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

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

***Field* : Natural and Life Sciences**

***Branch* : Food Science**

***Speciality* : Technology for Agro-Food 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*: Faculty of Natural and Life Sciences, Earth and Universe Sciences**

***Companies and other socio-economic partners*:**

**Companies :** Sarl L’exquise Tlemcen, Sarl La Maison du lait Remchi Tlemcen , Les Eaux minérales de Mansourah Tlemcen, Laiterie Mansourah deTlemcen (Groupe GIPLAIT), Africafé Tlemcen, Laiterie El Fadjr El Djedid Maghnia, Minoterie la Tafna Tlemcen, Laiterie fromagerie Tessala de Sidi Bel-Abbès (groupe Giplait), Laiterie Rio Tlemcen, SPA Remchavi Tlemcen, Laiterie Ennadjah Maghnia, Laiterie la source Saida , etc...

**Chamber of Commerce and Industry of the Wilaya of Tlemcen**

**Tlemcen Regional Veterinary Laboratory**

**CACQE Laboratory, Tlemcen**

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

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

* **Train intermediate level executives with a mastery of techniques, technology, food hygiene and safety, and management related to the agri-food industries.**
* **To train technologists whose skills in food production processes will enable them to master all stages of production.**
* **Meet the dual need for mastery of fundamental knowledge and practical skills**
* **To integrate graduates into agri-food companies capable of assuming management and technical responsibility for food product preparation, processing and packaging production units.**

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

*A-Teaching laboratories and equipment*

-Laboratory name: Microbiology laboratories

-Student capacity: 12

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| --- | --- | --- | --- |
| **N°** | **Equipment name** | **Number** | **Observations** |
| 1 | Autoclave (150 L) | 1 | As new |
| 2 | Autoclave (50 L) | 1 | As new |
| 3 | Apparatus for distilled water | 1 | As new |
| 4 | Water bath with agitation | 1 | As new |
| 5 | Benchtop centrifuge | 1 | As new |
| 6 | Incubator (oven) | 1 | As new |
| 7 | Poupinel oven | 1 | As new |
| 8 | Visible UV spectrophotometer | 1 | As new |
| 9 | Automatic colony counter | 1 | As new |
| 10 | Vertical laminar flow hood | 1 | As new |
| 11 | Colorimeter | 1 | As new |
| 12 | Freezer | 1 | As new |
| 13 | Stomacher | 2 | As new |
| 14 | Microscope with camera | 6 | As new |
| 15 | Precision balance | 1 | As new |
| 16 | Analytical balance | 1 | As new |
| 17 | Electrophoresis equipment | 1 | As new |
| 18 | pH meter | 1 | As new |
| 19 | Vortex mixer | 2 | As new |
| 20 | Heated magnetic stirrers | 2 | As new |

-Laboratory name: Biochemistry

-Student capacity: 12

|  |  |  |  |
| --- | --- | --- | --- |
| **N°** | **Equipment name** | **Number** | **Observations** |
| 1 | Muffle ovens | 1 | As new |
| 2 | Heated magnetic stirrers | 2 | As new |
| 3 | Distilled water apparatus | 1 | As new |
| 4 | Automatic titrimeter | 1 | As new |
| 5 | Benchtop centrifuge | 1 | As new |
| 6 | Incubator (oven) | 1 | As new |
| 7 | Visible spectrophotometer | 1 | As new |
| 8 | Colorimeter | 1 | As new |
| 9 | Kjeldahl mineraliser | 1 | As new |
| 10 | Grinder (Stomacher) | 1 | As new |
| 11 | Precision balance | 1 | As new |
| 12 | Rotavapeurr | 1 | As new |
| 13 | pH meter | 1 | As new |
| 14 | Vortex shaker | 1 | As new |
| 15 | Soxhlet extractor | 1 | As new |
| 16 | Robert's column | 3 | As new |
| 17 | Chromatography column | 3 | As new |

