Engineering Program (Cycle Ingénieur)
The ESSAI (Higher School of Statistics and Information Analysis) is dedicated to preparing its students for careers in data collection and analysis, particularly in the economic and social fields, but also in industries such as life sciences, marketing, finance, healthcare, and information systems.

The duration of study at ESSAI spans three (03) years, culminating in the "National Engineering Diploma in Statistics and Information Analysis."

The first and second years of study each include twenty-eight (28) weeks of instruction and four (04) weeks devoted to professional internships. The third year includes fourteen (14) weeks of instruction and fifteen (15) weeks dedicated to a final year project (PFE).

Throughout the three years of study, students receive multidisciplinary training across a wide range of fields, supported by internships, workshops, and projects.

In the third year, engineering students are divided into two options: Actuarial Science and Big Data. The allocation of students between the options is based on their preferences, academic performance, and the capacity of each option. However, an option can only be offered if a sufficient number of students request it.

The teaching units, the elements they contain, the options, the structure of the courses, their hourly volumes, and the coefficients of the related examinations are defined in the current curriculum.

Students must complete two professional internships: one at the end of the first year and the other at the end of the second year. In the third year, the program includes a final project (PFE) under the supervision of an ESSAI faculty member.

The course groups, or "Paniers," for the first three years of study are categorized as follows: In the 1st year, the main areas include Mathematics and Statistics I and II, covering subjects like Descriptive Statistics, Probability, Data Analysis, and Inferential Statistics, alongside IT and Information Systems, Economics, and Social Sciences, Communication, and Project & Internship work. The 2nd year expands on Mathematics and Statistics with courses like Stochastic Processes, Data Mining, and Econometrics, while IT subjects include Object-Oriented Design and Web Programming, complemented by further studies in Economics and Social Sciences, Communication, and Project work. Finally, in the 3rd year, courses focus on advanced topics in Mathematics and Statistics, such as Bayesian Statistics, Machine Learning, and Artificial Intelligence, along with IT subjects like Java 2 and Business Intelligence, and additional studies in Economics, Communication, and various optional modules, culminating in a Final Year Project.

A Multidisciplinary Education:

Statistics: A program that covers the collection, processing, analysis, and interpretation of data, applied to various fields. **Economics**: Combines economic theory and social sciences with real-world problems. **IT**: Focuses on implementing statistical methods through advanced technologies like big data, AI, data mining, and web technologies.

ESSAI integrates cutting-edge tools and methods in its curriculum. Students gain expertise in data modeling, risk analysis, economic modeling, and decision-making. Along with core disciplines, the curriculum includes entrepreneurship, communication, and language certifications (TOEIC, DELF). Mandatory internships also provide practical professional exposure.

Projects and Internships

Throughout their time at ESSAI, internships are mandatory. Engineering students cannot obtain their diplomas without validating **all** internships. Each year, internship opportunities are sent to the Studies and Internships Directorate, demonstrating the school's strong ties to the professional world. These offers come from large Tunisian companies as well as research laboratories. Each internship allows students to refine their career choices.

1. Integration Internship

At the end of the first year of studies, students must complete an integration internship in a company. This internship lasts a minimum of 4 weeks. It introduces students to organizational methods and the operating mechanisms of companies and administrations, preparing them to integrate into the socio-industrial environment.

2. Engineering Internship

At the end of the second year, students must complete an application internship, referred to as the "engineering internship," which lasts at least 4 weeks. This internship begins in early June. Its purpose is to apply and deepen the knowledge gained. It helps students gradually become more familiar with the professional world.

3. Final-Year Project (PFE) Internship

At the end of the third year, students are required to complete a final-year internship in a company, lasting between 4 and 6 months. This internship begins in February. After the internship, a defense is organized in June or September. A diploma jury then validates the internship based on the report submitted by the president of the internship jury.

The Final-Year Project (PFE) process involves several key steps: First, the engineering student submits the PFE form, signed and stamped by the company, for validation by the Studies and Internships Directorate and the PFE Committee, which also assigns a university supervisor if needed. Second, the student submits four copies of the internship agreement, signed by all parties, within a month of the internship's start. Third, a validated mid-term report is submitted with the necessary authorization and evaluation forms signed by both the university and company supervisors. Fourth, at the internship's end, the student submits four copies of the final report along with a defense authorization letter, evaluation forms, and an internship certificate, plus a CD with the report. For international PFEs, additional documentation from the company supervisor is required. Finally, the Studies and Internships Directorate organizes the defense before a jury.
