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| **1- Identification of the Education Offer** |

***Level* : Licence (Bachelor)**

***Field :*****Agronomic Sciences**

***Branch* : Agri-food Technology and Quality Control**

***Speciality* :** **Technology for Dairy and Cheese Industries**

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| **2- Educational Establishment :** |

***Faculty/Institute:* Institute of Applied Sciences and Technology**

***Department:* Science Department**

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| --- |
| **3- External partners** |

***Algerian Academic partners:***

***Companies and other socio-economic partners*: Maison du lait ,** **Chamber of Commerce and Industry of the Wilaya of Tlemcen**

***International partners :* Associaotion of University Institute of Technology’s Directors (ADUIT) France**

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| **4- Context and objectives of the training:** |

Technology for Dairy and Cheese Industries

**L1**

Technology for Dairy and Cheese Industries

**L3**

**Professional bachelor's degree**

Technology for Dairy and Cheese Industries

**L2**

**4 weeks** of internship in professional environment

**8 weeks** of internship in professional environment

**16 weeks** of internship in professional environment

Jobs sector

* **Train intermediate level executives who have mastery of techniques, technology, food hygiene and safety, and management related to the dairy industry.**
* **This training is designed to develop technologists whose skills in dairy and cheese product processing will enable them to master all stages of production.**
* **Address a dual need for mastery of fundamental knowledge and practical skills.**
* **Integrate graduates into dairy and agri-food companies capable of assuming management and technical responsibilities in dairy product preparation, processing, and packaging** **production units**

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| **5- Facilities, Equipment and Laboratoires** |

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| **6- Profiles and Competencies Targeted** |

* **The training provides students with the fundamental skills expected at the undergraduate level, primarily in the areas of technical and technological expertise, as well as management associated with industries operating at the administrative level (dairies, agri-food companies, food product analysis laboratories).**

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| **7- Development Prospects and Employability** |

* **This training will enable students to work in agri-food companies or food analysis laboratories.**

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| **8- Organisation of the Semesters Teaching** |

**1- Semester 1:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Teaching unit** | **SW** | **weekly workload** | **coefficient** | **Credits** | **Assessment method** |
| **14- weeks** | **L** | **T** | **PW** | **Others** | **Continuous**  | **Exam** |
| **Fundamental Teaching Units** |  |  |  |  |  |
| **FTU11(O/P)** | Scientific bases |  |  |  |
| **FTU111** Mathematical tools | 49 | 14 | 21 |  |  | 2 |  |  |  |
| **FTU112** Basics of Physics | 42 | 14 | 14 | 14 |  | 3 |  |  |  |
|  |  |  |  |  |  |  | 7 |  |  |
| **FTU12(O/P)** | Chemical and biotechnological sciences |  |  |  |
| **FU121** Structural biochemistry | 35 | 14 | 7 | 14 |  | 2 |  |  |  |
| **FU122** Basics of General Microbiology | 28 | 14 |  | 14 |  | 2 |  |  |  |
| **FU123** General Chemistry | 56 | 14 | 14 | 28 |  | 4 | 9 |  |  |
| **TOTAL** | **196** |  |  |  |  |  | 16 |  |  |
| **Methodological Teaching Units** |  |  |  |  |  |
| **MTU11(O/P)** | Analytical Tools 1 |  |  |  |
| **MTU111** Microbiology techniques and safety | 28 |  | 7 | 21 |  | 2 |  |  |  |
| **MTU112** Analytical tools for Chemistry, biochemistry and safety | 28 |  | 7 | 21 |  | 2 | 4 |  |  |
| **MTU12(O/P)** | Introduction to computers and statistics |  |  |  |
| **MTU121** Introduction to ICT | 21 |  |  | 21 |  | 1 |  |  |  |
| **MTU122** Statistical tools | 21 | 7 | 14 |  |  | 1 | 4 |  |  |
| **TOTAL** | **98** |  |  |  |  |  | 8 |  |  |
| **Discovery Teaching Units** |  |  |  |  |
| **DTU11(O/P)** | Discovery of the professional world |  |  |  |
| **DTU111** Personal and professional project | 7 |  | 7 |  |  | 1 |  |  |  |
| **DTU112** Entrepreneurship and discovering the company module | 14 | 7 |  |  | 7 | 1 |  |  |  |
| TOTAL | **21** |  |  |  |  |  | 2 |  |  |
| **DTU2(O/P)** |  |  |  |  |  |  |  |  |  |
| Etc. |  |  |  |  |  |  |  |  |  |
| **Transversal Teaching Units** |  |  |  |  |  |
| **TTU11(O/P)** | expression and communication |  |  |  |
| **TTU111** Communication languages | 21 |  | 21 |  |  | 1 |  |  |  |
| **EU112** Written and oral communication | 28 |  | 28 |  |  | 2 |  |  |  |
| **TOTAL** | **49** |  |  |  |  |  | 4 |  |  |
|  |  |  |  |  |  | 5 |  |  |  |
| Etc. |  |  |  |  |  |  |  |  |  |
| **Total Semester 1** | **366** |  |  |  |  |  | **30** |  |  |

