

People's Democratic Republic of Algeria Ministry of Higher Education and Scientific Research Abbes Laghrour University Khenchela



# Instruction descriptive form

Domain: Natural and life sciences Branch: Food Sciences Specialty: Food Technology and Quality Control Cycle: License Reporting structure: Faculty of Natural and Life Sciences Department of Agronomy

#### 1 - Training objectives

The educational goals of the courses on agri-food technology and quality control are oriented towards knowledge, analysis and control of products with control of health risks.

The health benefits of foods are prioritized with the in-depth study of the biochemical and microbiological composition of foods. The senior manager thus trained has a complete knowledge of foods, their quality with regard to health and their safety potential as well as the corresponding current regulatory framework without which no quality certification and no development of new products is possible.

The skills acquired are: (i) knowledge of food quality from upstream to downstream including raw, fresh and then processed products (ii) knowledge of hygiene, safety and traceability food and biotechnology (iii) knowledge and capacity to develop functional foods and then produce and market them while respecting regulatory constraints and labeling.

The field of quality control has very varied opportunities affecting the emergence of sectors, thereby opening up to the fruits of this training, an integration into these institutions "students desiring a short training", for others an evolution in the grade, up to the doctorate.

We currently have a potential of young, dynamic and multidisciplinary teachers and teacher-researchers guided by the oldest.

Our objective is not only to produce teachable knowledge (higher education: Master's and Doctorate for the best elements), but also to train executives capable of intervening on real problems affecting the areas of quality control of agri-food products.

#### 2. Targeted profiles and skills:

The managers we wish to train must have solid training, therefore have rapid methods enabling them to assess the quality and safety of food products.

The content of this degree will allow students to deepen their knowledge acquired during their common core courses and will also allow candidates to be effective in quality control structures, in university research structures (Master's Training and PhD)

- Master's preparation
- Teaching and fundamental and applied research in the fields of agri-food industries and quality control
- Training of specialized executives in the field of IAA and quality control.

#### 3. Semester organization of lessons Semester 01

| Teaching Unit                     | WHV      |     | W   | HV  |        | Coof  | Credits | Evaluation Mode |      |
|-----------------------------------|----------|-----|-----|-----|--------|-------|---------|-----------------|------|
|                                   | 14-16 W. | С   | DW  | PW  | Others | COEI. |         | Continue        | Exam |
| Fondamental                       |          |     |     |     |        |       |         |                 |      |
| FTU (O/P)                         |          |     |     |     |        |       |         | · · · · ·       |      |
| General chemistry                 | 45 H     | 1.5 | 1.5 | 1.5 | 60     | 3     | 6       | Х               | Х    |
| Cell biology                      | 60 H     | 1.5 | 1.5 | 3   | 90     | 4     | 9       | Х               | Х    |
| Methodology                       |          |     |     |     |        |       |         |                 |      |
| MTU (O/P)                         |          |     |     |     |        |       |         |                 |      |
| Mathematics statistics            | 15 H     | 1.5 | 1.5 | -   | 60     | 2     | 5       |                 | Х    |
| Expression and communication      | 15 Ц     | 1 5 | 1 5 |     | 45     | n     | 2       |                 | v    |
| techniques 1 (French)             | 1311     | 1.5 | 1.5 | -   | 45     | 2     | 5       |                 | Λ    |
| Discovery                         |          |     |     |     |        |       |         |                 |      |
| DTU(O/P)                          |          |     |     |     |        |       |         | · · · · ·       |      |
| Geology                           | 60 H     | 1.5 | -   | 3   | 60     | 3     | 5       | Х               | Х    |
| Transversal                       |          |     |     |     |        |       |         |                 |      |
| Universal history of life science | 60 H     | 1.5 | -   | -   | 45     | 1     | 2       | Х               | Х    |
| Total Semestre 1                  | 335.5 H  | 9   | 6   | 7.5 | 360    | 13    | 30      |                 |      |

