



People's Democratic Republic of Algeria
Ministry of Higher Education
and scientific research
Ferhat Abbas Setif 1 University



**Data sheet for
The speciality:
Biotechnology and health**

Faculty: Faculty of Natural and Life Sciences

Department : Biotechnology

Domain : Natural and Life Sciences

Sector : Biotechnology

Speciality : Biotechnology and Health

❖ **Presentation and objective of the Specialty:**

The Master's Degree in Biotechnology and Health is an academic programme designed for holders of a Bachelor's degree in Biotechnology and Health or an equivalent qualification. It aims to train highly qualified professionals, researchers, and future academics in the field of biotechnology applied to human health. The programme provides students with advanced knowledge and practical skills in cell and molecular biology, genetic engineering, protein engineering, nucleic acid technologies, molecular pharmacology, biomolecule production, biopharmaceuticals, and modern analytical techniques. It also prepares graduates to pursue careers in research, development, innovation, and the biotechnology and pharmaceutical industries.

Conditions of access:

- Applicants must hold a Bachelor's degree in Biotechnology and Health.
- Holders of other Bachelor's degrees with a relevant academic background may also be admitted in accordance with the national regulations governing access to Master's programmes.
- Admission is based on the selection criteria established by the Ministry of Higher Education and Scientific Research.

❖ **Progression and Evaluation**

The programme is organized according to the **LMD (Licence–Master–Doctorate)** system and extends over **four semesters**. Student assessment is based on:

- Continuous assessment;
- End-of-semester examinations;
- Practical sessions (laboratory work) and tutorials;
- Oral presentations and seminars;
- A Master's dissertation.

For the majority of the modules, the final grade is based on **40% continuous assessment** and **60% final examination**.

❖ **Job opportunities after graduation:**

Graduates may pursue careers in:

- Universities and Higher Education Institutions
- Public and Private Research Centres
- Pharmaceutical Industries

- Biopharmaceutical Industries
- Cosmetic Industries
- Biomedical Analysis Laboratories
- Quality Control Laboratories
- Biotechnology Companies
- Biotechnology Start-ups and Incubators
- Research and Development (R&D) Organizations

❖ **Study follow-up after graduation:**

Graduates may continue towards:

- PhD in Biotechnology
- PhD in Biochemistry
- PhD in Molecular Biology
- PhD in Genetics
- PhD in Pharmacology
- Other Doctoral Programmes in Biological and Biomedical Sciences

❖ **Organization of studies and official duration of the program:**

➤ **Semester 01 :**

Teaching unit	Modules	Credits	Coefficient	Weekly hourly volume				Hourly volume half-yearly (15 weeks)	Assessment method	
				Course	TD	TD	Other		continuous monitoring	Exam
Fundamental Teaching Unit (FTU)	Cell Culture, Cell Analysis Techniques and Their Applications in Health	6	3	3 h	–	1 h 30	–	82.5 h	40%	60%
	Biomolecule Production in Animal Cell Systems	6	3	3 h	–	1 h 30	–	82.5 h	40%	60%
	Biomolecule Production in Prokaryotic and Eukaryotic Cell Systems	6	3	3 h	–	1 h 30	–	82.5 h	40%	60%
Methodological Teaching Unit (MTU)	Preparation and Production of Molecules for Diagnostic and Therapeutic Applications	5	3	1 h 30	–	2 h 30	–	65 h	40%	60%
	Quality Control and	4	2	1 h 30	1 h 30	–	–	55 h	40%	60%

	Manufacturing of Biopharmaceuticals									
Discovery Teaching Unit (DTU)	Open Source Software (Advanced)	2	2	1 h 30	1 h 30	–	–	45 h	40%	60%
Transversal Teaching Unit (TTU)	Communication	1	1	1 h 30	–	–	–	22.5 h	100%	–

➤ Semester 02 :

Teaching Unit	Module	Credits	Coefficient	Weekly hourly volume				Hourly volume half-yearly (15 weeks)	Continuous Assessment	
				Course	TD	TP	Other		continuous monitoring	Exam
Fundamental Teaching Unit (FTU)	Nucleic Acid Technologies	6	3	3 h	1 h 30	–	–	82.5 h	40%	60%
	Protein Engineering	6	3	3 h	–	1 h 30	–	82.5 h	40%	60%
	Genomics and Proteomics	6	3	3 h	1 h 30	–	–	82.5 h	40%	60%
Methodological Teaching Unit (MTU)	Cell Engineering	5	3	1 h 30	–	2 h 30	–	65 h	40%	60%
	Molecular Pharmacology	4	2	1 h 30	1 h 30	–	–	55 h	40%	60%
Discovery Teaching Unit (DTU)	Specialized Computer Programming	2	2	1 h 30	–	1 h 30	–	45 h	40%	60%
Transversal Teaching Unit (TTU)	Legislation, Ethics and Professional Conduct	1	1	1 h 30	–	–	–	22.5 h	100%	–

➤ Semester 03 :

Teaching Unit	Module	Credits	Coefficient	Weekly hourly volume				volume half-yearly (15 weeks)	Assessment method	
				Course	TD	TP	Other		continuous monitoring	Exam
Fundamental Teaching Unit (FTU)	Cellular and Molecular Immunology	6	3	3 h	1 h 30	–	–	82.5 h	40%	60%
	Immunology and	6	3	3 h	1 h 30	–	–	82.5 h	40%	60%

	Pathogenesis									
	Immunotechnology and Health	6	3	3 h	1 h 30	–	–	82.5 h	40%	60%
Methodological Teaching Unit (MTU)	Molecular Virology	5	3	1 h 30	–	2 h 30	–	65 h	40%	60%
	Biosensors and Nanotechnology	4	2	1 h 30	1 h 30	–	–	55 h	40%	60%
Discovery Teaching Unit (DTU)	Artificial Intelligence	2	2	1 h 30	–	1 h 30	–	45 h	40%	60%
Transversal Teaching Unit (TTU)	Business Creation and Entrepreneurship	1	1	1 h 30	–	–	–	22.5 h	100%	–