**2- Semester 2:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Teaching unit** | **SW** | **weekly workload** | **coefficient** | **Credits** | **Assessment method** |
| **14-16 weeks** | **VS** | **TD** | **TP** | **Others** | **Continuous**  | **Exam** |
| **Fundamental Teaching Units** |  |  |  |  |  |
| **FTU21(O/P)** | Chemical and Physical sciences |  | 8 |  |  |
| **FTU211** Organic chemistry | 56 | 14 | 14 | 28 |  | 4 |  |  |  |
| **FTU212** Applied physics | 35 |  | 14 | 21 |  | 2 |  |  |  |
| **FTU22(O/P)** | Biochemical and microbiological sciences | 7 |  |  |
| **FTU221** Metabolic biochemistry | 42 | 14 | 7 | 21 |  | 3 |  |  |  |
| **FTU222** Food microbiology safety aspect | 49 | 14 | 7 | 28 |  | 3 |  |  |  |
| **TOTAL** | **182** |  |  |  |  |  | 15 |  |  |
| **Methodological Teaching Units** |  |  |  |  |  |
| **MTU21(O/P)** | Analytical Tools 2 |  | 3 |  |  |
| **MTU211** Analytical tools of biochemistry and chemistry 2 | 21 |  | 7 | 14 |  | 1 |  |  |  |
| **MTU212** Analytical tools Microbiology 2 | 21 |  | 7 | 14 |  | 1 |  |  |  |
| **MTU22(O/P)** | Statistics and IT |  | 3 |  |  |
| **MTU221** ICT tools 2 | 21 |  | 7 | 14 |  | 1 |  |  |  |
| **MTU222** Statistical tools 2 | 21 |  | 7 | 14 |  | 1 |  |  |  |
| **TOTAL** | **84** |  |  |  |  |  | 6 |  |  |
| **Discovery Teaching Units** |  |  |  |  |  |
| **DTU21(O/P)** | Technological lessons |  |  |  |  |
| **DTU211** Bioproduction | 35 | 7 | 14 | 14 |  | 2 |  |  |  |
| **DTU212** Industrial Engineering | 49 | 14 | 14 | 21 |  | 3 |  |  |  |
| **DTU22(O/P)** |  |  |  |  |  |  |  |  |  |
| **TOTAL** | **84** |  |  |  |  |  | 6 |  |  |
| **Transversal Teaching Units** |  |  |  |  |  |
| **TTU21(O/P)** | Project communication tools |  |  |  |  |
| **TTU211** Techniques of expression and writing | 21 |  | 21 |  |  | 1 |  |  |  |
| **TTU212** English Level 2 | 14 |  | 14 |  |  | 1 |  |  |  |
| **TTU213** Personal and Professional Project Seminar | 14 |  |  | 14 |  | 1 |  |  |  |
| **TOTAL** | **49** |  |  |  |  |  | 3 |  |  |
| **TTU2(O/P)** |  |  |  |  |  |  |  |  |  |
| **internship in professional environment Level 1** |  |  |  |  | 156 | 4 |  |  |  |
| **Total Semester 2** | **399** |  |  |  |  |  |  |  |  |