| Tooching Unit                | WHV      |     | V   | /HV |        | Coeff. | Credits | Evaluation Mode |      |
|------------------------------|----------|-----|-----|-----|--------|--------|---------|-----------------|------|
|                              | 14-16 W. | С   | DW  | PW  | Others |        |         | Continue        | Exam |
| Fondamental                  |          |     |     |     |        |        |         |                 |      |
| FTU (O/P)                    |          |     |     |     |        |        |         |                 |      |
| Thermodynamics and chemistry | 67 5     | 1 5 | 1 E | 1 5 | 60     | 2      | c       | v               | v    |
| of solutions                 | 67.5     | 1.5 | 1.5 | 1.5 | 60     | 3      | Ø       | X               | Ā    |
| Plant biology                | 67.5     | 1.5 |     | 3   | 90     | 3      | 8       | Х               | Х    |
| Animal biology               | 67.5     | 1.5 |     | 3   | 90     | 3      | 8       |                 |      |
| Methodology                  |          |     |     |     |        |        |         |                 |      |
| MTU (O/P)                    |          |     |     |     |        |        |         |                 |      |
| Physics                      | 45       | 1.5 | 1.5 | -   | 45     | 2      | 4       |                 | Х    |
| Expression and communication | 45       | 1 5 | 1.5 | -   | 4 5    | 2      | 2       |                 | V    |
| techniques 1 (English)       | 45       | 1.5 |     |     | 45     |        |         |                 | Χ    |
| Transversal                  |          |     |     |     |        |        |         |                 |      |
| Work methods                 | 22.5     | 1.5 | -   | -   | 22.5   | 1      | 2       | Х               | Х    |
| Total Semester 2             | 315      | 9   | 4.5 | 7.5 | 355.5  | 14     | 30      |                 |      |

| Teaching Unit                              | WHV      | WHV |     |     |        |       | Cradits | Evaluation Mode |      |
|--|----------|-----|-----|-----|--------|-------|---------|-----------------|------|
|  | 14-16 W. | С   | DW  | PW  | Others | coen. | Credits | Continue        | Exam |
| Fondamental                                |          |     |     |     |        |       |         |                 |      |
| Plant physiology                           | 45       | 1.5 |     | 1.5 | 55     | 2     | 4       | 40              | 60   |
| Diet and food system                       | 27.5     | 1.5 |     |     | 27.5   | 1     | 2       | -               | 100  |
| Biochemistry                               | 67.5     | 3   | 1.5 |     | 82.5   | 3     | 6       | 40              | 60   |
| Genetics                                   | 67.5     | 3   | 1.5 |     | 82.5   | 3     | 6       | 40              | 60   |
| Methodology                                |          |     |     |     |        |       |         |                 |      |
| Expression and communication               | 45       | 1.5 | 1.5 | -   | 55     | 2     | 4       | 40              | 60   |
| Biophysics                                 | 60       | 1.5 | 1.5 | 1   | 65     | 3     | 5       | 40              | 60   |
| Discovery                                  |          |     |     |     |        |       |         |                 |      |
| Environment and Sustainable<br>Development | 45       | 1.5 | 1.5 |     | 5      | 2     | 2       | 40              | 60   |
| Transversal                                |          |     |     |     |        |       |         |                 |      |
| Ethics and Academic Deontology             | 22.5     | 1.5 |     |     | 2      | 1     | 1       | -               | 100  |
| Total Semester 3                           | 375      | 15  | 7.5 | 2.5 | 375    | 17    | 30      |                 |      |

| Teaching Unit                  | WHV      |     | W   | /HV |        | Cooff | Credits | Evaluation Mode |      |
|--------------------------------|----------|-----|-----|-----|--------|-------|---------|-----------------|------|
|                                | 14-16 W. | С   | DW  | PW  | Others | coen. |         | Continue        | Exam |
| Fondamental                    |          |     |     |     |        |       |         |                 |      |
| Animal physiology              | 67       | 3   |     | 1.5 | 82.5   | 3     | 6       | 40              | 60   |
| Microbiology                   | 90       | 3   | 1.5 | 1.5 | 110.5  | 4     | 8       | 40              | 60   |
| Food and Food Technology Basis | 45       | 1.5 | 1.5 |     | 55     | 2     | 4       | 40              | 60   |
| Methodology                    |          |     |     |     |        |       |         |                 |      |
| Applied Immunology             | 45       | 1.5 | 1.5 |     | 55     | 2     | 4       | 40              | 60   |
| Biostatistics                  | 60       | 1.5 | 1.5 | 1   | 65     | 3     | 5       | 40              | 60   |
| Discovery                      |          |     |     |     |        |       |         |                 |      |
| Plants and Environment         | 45       | 1.5 | 1.5 |     | 5      | 2     | 2       | 40              | 60   |
| Transversal                    |          |     |     |     |        |       |         | •<br>•          |      |
| Computer tools                 | 22.5     | 1.5 |     |     | 2.5    | 1     | 1       | -               | 100  |
| Total Semester 3               | 375      | 15  | 7.5 | 2.5 | 375    | 17    | 30      |                 |      |