-Laboratory name: Central laboratory

-Student capacity: 12

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| --- | --- | --- | --- |
| **N°** | **Equipment name** | **Number** | **Observations** |
| 1 | Osmosis unit | 1 | As new |
| 2 | Gerber Lactostar | 1 | As new |
| 3 | Apparatus for distilled water | 1 | As new |
| 4 | Colorimeter | 2 | As new |
| 5 | Refrigerated centrifuge | 1 | As new |
| 6 | Bain Marie | 1 | As new |
| 7 | Incubator (oven) | 1 | As new |
| 8 | Poupinel oven | 1 | As new |
| 9 | Infrared spectrophotometer | 1 | As new |
| 10 | Colorimeter | 1 | As new |
| 11 | Refrigerator | 1 | As new |
| 12 | Stomacher | 1 | As new |
| 13 | Precision balance | 1 | As new |
| 14 | Infrared drying balance | 1 | As new |
| 15 | pH meter | 2 | **Etat neuf** |
| 16 | Vortex mixer | 1 | **Etat neuf** |
| 17 | Apparatus for demineralised water | 1 | **Etat neuf** |
| 18 | Soxhlet extractor | 1 | **Etat neuf** |
| 19 | Robert's column | 2 | **Etat neuf** |
| 20 | Chromatography column | 2 | **Etat neuf** |

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

The course provides students with the basic skills expected at this level of degree, mainly in the fields of technical and technological mastery and management associated with industries operating at administrative level (agri-food companies, food product analysis laboratories, etc.).

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

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

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

**Semester 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Teaching Unit** | **weekly workload** | | | | | **Coeff** | **Credits** | **Evaluation method** | |
| **14 Weeks** | **L** | **T** | **PW** | **Others** |  |  | **Continuous** | **Examination** |
| **Fundamental Teaching Units – FTU11** | **Chemical and biological sciences** | | | | |  |  |  |  |
| **F111** General and organic chemistry | 54 | 12 | 21 | 21 |  | 5 | **5** | **X** | **X** |
| **F112** Basics of General Microbiology | 42 | 27 | 15 |  |  | 4 | **4** | **X** | **X** |
| **Fundamental Teaching Units – FTU12** | **Scientific basis** | | | | |  |  |  |  |
| **F121** Mathematical Tools | 36 | 15 | 21 |  |  | 4 | **4** | **X** | **X** |
| **F122** Physics Basics | 42 | 15 | 15 | 12 |  | 4 | **4** | **X** | **X** |
| TOTAL FTU | **174** | **69** | **72** | **33** |  |  | **17** |  |  |
| **Methodological Teaching Units – MTU11** | **Analytical tools 1** | | | | |  |  |  |  |
| **M111** Microbiology Analytical Tools 1 | 42 |  | 15 | 27 |  | 4 | **3** | **X** |  |
| **M112** Chemistry and Safety Analytical Tools | 42 |  | 15 | 27 |  | 4 | **3** | **X** |  |
| **M113** Statistical and Computer Tools | 30 |  | 15 | 15 |  | 3 | 2 | x |  |
| TOTAL MTU | **114** |  | **45** | **69** |  |  | **8** |  |  |
| **Discovery Teaching Units– DTU11** | **Discovery of the professional world** | | | | | | |  |  |
| **D111** Personal and Professional Project | 15 |  | 15 |  |  | 1 | **1** | **X** |  |
| TOTAL **DTU** | **15** |  | 15 |  |  | 1 | **1** |  |  |
| **Transversal Teaching Units– TTU11** | **Expression and Communication** | | | | |  |  |  |  |
| **T111** Expression and Communication1 | 27 |  | 27 |  |  | 2 | **2** | **X** |  |
| **T112**, English 1 | 21 |  | 21 |  |  | 2 | **2** | **X** |  |
| TOTAL TTU | **46** |  | **46** |  |  | 4 | **4** |  |  |
| **Total Semester 1** | **349** | 69 | 153 | 87 |  |  | **30** |  |  |

