

Professional Master's Degree in Valorisation of by-products of the food industry and development of startups

1) Location

- Institute of Nutrition, Food and Agri-Food Technology (I.N.A.T.A.A.)
- Department: Biotechnology

2) Field and Sector

- **Field:** Natural and Life Sciences
- **Sector:** Food Sciences

3) Master's Degree Overview and Objectives

This is a professional master who combines a scientific application with professional competencies for the purpose of:

- Enhance their undergraduate education in food sciences;
- Develop specialized skills in the field;
- Adapt to the needs of agri-food manufacturers and expand their knowledge to other sectors ;
- Learn and apply techniques for recovering by-products, residues, and waste in the food industry;
- Manage surplus raw materials and agri-food production efficiently;
- Cultivate an entrepreneurial mindset to create economic and social change through job creation ;
- Deepen their understanding of food company operations and take on progressive responsibilities;
- Innovate in the agri-food sector by creating new products;
- Collaborate with food companies to address processing, preservation, and quality challenges through tailored research;
- Gain experience in scientific research by writing a dissertation.

4) Conditions d'accès

Master 1

- **Required level:** all undergraduate specialties (LMD).
- **Initial training:** in the Food Sciences sector

Master 2 :

This program is only **available to students who have completed two semesters (60 credits)** in the same specialty, either from **INATAA or other institutions**. For those with a classic diploma, admission is restricted to those with a **BAC+5 diploma in specialties approved by the department head**.

5) Module with Credits and Coefficients

Semester	Module	Credits	Coefficients
S 1	Processing of vegetables products;	6	3
	Processing of animal products	6	3
	Microorganisms of Industrial Interest and Bioengineering	6	3
	Food analysis and quality control techniques	5	3
	Scientific English	4	2
	Food safety	2	2
	Communication	1	1
S2	Valorization of by-products of vegetable origin	6	3
	Valorization of by-products of animal origin	6	3
	Microbiology of agro-food by-products	6	3
	Biostatistics	5	3
	Scientific writing	4	2
	Management of excess production	2	2
	Legislation and Quality Assurance in the food industry	1	1
S3	Formulation and packaging of food products	6	3
	Toxicity and environmental impact	6	3
	Extraction and purification Methods of compounds of interest	6	3
	Economics of by-products and methodological approaches to recovery	5	3
	Patenting	4	2
	Company outings	2	2
	Entrepreneurship and start-up development	1	1
S4	End-of-cycle dissertation, internship in a company and seminar		

6) Career Opportunities

• Targeted professions:

The training offered allows graduates to move towards the professional environment, either through business creation (**startup / SME**) or integration into a company. It aims to train professionals capable of ensuring:

- ✓ The management and treatment of effluents from food industry. ;
- ✓ Mastery of the transformation process in food industry;
- ✓ Food formulation and manufacturing;
- ✓ Quality control and inspection in food industry. ;
- ✓ Research, development and innovation in food industry, by suggesting new valuation avenues.
- ✓ Physicochemical and microbiological analysis of food;
- ✓ Sensory analysis of food;

- **Further studies:** PhD in food Sciences .

7) Contact

- **Head of the Department of Biotechnolgy :** Pr. BARKAT Malika (barkat.malika@umc.edu.dz)
- **Responsible of Master :** Dr. HAFID Kahina (kahina.hafid@umc.edu.dz)
- Email : : m.biotat.inataa@gmail.com
- **Site web** <http://fac.umc.edu.dz/inataa>
- Tel. : 031 60 02 47 Fax : 031 60 02 51