UNIVERSITY OF M'SILA

PhD in Mathematics (PDEs+Functional Analysis)

KEY SUMMARY

About:

The primary purpose of a **PhD in Mathematics** is to advance knowledge in the field by conducting original research, developing new mathematical theories, solving open problems, and contributing to the broader scientific community.

Career Outcomes:

- Develop innovative methods to solve complex mathematical problems.
- Contribute to addressing contemporary scientific and technological challenges.
- Provide advanced expertise to support progress in various fields of application.
- Strengthen international collaboration and the dissemination of mathematical knowledge.
- Design training programs for elite scientific researchers in specific sectors.
- Participate in optimizing quality within innovative industrial companies.
- Collaborate with research groups to solve certain problems related to natural phenomena.

INTRODUCTION

The branch of knowledge of this course is precisely Informatics Engineering. Through its PhD program in computer science, UAlg intends to affirm its presence in this scientific field. There is a bachelor's and a master's degree in Informatics Engineering in the Institution, already with some parchments. The PhD program corresponds to the most advanced level of this line of training in Informatics Engineering.

Objectives

The main objective of this training program is to prepare doctoral students with advanced scientific and pedagogical skills. This includes the following elements:

- Acquiring a deep understanding of the fundamental concepts of functional analysis.
- Applications in operator theory.
- Conducting original research in the field of functional analysis, developing new theories, solving open problems, and contributing to the advancement of knowledge in the field.
- Gaining scientific communication skills to effectively present research results, both in writing (journal articles, doctoral thesis) and orally (conferences, seminars).
- Collaborating with researchers from other areas of mathematics and related disciplines to solve complex problems requiring an interdisciplinary approach.
- Developing professional skills such as time management, problem-solving, teamwork, and networking to succeed in an academic or industrial career after obtaining the PhD.
- Offering students high-quality and specialized training, enabling a smooth transition to the professional world.
- Providing comprehensive training in research and analysis tools, allowing students to publish their research in their respective fields and enhance the reputation of their university.
- Improving research capabilities in the field of PDEs (Partial Differential Equations) and strengthening doctoral students' scientific culture.
- Promoting their international openness.
- Preparing their professional future in various sectors.
- Mathematical understanding of the nonlinear theory of fractional problems.

ADMISSIONS

Conditions of access

- Holders of master's degree (or legal equivalent) in mathematics or similar.
- Holders of a bachelor's degree with a school and scientific curriculum especially relevant, recognized by the Scientific Council of the Faculty as meeting the objectives of the PhD degree.
- Holders of a bachelor's degree plus five years in university.
- All Magister degrees in the mathematics field

Criteria for selection of the candidates

- Academic and Scientific Curriculum
- Grade of the master's and/or bachelor's degree
- Professional and Research experience

Necessary documentation

- Candidates to the study cycle should formalize their application, to the Scientific Council, in the online platform.
- The application must be accompanied by the following elements:
- Motivation letter;
- Certificate of Academic Qualifications;
- Updated curriculum vitae, including a list of published works or duly documented;
- Indication of the field of knowledge and/or speciality, if applicable;

- Opinion of the supervisor(s);
- Proposed research work plan, signed by the candidate and the supervisor(s);
- Proof of payment of the application fee, for 100 Euros.

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CURRICULUM

Year 1

- Advanced Studies

Year 2

- Thesis I

Year 3

- Thesis II

EDUCATION STAFF

Name	Title	Field	Speciality	Etablissement
Tallab Abdelhamid	Ass. Professor	Mathematics	Functional Analysis	University of M'sila
Drihem Douadi	Pr	Mathematics	Functional Analysis	University of M'sila
Mezrag Lahcène	Pr	Mathematics	Functional Analysis	University of M'sila
Achour Dahmene	Pr	Mathematics	Functional Analysis	University of M'sila
Saadi Khalil	Pr	Mathematics	Functional Analysis	University of M'sila
Saadi Abderachid	Ass.	Mathematics	PDEs	University of M'sila

	Professor			
Mokhtari Abdelhak	Ass. Professor	Mathematics	PDEs	University of M'sila
Bougherara Brahim	Ass. Professor	Mathematics	PDE	University of M'sila
Bouafia Dahmene	Ass. Professor	Mathematics	Functional Analysis	University of M'sila
Dahia Elhadj	Ass. Professor	Mathematics	Functional Analysis	ENS of Bousaada
Hamidi Khaled	Ass. Professor	Mathematics	Functional Analysis	University of M'sila
Mechter Rabeh	Ass. Professor	Mathematics	PDE	University of M'sila