| Teaching unit                          | WHV         |       | W     | HV    |        | Coeff | Credits | Evaluation mode |            |
|--|-------------|-------|-------|-------|--------|-------|---------|-----------------|------------|
| reaching unit                          | 14-16 weeks | С     | TD    | ТР    | Autres | Obell |         | Continue (40%)  | Exam (60%) |
| Fondamental TU                         |             |       |       |       |        |       |         |                 |            |
| FTU 3.1.1                              |             |       |       |       |        |       |         |                 |            |
| Food Microbiology                      | 45h00       | 1h30  | -     | 1h30  | 45h00  | 2     | 4       | x               | x          |
| Food biochemistry                      | 67h30       | 1h30  | 1h30  | 1h30  | 67h30  | 3     | 6       | X               | х          |
| FTU 3.1.2                              |             |       |       |       |        |       |         |                 |            |
| Food technology 1                      | 67h30       | 1h30  | 1h30  | 1h30* | 67h30  | 3     | 6       | x               | Х          |
| Hygiene and food safety                | 45h00       | 1h30  | -     | 1h30* | 45h00  | 2     | 4       | x               | x          |
| Methodology TU                         |             |       |       |       |        |       |         |                 |            |
| MTU 1                                  |             |       |       |       |        |       |         |                 |            |
| Microbiological control techniques     | 45h00       | 1h30  | -     | 1h30  | 25h00  | 2     | 3       | x               | x          |
| Discovery TU                           |             | ·     |       |       |        |       |         |                 |            |
| DTU1                                   |             |       |       |       |        |       |         |                 |            |
| Analytical chemistry                   | 45h00       | 1h30  | -     | 1h30  | 30h00  | 1     | 3       | x               | Х          |
| Valorization of food by-products       | 45h00       | 1h30  | -     | 1h30  | 25h00  | 1     | 2       | x               | х          |
| Transversal TU                         |             |       |       |       |        |       |         |                 |            |
| TTU1                                   |             |       |       |       |        |       |         |                 |            |
| Matière : Analysis of statistical data | 22h30       | 1h30  | -     | -     | 12h30  | 1     | 2       | x               | x          |
| Total Semestre 5                       | 383h30      | 12.00 | 03.00 | 10h30 | 317h30 | 15    | 30      | x               | х          |

|                         | WHV        |       | W     | HV       |        | Coeff | Credits | Evaluation mode |               |
|-------------------------|------------|-------|-------|----------|--------|-------|---------|-----------------|---------------|
| Teaching unit           | 14-16 week | С     | DW    | PW       | Others |       |         | Continue (40%)  | Exam<br>(60%) |
| Fondamental TU          |            |       |       |          |        |       |         |                 |               |
| FTU 3.2.1 (O/P)         |            |       |       |          |        |       |         |                 |               |
| Food toxicology         | 45h00      | 1h30  | -     | 1h30     | 15h00  | 2     | 4       | x               | x             |
| Analysis techniques     | 67h30      | 3h00  | -     | 1h30     | 15h00  | 3     | 6       | x               | x             |
| UEF 3.2.2 (O/P)         |            |       |       |          |        |       |         |                 |               |
| Food technology 2       | 67h30      | 1h30  | 1h30  | 1h30     | 60h00* | 3     | 6       | X               | х             |
| Methodology TU          |            | ·     |       |          |        |       |         |                 |               |
| MTU1 (O/P)              |            |       |       |          |        |       |         |                 |               |
| Sensory analysis        | 45h00      | 1h30  | -     | 2h00     | 15h00  | 2     | 3       | X               | Х             |
| Molecular biology       | 45h00      | 1h30  | 1h30  | -        | 15h00  | 2     | 4       | X               | х             |
| Discovery TU            |            |       |       |          |        |       |         |                 |               |
| DTU1(O/P)               |            |       |       |          |        |       |         |                 |               |
| Inductrial Microbiology | 45h00      | 1h30  | -     | 1h30     | 5h00   | 2     | 3       | x               | x             |
| Scientific english      | 22h30      | 1h30  | -     | -        | -      | 1     | 1       | x               | х             |
| Transversal TU          |            | I     | I     | <u> </u> |        |       |         |                 |               |
| TTU 1                   |            |       |       |          |        |       |         |                 |               |
| Project/ traineeship    | -          | -     | -     | -        | 60     | 2     | 3       | X               | x100%         |
| Total Semester          | 347.30     | 12.00 | 03.00 | 08.00    | 165.00 | 17    | 30      | x               | x             |