**Semester 2**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Teaching Unit** | **weekly workload** | | | | | **Coeff** | **Credits** | **Evaluation method** | |
| **14 weeks** | **L** | **T** | **PW** | **Others** | **Continuous** | **Examination** |
| **Fundamental EU – FTU21** | **Biochemical and microbiological sciences** | | | | | | |  |  |
| **F211** Structural and metabolic biochemistry | 63 | 27 | 21 | 15 |  | 6 | 6 | x | x |
| **F212** Microbial Ecology | 42 | 21 | 21 | 0 |  | 4 | 4 | x | x |
| **Basic EU – FTU 22** | **Industrial Engineering** | | | | |  |  |  |  |
| **F221** Industrial Engineering Food | 36 | 15 | 15 | 6 |  | 4 | 3 | x | x |
| **F222** Applied Physics | 36 | 6 | 15 | 15 |  | 4 | 3 | x | x |
| Total FTU | **177** | **69** | 72 | 36 |  |  | **16** |  |  |
| **Methodological Teaching Units – MTU21** | **Analytical tools 2** | | | | |  |  |  |  |
| **M211** Analytical Tools  Microbiology 2 | 27 | 0 | 6 | 21 |  | 3 | 3 | x |  |
| **M212** Biochemistry Analytical Tools | 27 | 0 | 6 | 21 |  | 3 | 3 | x |  |
| Total MTU | 54 | 0 | 12 | 42 |  |  | 6 |  |  |
| **Discovery Teaching Units– DTU21** | **Technological teaching** | | | | |  |  |  |  |
| **D211** Water Quality in IAA and  sustainable development | 15 |  | 15 |  |  | 1 | **1** | x |  |
| Total DTU | **15** |  | **15** |  |  |  | **1** |  |  |
| **Transversal Teaching Units– TTU21** | **Communication tools** | | | | |  |  |  |  |
| **T211** English Level 2 | 21 | 0 | 21 | 0 |  | 2 | 1 | x |  |
| **T212** Expression and Techniques  Writing | 21 | 0 | 21 | 0 |  | 2 | 2 | x |  |
| **TTU22 – Discovery Internship** | **100** |  |  |  | 100 |  | 4 |  |  |
| Total TTU | **142** |  | **42** |  |  |  | 7 |  |  |
| **Total Semester 2** | **388** | 69 | 156 | 87 | 100 |  | 30 |  |  |

**Semester 3**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Teaching Unit** | **weekly workload** | | | | | **Coeff** | **Credits** | **Evaluation method** | |
| **14 weeks** | **L** | **T** | **PW** | **Others** | **Continuous** | **Examination** |
| **Basic EU – FTU31** | **Industrial Process Engineering 1** | | | | |  |  |  |  |
| F311 Industrial Physics | 42 | 15 | 15 | 12 |  | 4 | 5 | X | X |
| F312 Unit operations 1 | 42 | 15 | 15 | 12 |  | 4 | 5 | X | X |
| **Basic EU –FTU32** | **Biochemistry and food microbiology** | | | | | | |  |  |
| F321 Food Biochemistry and Physical Chemistry | 42 | 12 | 15 | 15 |  | 4 | 5 | X | X |
| Total FTU | 126 | 54 | 51 | 60 |  |  | 15 |  |  |
| **Methodological Teaching Units** |  | | | | |  |  |  |  |
| MTU31 | **Quality and maintenance management methods** | | | | | | |  |  |
| **M311** Maintenance Management | 27 | 15 | 6 | 6 |  | 3 | 3 | **X** | **X** |
| **M312** Quality, Hygiene & Food Safety Management | 27 | 21 | 6 |  |  | 3 | 3 | **X** | **X** |
| Total MTU | **54** | **36** | **12** | **6** |  |  | **6** |  |  |
| **Transversal Teaching Units** |  | | | | |  |  |  |  |
| TTU31 | **Expression communication 3** | | | | |  |  |  |  |
| **T311** English Communication Level 3 | 15 |  | 15 |  |  | 2 | **1** | **X** |  |
| **TTU32 – Integration internship** | **200** |  |  |  | 200 |  | **8** |  |  |
| Total TTU | **215** |  | **15** |  |  |  | **9** |  |  |
| **Total Semester 3** | **395** | **105** | **108** | **30** |  |  | **30** |  |  |