CAREER OPPORTUNITIES

1. **University Professor or Lecturer**
   - Teaching undergraduate and graduate courses
   - Supervising student research
   - Conducting original mathematical research
2. **Postdoctoral Researcher**
   - Temporary research positions to deepen expertise and publish academic work
3. **Research Scientist** (in public or private research institutions)
   - Working on advanced theoretical or applied mathematics
   - Participating in interdisciplinary research projects

EXTERNAL PARTNERSHIPS

PROGRAM ADMISSION REQUIREMENTS

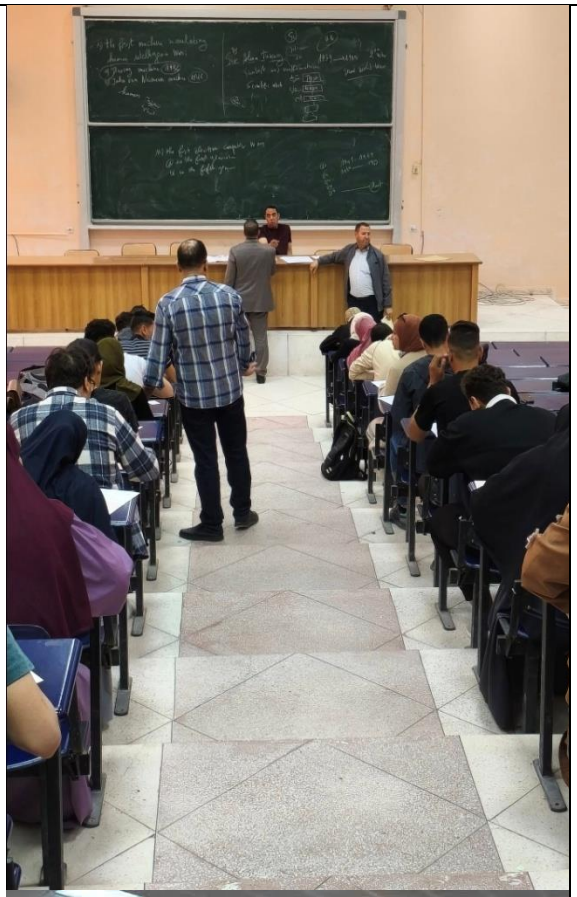
1. **Master's Degree in Mathematics or a Related Field**
   - A solid academic background in mathematics (pure or applied)
   - Some programs may accept exceptional students with a Bachelor's degree directly into a PhD, often via an integrated program
2. **Academic Transcripts**

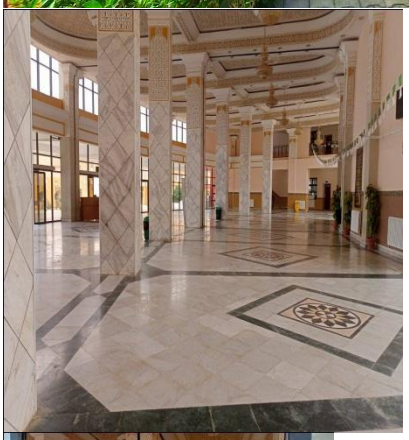
- Showing strong performance in advanced mathematics courses (e.g., real analysis, algebra, topology, differential equations)

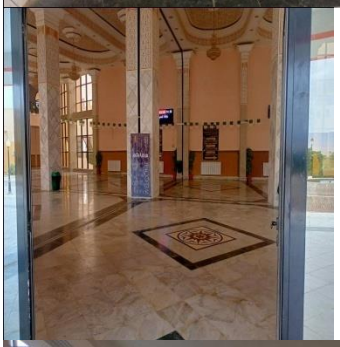
3. **Research Proposal or Statement of Purpose**
   - Describing research interests, motivation for pursuing a PhD, and alignment with the department's research areas
4. **Letters of Recommendation**
   - Usually 2–3 letters from professors or researchers who can attest to the applicant's academic and research potential
5. **Curriculum Vitae (CV)**
   - Academic background, research experience, publications (if any), awards, and relevant skills
6. **Proof of English Language Proficiency**
   - TOEFL, IELTS, or equivalent (if the program is in English)
7. **Entrance Exam or Interview**
   - Written or oral examination covering advanced mathematics topics
   - An interview to assess research potential and academic fit
8. **Publications or Research Experience** *(optional but beneficial)*
   - Prior research work or publications strengthen the application
9. **Supervisor Availability and Research Match**
   - Some programs require applicants to identify or contact a potential advisor whose research aligns with their interests

Gallery (Photos)







	
 كلية الرياضيات والإعلام الآلي Faculty Of Mathematics And Informatics