MS-Project, NetBeans

### ● FINAL PROJECT (DURING 5<sup>TH</sup> YEAR)

The Final Project is the internship that takes place at the end of the training of engineering students in Computer Science. It leads to an engineering Degree.

Type of work which is to be carried out. Development of projects in their initial phase : needs analysis and designing of solutions. A Final Project can be the design of a software product, an application, a network architecture, or an information system. In the final project, the ability of students covers the whole design of applications: needs surveys, market studies, problem-solving, assessment, feasibility studies, design of a software model. Students are supervised by a teacher from the Computer Science Department and the tutor in the company.

Report & Viva. Toward the end of the project (July or September), students write a report and present their work to an INSA jury, which is made up of teachers and the tutor in the company. The report and the viva are graded. They account for one third of the total annual grades.

Internship period	Duration	Period for sending offers
February to September	4 to 6 months	From September to January

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### To offer an internship

Send your detailed internship offer (short presentation of the company's/laboratory's activities, topic offered to the internship, pre-requisites, development environment, estimated length, compensation...). INSA's professors will validate the subject prior to submission to students.

#### Please contact : Marie ROSAIN or Laurence LOPEZ

INSA - Département Informatique  
Espace Entreprise - Bâtiment Blaise Pascal  
69621 VILLEURBANNE Cedex - FRANCE  
☎ +33 4 72 43 83 09 or +33 4 72 43 70 64  
Fax : +33 4 72 43 70 65  
E-mail : marie.rosain@insa-lyon.fr or laurence.lopez@insa-lyon.fr