



*Graduate
Program in
Mathematics at
U.S.A*

NAUFIL SAKRAN

Why U.S.A.

- *Land of opportunity for hardworking students.*
- *You don't need to apply for external scholarship. Securing admission in PhD automatically imply securing of funding through teaching assistantship.*
- *For masters, you need to apply for scholarship separately.*
- *You can apply directly after undergraduate.*

Ph.D. course structure at USA

- *Officially, it is 5 years. You may extend it to 6 year if department allows.*
- *Withing 3 years, you are required to complete the PhD coursework requirement, which includes qualifying exams (mostly 2-3), oral exams, coursework, and choosing a supervisor. It varies between universities.*
- *The remaining 2 years is for Ph.D research and thesis.*

Content

- Reaching out to professor.
- Writing email.
- General admission criteria.
- Curriculum Vitae
- Personal Statement.
- Reference Letter.
- FAQ
- List of universities.
- Visa Process
- Resources

Reaching out to Professor.

- Search for professor of interest and look at his profile.
- Send him an email, asking him that you are interested in working with him.
- The content of the email should be:

Your Introduction.

Your Interest and how it aligns with professor's interest.

Why should he choose you.

- *Write by yourself. No fancy English. Email should be short and concise.*
- *Email should clearly state what are you looking for.*

*Sample of email which is **NOT GOOD.***

Dear [Professor's Name],

I hope this email finds you well. My name is Jack Ryan, and I am writing to express my strong interest in pursuing a PhD in Mathematics under your esteemed supervision. I recently completed my MS in Mathematics from Government College University Lahore, where I specialized in Graph Theory and Computational Mathematics.

During my academic journey, I have developed a deep passion for exploring the intricate connections between mathematics and its practical applications. Alongside my academic pursuits, I have gained invaluable industry experience as a Business Analyst, Scrum Master, and Project Manager at Payscanner Fintech, a UK-based company operating in Pakistan. This role has allowed me to apply my mathematical expertise in solving real-world problems within the IT industry.

My experience in the IT industry has reinforced my belief that mathematics serves as the foundation for the future of technology. From developing algorithms to analyzing complex data sets, my mathematical background has equipped me with the necessary skills to address challenges and drive innovation in this rapidly evolving field. I strongly believe that the integration of mathematical principles with IT applications holds tremendous potential for advancements in various industries.

While my primary expertise lies in Graph Theory and Computational Mathematics, I am also proficient in other areas of mathematics, including Algebraic Geometry, Topology, Analysis, and Number Theory. My multidisciplinary approach allows me to draw connections between different branches of mathematics and apply them to real-world problems.

I am particularly impressed by your research accomplishments in [mention the professor's area of expertise or research interest]. Your pioneering work and contributions in this field have inspired me to pursue further research and make significant contributions of my own. I am confident that your guidance and mentorship will provide me with the necessary support to excel in my academic pursuits.

To demonstrate my dedication and preparedness for a PhD program, I have developed a comprehensive research proposal that explores the utilization of graph theory and computational methods in solving complex problems within the IT industry. My proposed research aims to [briefly describe the objectives and potential impact of your research].

I kindly request your consideration of my application for admission to the PhD program in Mathematics at [University Name]. I am enthusiastic about joining the academic community at [University Name], collaborating with fellow researchers, and contributing to the advancement of mathematics and its applications.

Thank you for considering my application. I am available to provide any additional documentation or information that may be required. I eagerly look forward to the possibility of working under your guidance and contributing to the vibrant academic environment at [University Name]. Please feel free to contact me if you have any further questions or require additional information.

Yours sincerely, Jack Ryan

Sample (not to be copied)

Good evening, Prof. Twana,

I find your work on algebraic coding theory interesting. I admire your recent consecutive papers on determining bounds on Goppa codes coming from algebraic curves and would like to work on it.

