

First year Engineering program at the ENSAT

OBJECTIVES :

- Acquire basic concepts in the multidisciplinary field of Agronomy
- First steps into professionalisation

First two semesters (S5 and S6) : COMMON CORE CURRICULUM

LIFE SCIENCES

- Animal Science and breeding
- Soils and Plants
- Food Science
- Ecology and Environment
- Fundamental Genetics

ENGINEERING SCIENCES

- Mathematics and computer sciences Part 1
- Mathematics and computer sciences Part 2
- Process engineering in Agricultural and Food Sciences.

SOCIAL SCIENCES AND HUMANITIES

- Economy and Sociology of Agroindustrial contexts. Part I
- Management Part 1

TRANSVERSAL FIELDS

- Analysis of Agro-systems followed by 6 weeks training on a farm
- First steps towards professional insertion
- Professional ethics
- Tutored industrial projects (Group work)
- Modern languages (English plus free choice of a second one)
- Physical Education

Second year Engineering program at the ENSAT

OBJECTIVES:

- Further steps in basic multidisciplinary concepts in agronomy
- Follow up of professional insertion
- First steps into specialization
- Finalize international mobility projects

Third Semester (S7) : COMMON CORE CURRICULUM AND TUTORED INDUSTRIAL PROJECT

LIFE SCIENCES

- Genetics related to crop and animal improvement
- Food quality and safety

ENGINEERING SCIENCES

- Applied Mathematics 3
- Management 2 (data bases)

SOCIAL SCIENCES AND HUMANITIES

- Management 2 (marketing)
- Production and Human Ressource Management

Introduction to sustainable development

Group project within a private company, a research laboratory, a local, regional authority to stimulate project development

Modern languages (TOEFL)

Physical Education

Fourth semester (S8): PRE-SPECIALIZATION

- 30 Elective courses leading to the following areas of specialization :

Agronomy

Animal Sciences

Environment

Food Science

Agromanagement

Plant Agrobiosciences

- Cross-disciplinarity in Social and Economic Sciences, Modern languages and Physical Education

- Ten to twelve weeks internship abroad or in France

Pre-specialisation modules (Semester 8)

5 ECTS per module

Modules written in red are held in English

AREAS	Serie 1 February	Serie 2 March	Serie 3 March - April	Serie 4 April - May	Serie 5 May
Agro Management	1.1 Analysis and mapping of socio technical controversies	2.1 Economy of sustainable and territorial development	3.1 Supply Chain and Production Cost Management	4.1 Sociology and methods in social sciences	5.1 Marketing and sale methods
Food Industries	1.2 Food science (in english upon request)	2.2 Food quality and food safety	3.2 M&E Balances, Food Rheology and Reaction Engineering	4.2 Fermentation and enzymatic processes	5.2 Processing of animal products
Environment	1.3 Biogeochemistry of the environment	2.3 Remote detection and GIS (Environment)	3.3 Water and environment	4.3 Soil and environment	5.3 Biodiversity and landscape management
Animal Science	1.4 Animal sciences : production and reproduction	2.4 Agronomic approaches to fodder sytems	3.4 From plant raw material to food supply	4-4 The animal in its environment	
Agro Biosciences	1.5 Plant biotechnology and sustainable agriculture	2.5 Genomics	3.5 Seed industry and plant breeding	4.5 Bio-informatics	5.5 Crop protection
Agro-ecology	1.6 Cropping systems	2.6 Organic agriculture and composts	3.6 Remote sensing and GIS (Agronomy)	4.6 Direct sowing and conservation agriculture	5.6 Water management in agriculture
Agronomy				4.7 Urban agriculture	