**3- Semester 3:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Teaching unit** | **SW** | **weekly workload** | **coefficient** | **Credits** | **Assessment method** |
| **14-16 weeks** | **L** | **T** | **PW** | **Others** | **Continuous**  | **Exam** |
| **Fundamental Teaching Units** |  |  |  |  |  |
| **FTU31(O/P)** | Industrial process engineering |  | 9 |  |  |
| **FTU311** industrial physics | 56 | 14 | 21 | 21 |  | 4 |  |  |  |
| **FTU312** Unit operations 1 | 56 | 14 | 21 | 21 |  | 4 |  |  |  |
| **FTU32(O/P)** | Biotechnology |  | 9 |  |  |
| **FTU321** Food biochemistry physicochemistry | 49 | 14 | 14 | 21 |  | 3 |  |  |  |
| **FTU322** Food microbiology technological aspect | 49 | 14 | 7 | 28 |  | 3 |  |  |  |
| **TOTAL** | **210** |  |  |  |  |  | **18** |  |  |
| **Methodological Teaching Units** |  |  |  |  |  |
| **MTU31(O/P)** | Analytical tools 3 |  |  | 3 |  |  |
| **MTU311** Biochemical analysis method | 21 |  |  | 21 |  | 1 |  |  |  |
| **MTU312** Physico-chemical analysis method | 21 |  |  | 21 |  | 1 |  |  |  |
| **TOTAL** |  |  |  |  |  |  |  |  |  |
| **MTU22(O/P)** | Sensory analysis and metrology |  | 3 |  |  |
| **MTU221** Sensory analysis | 14 | 7 |  | 7 |  | 1 |  |  |  |
| **MTU222** Metrology | 7 | 3.5 |  | 3.5 |  | 1 |  |  |  |
| **TOTAL** | **63** |  |  |  |  |  | **6** |  |  |
| **Discovery Teaching Units** |  |  |  |  |  |
| **DTU31(O/P)** | Food regulations and research and development |  |  |  |  |
| **DTU311** Food hygiene and safety | 21 | 14 | 7 |  |  | 1 |  |  |  |
| **DTU312** Food legislation and traceability | 21 | 14 | 7 |  |  | 1 |  |  |  |
| **DTU32(O/P)** | Research and development |
| **DTU321** Research and development | 21 | 7 | 14 |  |  |  | **3** |  |  |
| **TOTAL** | **63** |  |  |  |  |  |  |  |  |
| **Transversal Teaching Units** |  |  |  |  |  |
| **TTU31(O/P)** | expression communication 2 |  |  |  |  |  |
| **TTU311**English 3 | 14 |  | 14 |  |  | 1 |  |  |  |
| **TTU312** expression communication 3 | 21 |  | 21 |  |  | 1 |  |  |  |
| **TOTAL** | **35** |  |  |  |  |  | **3** |  |  |
| **TTU2(O/P)** |  |  |  |  |  |  |  |  |  |
| **TOTAL** |  |  |  |  |  |  |  |  |  |
| **Total Semester 3** | **371** |  |  |  |  |  | **30** |  |  |

**4- Semester 4:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Teaching unit** | **SW** | **weekly workload** | **coefficient** | **Credits** | **Assessment method** |
| **14-16 weeks** | **L** | **T** | **PW** | **Others** | **Continuous**  | **Exam** |
| **Fundamental Teaching Units** |  |  |  |  |  |
| **FTU41(O/P)** | Industrial process engineering 2 |  | 9 |  |  |
| **FTU411** Electrical engineering, automation and regulation | 49 | 14 | 14 | 21 |  | 3 |  |  |  |
| **FTU412** Unit Operations 2 | 49 | 14 | 14 | 21 |  | 3 |  |  |  |
| **FTU42(O/P)** | Food Technology |  | 9 |  |  |
| **FTU421** Food technology of animal products | 56 |  |  | 35 |  | 4 |  |  |  |
| **FTU422** Food technology of products of plant origin | 56 | 21 |  | 35 |  | 4 |  |  |  |
| **TOTAL** | **210** |  |  |  |  |  | **18** |  |  |
| **Methodological Teaching Units** |  |  |  |  |  |
| **MTU41(O/P)** | Data processing |  | 3 |  |  |
| **UEM411** Data Analysis | 14 |  | 7 | 7 |  | 1 |  |  |  |
| **UEM412** Applied Statistics | 21 |  | 14 | 14 |  | 1 |  |  |  |
| **MTU42(O/P)** | Business organization |  | 3 |  |  |
| **MTU421** Production organization and planning | 14 | 7 | 7 |  |  | 1 |  |  |  |
| **MTU422** Production analysis | 7 |  | 7 |  |  | 1 |  |  |  |
| Total | **56** |  |  |  |  |  | **6** |  |  |
| **Discovery Teaching Units** |  |  |  |  |  |
| **DTU41(O/P)** | Quality - legal context and human resources |  |  |  |  |
| **DTU411** Quality, safety and environment management | 28 | 21 | 7 |  |  | 1 |  |  |  |
| **DTU412** Legal context of the company and labor law | 21 | 7 | 14 |  |  | 1 |  |  |  |
| **DTU42(O/P)** |  |  |  |  |  |  |  |  |  |
| **DTU421** Human ressources | 7 | 7 |  |  |  |  |  |  |  |
| **TOTAL** | **56** |  |  |  |  |  | **4** |  |  |
| **Transversal Teaching Units** |  |  |  |  |  |
| **TTU41(O/P)** | Environment and Sustainable Development |  |  |  |  |
| **TTU411** Water quality in Agri-food Technology | 14 |  | 14 |  |  | 1 |  |  |  |
| **TTU412** Sustainable development | 7 |  | 7 |  |  | 1 | **2** |  |  |
| **TOTAL**I | **21** |  |  |  |  |  |  |  |  |
| **TTU42(O/P)** |  |  |  |  |  |  |  |  |  |
| **TTU421**Tutored projects | **60** |  |  |  | **60** | 4 |  |  |  |
| Internships |  |  |  |  |  |  |  |  |  |
| **TOTAL S4** |  |  |  |  |  |  |  |  |  |
| **Total Semester 4** | **403** |  |  |  |  |  | **30** |  |  |

