IST — Information Science and Technology

Coordinator: Tanguy Risset - ist@listes.insa-lyon.fr
INFORMATION SCIENCE & TECHNOLOGY

Bachelor-Level Courses in English

- COMPUTER SCIENCE
- TELECOMMUNICATIONS
- ELECTRICAL ENGINEERING
SYLLABUS

PART 1 (6 WEEKS)

September - October

- Computer Networks: LAN & IP networks
- Object oriented programming
- Assembly programming
- Databases
- Transmission lines and RF systems
- Signal and Image Processing Part 1

PART 2 (6 WEEKS)

November - December

- Computer Networks: Advanced notions
- Middleware design and implementation
- Operating Systems
- Data-mining
- Wireless Communication Basics
- Signal and Image Processing Part 2

HTTPS://WWW.INSA-LYON.FR/EN/FORMATION/PARCOURS/1005/4/1
EVALUATIONS

EXAMS AT END-OCTOBER AND MID-DECEMBER

Students may stay until January to continue working on the project
EXAMPLE OF TRACK FOR 30 ECTS:

- **6 COURSES**
  - To choose from September to December
  - **18 ECTS (3/course)**

- **FRENCH COURSE / TANDEM AND INTERCOMPREHENSION IN FRENCH**
  - 2 hours per week
  - **2 ECTS**

- **PROJECT IN A RESEARCH LAB**
  - 2 days/week
  - **10 ECTS**

This track is not mandatory and is provided as an example. Students can create their own curriculum, and we do not impose a minimum number of ECTS.
### EXAMPLE OF TRACK FOR 14 ECTS:

<table>
<thead>
<tr>
<th>COURSES (IST)</th>
<th>1 COURSE (MINOR DPT)</th>
<th>FRENCH COURSE / TANDEM AND INTERCOMPREHENSION IN FRENCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>To choose from September to December</td>
<td>To choose from September to January/February</td>
<td>2 hours per week</td>
</tr>
<tr>
<td>9 ECTS (3/course)</td>
<td>3 ECTS</td>
<td>2 ECTS</td>
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</tbody>
</table>

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PROJECT IN A LAB

Affiliated to INRIA
http://citi-lab.fr/

Affiliated to CNRS
http://liris.cnrs.fr/

Affiliated to CNRS, INSERM
http://www.creatis.insa-lyon.fr/
EXAMPLES OF PROJECTS:

- “Data analysis of low-cost air pollution measurements (keywords: wireless sensing, environmental data, data analysis)” - Ahmed Boubrima (ahmed.boubrima@inria.fr)

- “Multi-hop calibration of low-cost air pollution sensors (keywords: wireless sensing, environmental data, optimization algorithms)” - Ahmed Boubrima (ahmed.boubrima@inria.fr)

- “User association in cellular networks” - Razvan Stanica (razvan.stanica@insa-lyon.fr)

- “Blockchain, distributed systems and consensus” - Stephane Frenot (stephane.frenot@insa-lyon.fr)

- “Adaptive Federated Learning at the Edge: How to Balance Application Requirements, Data Scope and Resources Constraints?” - Frederic Le Mouël (frederic.le-mouel@insa-lyon.fr)

- “Application of ML techniques for analysis of solitary bees nests in the surroundings of the Sabana de Bogota – Colombia” - Oscar Carrillo (oscar.carrillo@cpe.fr) & F. Le Mouël (frederic.le-mouel@insa-lyon.fr)

- “Anomalie detection in core networks” - Pierre Francois (pierre.francois@insa-lyon.fr)

  - “Data analysis from a LoRaWAN network” - Oana Iova (oana.iova@insa-lyon.fr)
  - “Initiation to Arduino” - Oana Iova (oana.iova@insa-lyon.fr)
Let's keep in touch

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