**Semester 4**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Teaching Unit | weekly workload | | | | | Coeff | Credits | Evaluation method | |
| 14 weeks | L | T | PW | Others | Continuous | Examination |
| Basic EU – FTU41 | Industrial Process Engineering 2 | | | | |  |  |  |  |
| F411 Electrical engineering automation  and regulation | 45 | 15 | 15 | 15 |  | 3 | 4 | x | x |
| F412 Unit operations 2 | 45 | 15 | 15 | 15 |  | 3 | 4 | x | x |
| FTU42 | Hygiene and Technology  Food 1 | | | | |  |  |  |  |
| F421 Meat technology,  fish and eggs | 45 | 18 |  | 19 | 8 | 4 | 4 | x | x |
| F422 Grain Technology and  Starches | 45 | 18 |  | 19 | 8 | 4 | 4 | x | x |
| F322 Food Microbiology:  Hygienic aspects | 39 | 12 | 6 | 21 |  | 4 | 4 | X | X |
| Total FTU | 219 | 78 | 36 | 89 | 16 |  | 20 |  |  |
| Methodological Teaching Units MTU41 | Quality Management - Human Resources Management | | | | | | | |  |
| M411 Resource Management  en IAA | 36 | 15 | 21 |  |  | 2 | 2 | x |  |
| M413 Research and Development  in Agri-Food | 21 | 6 | 15 |  |  | 2 | 2 | x |  |
| Total MTU | 57 | 21 | 36 |  |  |  | 4 |  |  |
| UE Discovery – DTU41 | Legal context of the company and labour law | | | | | | |  |  |
| D411 Labour Law and Law | 15 | 9 | 6 |  |  | 1 | 1 | x |  |
| D412 Food Law and  traceability | 21 | 15 | 6 |  |  | 2 | 1 | X |  |
| Total DTU | 36 | 24 | 12 |  |  |  | 2 |  |  |
| Transversal Teaching Units– TTU41 |  | | | | |  |  |  |  |
| T411 English Communication  Level 4 | 21 |  | 21 |  |  | 2 | 1 | x |  |
| T412 Tutored Projects | 27 |  | 06 | 21 |  | 2 | 3 | x |  |
| Total TTU | 48 |  | 27 | 21 |  |  | 4 |  |  |
| Total Semester 4 | 360 | 123 | 111 | 110 | 16 |  | 30 |  |  |

**Semester 5**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Teaching Unit | weekly workload | | | | | Coeff | Credits | Evaluation method | |
| 14 weeks | L | T | PW | Others | Continuous | Examination |
| Basic EU – FTU51 | Food Technology 2 | | | | |  |  |  |  |
| F511 Dairy Technology and  Cheese | 68 | 30 |  | 30 | 8 | 7 | 6 | x | x |
| F512 Body Technology  fat | 45 | 22 |  | 15 | 8 | 5 | 4 | x | x |
| FTU52 | Food Technology 3 | | | | |  |  |  |  |
| F521 Technology of the  drinks | 45 | 22 |  | 15 | 8 | 5 | 4 | x | x |
| F522 Fruit Technology  and vegetables | 45 | 22 |  | 15 | 8 | 5 | 4 | x | x |
| TOTAL FTU | 203 | 96 |  | 75 | 32 |  | 18 |  |  |
| Methodological Teaching Units – MTU51 | Analytical tools 3 | | | | |  |  |  |  |
| M511 Methods of physico-chemical analysis and  biochemicals of food | 30 |  |  | 30 |  | 3 | 3 | x |  |
| M512 Microbiological Methods of Analysis of  food | 30 |  |  | 30 |  | 3 | 3 | x |  |
| M513 Analytical Methods  Sensory | 15 |  |  | 15 |  | 2 | 2 | x |  |
| Total MTU | 75 |  |  | 75 |  |  | 8 |  |  |
| Discovery Teaching Units– DTU51 | Food Technology Training Complements | | | | | | | |  |
| D511 Packaging and  Conditioning | 23 | 9 | 6 |  | 8 | 2 | 1 | x |  |
| D512 Industrial Design | 21 | 6 |  | 15 |  | 2 | 1 | x |  |
| TOTAL DTU | 44 | 15 | 6 | 15 | 8 |  | 2 |  |  |
| Transversal Teaching Units– TTU51 | Business creation and project management | | | | | |  |  |  |
| T511 Business Formation | 15 |  | 15 |  |  | 1 | 1 | x |  |
| T512 Project Management | 15 |  | 15 |  |  | 1 | 1 | x |  |
| TOTAL TTU | 30 |  | 30 |  |  |  | 2 |  |  |
| Total Semester 5 | 352 | 111 | 36 | 165 | 40 |  | 30 |  |  |