**5- Semester 5:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Teaching unit** | **SW** | **weekly workload** | **coefficient** | **Credits** | **Assessment method** |
| **14-16 weeks** | **L** | **T** | **PW** | **Others** | **Continuous**  | **Exam** |
| **Fundamental Teaching Units** |  |  |  |  |  |
| **FTU51(O/P)** | Dairy Technology |  | 8 |  |  |
| **FTU511** Physicochemical properties of milk | 21 | 21 |  |  |  | 2 |  |  |  |
| **FTU512** Drinking milk technology | 49 | 14 |  | 35 |  | 3 |  |  |  |
| **FTU513** Technology of condensed and dry milks | 28 | 7 |  | 21 |  | 2 |  |  |  |
| **FTU514** Technology of fermented milks | 28 | 7 |  | 21 |  | 2 |  |  |  |
| **FTU52(O/P)** | Cheese and butter technology |  | 8 |  |  |
| **FTU521** General cheese technology | 49 | 14 |  | 35 |  | 3 |  |  |  |
| **FTU522** Special cheese technology | 21 | 7 |  | 14 |  | 1 |  |  |  |
| **FTU523** Butter Technology | 14 | 7 |  | 7 |  | 1 |  |  |  |
| **TOTAL** | **210** |  |  |  |  |  | **16** |  |  |
| **Methodological Teaching Units** |  |  |  |  |  |
| **MTU51(O/P)** | Method of control and management of maintenance in dairy | 3 |  |  |
| **MTU511** Maintenance management | 28 | 14 | 7 | 7 |  | 2 |  |  |  |
| **MTU512** Dairy chemical control method | 42 | 14 |  | 28 |  | 3 |  |  |  |
| **MTU513** Microbiological control method in dairy | 42 | 14 |  | 28 |  | 3 |  |  |  |
| **TOTAL** | **112** |  |  |  |  |  | **9** |  |  |
| **Discovery Teaching Units** |  |  |  |  |  |
| **DTU52 (O/P)** | Food Technology Training Supplements |  |  |  |  |
| **DTU521** Packaging andConditioning | 14 | 7 | 7 |  |  | 1 |  |  |  |
| **DTU522** Industrial drawing in dairy | 21 | 7 |  | 14 |  | 1 |  |  |  |
| **DTU52(O/P)** |  |  |  |  |  |
| **TOTAL** | **35** |  |  |  |  |  | **3** |  |  |
| **Transversal Teaching Units** |  |  |  |  |  |
| **TTU51(O/P)** | Business creation and project management |  |  |  |  |
| **TTU511** Business creation | 14 |  | 14 |  |  | 1 |  |  |  |
| **TTU512** Conduct of project | 14 |  | 14 |  |  | 1 |  |  |  |
| **TOTAL** | 28 |  |  |  |  |  | **2** |  |  |
|  | **56** |  |  |  |  |  |  |  |  |
| **Total Semester 5** | **383** |  |  |  |  |  | **30** |  |  |

**6- Semester 6:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Teaching unit** | **SW** | **weekly workload** | **coefficient** | **Credits** | **Assessment method** |
| **14-16 weeks** | **L** | **T** | **PW** | **Others** | **Continuous**  | **Exam** |
| **Preparation for the internship** | 4 |  |  |  |  |
| **The internship** |  |  |  |  | 624 |  |  |  |  |
| Internship report, defence and feedback |  |  | 4 |  |  |  |  |  |  |
| **Total Semester 6** |  |  |  |  |  |  | **30** |  |  |

**6- Semester 6:**

Preparation for the internship.

internship in professional environment (624 hours) sanctioned by a report and a defence.

Feedback.