



Popular Democratic of Algeria

Ministry of Higher Education and Scientific Research

Abbes Laghrour University Khenchela



## Studies identity sheet

**Domain : Natural and life sciences**

**branch: Biological Science**

**Speciality : Applied biochemistry**

**Cycle: Master**

**Type: Academic**

**Attachment structure: Faculty of Natural and Life Sciences/ Department of Molecular and Cellular Biology)**

### 1. Context

#### Conditions of access

- License (LMD) in biochemistry or equivalent.
- Passage from L3 to Master: Depending on the reception capacities, a maximum of 30 students having acquired all of their credits (180 credits) at the end of the 3rd year of the Biochemistry L3 license, will be selected for the M1.
- Transition from M1 to academic M2: A maximum of 20 students will be selected for the academic M2. Classification made according to the results of M1.

4- For students holding a diploma level license / D.E.S classic, applications will be examined on a case-by-case basis by the equivalence committee which will also conduct a motivation interview and evaluation of the candidates. In addition, candidates must have a good knowledge of French and English. Registration authorization is granted by the director of the institute on the proposal of the person in charge of training and after a favorable opinion from the equivalence committee.

### 2. objectives

The objective of this mention is to provide training of excellence in applied biochemistry at the theoretical and practical levels. Students with a master's degree in Applied Biochemistry acquire the following general skills:

- Scientific and technical knowledge in biochemistry
- Capacity for analysis and synthesis
- Ability to build documentation

- Ability to execute a project and take initiative
- Ability to work in a foreign language (at least in English)
- Ability to work independently and in a team.

### **3. Profiles and skills targeted**

#### Disciplinary skills

- Have a thorough knowledge of biology in general and specialized knowledge in certain disciplinary fields.
- Master the basic techniques and equipment used in biochemistry.
- Know how to apply them in the different biological disciplines.
- Knowing how to implement an experimental approach.
- Know how to manage bibliographical resources (databases, online scientific journals) and master the scientific literature related to the biological field concerned.
- Have a capacity for synthesis.
- Know how to critically analyze scientific results.

#### Transversal or generic skills acquired

- Knowing how to use their knowledge and show creativity to pose and then solve a scientific problem.
- Have a capacity to learn and adapt.
- Know how to organize their work and work in a team.
- Know how to communicate one's results (oral or poster presentation, written report) and defend a project in front of opponents.
- Knowing how to appreciate the quality and relevance of a work or a scientific approach.
- Master scientific English

### **4. Regional and national employability potential**

Train executives in the fields of research or research and development departments, in the public service as well as in private companies. Preparation of a doctorate which allows you to be recruited as a researcher, teacher-researcher, in the public service (universities, national institutes, research centers, etc.) or in positions of a comparable level in private companies.

## 5. Gateways to other specialties

This master is open to other specialties such as microbiology and genetics.

## 6. Training Partners

Present the indicators and methods envisaged for the evaluation and monitoring of the proposed training project.

- Establishment of a teaching committee made up of the teaching staff and the ten best students.
- Follow-up of the degree of adherence to the syllabus of modules as fixed in the model of the master.
- Number of unjustified absences.
- Number of students who found a job at the end of the training.
- A mandatory six-month full-time internship in research laboratories, private or public companies which leads to the writing of a dissertation. The theme of the thesis is chosen in agreement with its promoter and gives rise to a defence.

## 7. Semester organization of lessons

### Semester 1

Teaching unit	Half-yearly hourly volume	Weekly hourly volume			
	14-16 weeks.	C	TD	TP	Autres
<b>Fundamental teaching unit</b>	<b>225</b>	<b>9</b>	<b>4.5</b>	<b>1.5</b>	<b>270</b>
Metabolic biochemistry	90	3	1.5	1.5	90
Immuno-pathology	67.5	3	1.5		90
Cellular and Molecular Physiology	67.5	3	1.5	/	90
<b>Methodology teaching unit</b>	<b>112.5</b>	<b>3</b>	<b>1.5</b>	<b>3</b>	<b>100</b>
Bioinformatics and exploratory genomics	45	1.5	/	1.5	50
Bio-organic chemistry	67.5	1.5	1.5	1.5	50
<b>transversal teaching unit</b>	<b>45</b>	<b>3</b>	<b>/</b>		<b>5</b>
Communication	22.5	1.5			2.5
English	22.5	1.5		/	2.5
<b>Total Semester 1</b>	<b>375</b>	<b>16.5</b>	<b>4.5</b>	<b>4.5</b>	<b>375</b>

## Semester 2

teaching unit	Half-yearly hourly volume	Weekly hourly volume			
	14-16 weeks.	C	TD	TP	Personel works
<b>Fundamental teaching unit</b>	<b>202.5</b>	<b>7.5</b>	<b>3</b>	<b>1.5</b>	<b>270</b>
Biotechnology	67.5	1.5	1.5	1.5	90
Biochemistry of Cellular Signal Transduction	67.5	3	1.5		90
Biological Analytical Chemistry	67.5	3	/	1.5	90
<b>Methodology teaching unit</b>	<b>112.5</b>	<b>4.5</b>	<b>1.5</b>	<b>1.5</b>	<b>100</b>
Cytogenetic	67.5	3	1.5	/	50
Biostatistic	45	1.5	/	1.5	50
<b>transversal teaching unit</b>	<b>60</b>	<b>3</b>	<b>1</b>	<b>1.5</b>	<b>5</b>
English and article study	22.5	1.5	/	/	2.5
Legislation	37.5	1.5	1	/	2.5
<b>Total Semester 2</b>	<b>375</b>	<b>15</b>	<b>5.5</b>	<b>4.5</b>	<b>375</b>

## Semester 3

teaching unit	Half-yearly hourly volume	Weekly hourly volume			
	14-16 weeks	C	TD	TP	others
<b>Fundamental teaching unit</b>	<b>202.5</b>	<b>9</b>	<b>3</b>	<b>1.5</b>	<b>270</b>
Molecular engineering	67.5	3	1.5	/	90

Applied biochemistry	67.5	3	/	1.5	90
Enzymology engineering	67.5	3	1.5	/	90
<b>Methodology teaching unit</b>	<b>112.5</b>	<b>4.5</b>	<b>/</b>	<b>1.5</b>	<b>100</b>
Advanced techniques in biochemistry	67.5	3	/	1.5	50
Scientific Writing Methodology	45	1.5	/	/	50
<b>transversal teaching unit</b>	<b>60</b>	<b>1.5</b>	<b>1</b>	<b>/</b>	<b>5</b>
Hygiene and safety in the laboratory	22.5	1.5	/	/	2.5
Partnership	37.5	1.5	1	/	2.5
<b>Total Semester 3</b>	<b>375</b>	<b>15</b>	<b>4</b>	<b>4.5</b>	<b>375</b>

#### **Semester 4 (S4)**

is reserved for an initiation to research or an internship in a company allowing the acquisition of 30 credits, culminating in a dissertation and a defense.

#### **8. Method of evaluation**

Final examination and continuous assessment

**9. Language of instruction:** French.