

## Semestre 8 - Artificial intelligence for information processing (IATI)



ECTS  
30 credits



Component  
École Nationale  
Supérieure  
d'Électrotechnique  
d'Électronique  
d'Informatique  
d'Hydraulique  
et des  
Télécommunications

### In brief

- > **Ametys Code:** M8FPDU2A
- > **Open to exchange students:** Yes

## List of courses

|  | Nature      | CM | TD | TP | Crédits    |
|--|-------------|----|----|----|------------|
| <b>APPLIED MATHEMATICS</b>                         | UE          |    |    |    | 5 credits  |
| Advanced linear algebra                            | UE          |    |    |    |            |
| Hilbertian analysis                                | UE          |    |    |    |            |
| Optimisation under constraints                     | Matière     |    |    |    |            |
| <b>DIGITAL SYSTEM ARCHITECTURE</b>                 | UE          |    |    |    | 5 credits  |
| FPGA technology                                    | UE          |    |    |    |            |
| DSP  | UE          |    |    |    |            |
| Synchronous design of digital systems              | Matière     |    |    |    |            |
| <b>IMAGE AND SIGNAL PROCESSING MODELING</b>        | UE          |    |    |    | 5 credits  |
| Image processing                                   | UE          |    |    |    |            |
| Image Project                                      | Matière     |    |    |    |            |
| Modeling   | UE          |    |    |    |            |
| <b>Elective Course: Advanced Study in IATI</b>     | <b>Bloc</b> |    |    |    | 10 credits |
| Advanced Study SIA                                 | Choix       |    |    |    |            |
| <b>SIGNAL ADVANCED METHODS</b>                     | UE          |    |    |    | 5 credits  |
| Signal representation and analysis                 | Matière     |    |    |    |            |
| Optimal filtering                                  | Matière     |    |    |    |            |
| Multivariate analysis                              | Matière     |    |    |    |            |
| Inverse problems                                   | Matière     |    |    |    |            |
| <b>AI FUNDAMENTALS</b>                             | UE          |    |    |    | 5 credits  |
| Information Theory                                 | Matière     |    |    |    |            |
| Introduction to Deep Learning                      | Matière     |    |    |    |            |
| Statistics - advanced methods                      | Matière     |    |    |    |            |
| Computational statistics                           | Matière     |    |    |    |            |
| Advanced Study TSE                                 | Choix       |    |    |    |            |
| <b>SIGNAL ADVANCED METHODS</b>                     | UE          |    |    |    | 5 credits  |
| Signal representation and analysis                 | Matière     |    |    |    |            |
| Optimal filtering                                  | Matière     |    |    |    |            |
| Multivariate analysis                              | Matière     |    |    |    |            |
| <b>AI INTRODUCTION</b>                             | UE          |    |    |    | 5 credits  |
| Introduction to Deep Learning                      | Matière     |    |    |    |            |
| General AI integration: first hardware integration | Matière     |    |    |    |            |
| <b>SOFT AND HUMAN SKILLS</b>                       | UE          |    |    |    | 5 credits  |
| Professional Communication and English-Sem.8       | Matière     |    |    |    |            |
| Second language                                    | Choix       |    |    |    |            |
| Espagnol-S8  | Matière     |    |    |    |            |
| Portugais-S8                                       | Matière     |    |    |    |            |
| Chinois-S8   | Matière     |    |    |    |            |
| Italien-S8   | Matière     |    |    |    |            |
| Japonais-S8  | Matière     |    |    |    |            |
| Russe-S8   | Matière     |    |    |    |            |
| Allemand-S8  | Matière     |    |    |    |            |
| FLE - S8   | Matière     |    |    |    |            |
| LSF - S8   | Matière     |    |    |    |            |
| Sports   | Matière     |    |    |    |            |
| Careers and Management - Sem.8                     | Choix       |    |    |    |            |
| Leadership   | Matière     |    |    |    |            |
| Entrepreneurship                                   | Matière     |    |    |    |            |