My name is Mansab Ali and recently I completed my masters from Government College University Lahore, Pakistan. My masters thesis focused on the Reimann Roch theorem and how it connects to algebraic codes. You can find the preprint of my thesis here. I have also attached my CV to the email.

Currently, I am looking for a PhD position and would like to do my PhD research focusing on problems in algebraic coding theory. As our area of interest aligns, is it possible for us to meet virtually and so that I can learn more about your research focus and the current problems you are working on?

Thank you for time.

Best regards,

Mansab Ali

- *Don't email many professors of the same institute.*
- *Look at the professor's profile and make sure he is looking for students.*
- *Wait for his reply. You may send him a reminder after a week. But if you still don't hear from him, better not to reach him again.*
- *Send email on personal email as sometime sending to university emails sends your email in spam folder.*
- *Note that the professor is being reached out by many other students. Try to give a good reason why should he choose you.*
- *In this approach, you should be convincing and show positive attitude and show you have good working ethics.*
- *Talk to the point. Don't beat around the bush.*

A large, irregular pink brushstroke graphic that serves as a background for the title text.

General Criteria

- Be sure you will complete your current education program before the joining date.
- A good personal statement that is adjusted to every university.
- 2-3 recommendation letter.
- IELTS or any English proficiency test or English proficiency proof.
- GRE general (Optional)
- GRE subjective (Optional) (Highly recommended)

Curriculum Vitae

- Try to use Latex (overleaf). You can find templates on overleaf.
- Education.
- Publications
- Bachelors and Masters thesis.
- Honors and Awards
- Talks
- Conferences attend or organized
- Teaching
- Activities or extra curricular activities
- Skills

Sample (not to be copied).

- http://naufilsakran.com/Curriculum_Vitae.pdf
- <https://www.dipendranathmahato.com/my-curriculum-vitae>

Personal Statement content

- Introduction about you. Your educational background.
- Your interest.
- Research interest or experience (if any).
- Further goals
- Why choose the specific university (the environment and the faculty that appeals you).
- Teaching experience (if any).

Sample (not to be copied).

- https://drive.google.com/file/d/1CX4aM_46kwrJ3dDWJJiVJXBUp0DekUg0/view?usp=sharing
- https://docs.google.com/document/d/1Bk5cAQ2aS8443i7MiWFVV_dhY54ovb4W/edit?usp=sharing&oid=110237861433221597858&rtpof=true&sd=true
- <https://docs.google.com/document/d/1BhGdvuEjdkZRy75Zd4piYe5EqR0YpSEq/edit?usp=sharing&oid=110237861433221597858&rtpof=true&sd=true>
- <https://www.dropbox.com/s/vittqraa7i391j3/Statement%20of%20Purpose%20%28Shareable%29.pdf?dl=0>

Recommendation Letter

- How does the professor know you.
- The work you did with the professor.
- How are you special to the professor
- *What does the professor admire about you.*

Sample (not to be copied).

- https://docs.google.com/document/d/1fzwxOe4cWxl9JMd7K_eWODgxXH7Z17EL/edit?usp=sharing&oid=110237861433221597858&rtpof=true&sd=true
- <https://docs.google.com/document/d/1g0zLnMz-9Pl4-8NDPm9Nolpjk8KTdFQ7/edit?usp=sharing&oid=110237861433221597858&rtpof=true&sd=true>
- https://docs.google.com/document/d/1fysYnRJCJdpYW71MJ06MZ2L9vZ6b_fWj/edit?usp=sharing&oid=110237861433221597858&rtpof=true&sd=true

Frequently Asked Questions (FAQ).

- Can I apply after bachelors?

Yes. You do not need Masters to be eligible to apply

- Can I apply during bachelors or Maters?

As long as you complete before the joining date.

- How much bands do I need for IELTS?

Mostly 6.5 plus. Different universities have different criteria.

- Do I need to get my document tested before applying?

No.

- How much will it cost?

Roughly 1-2 lakh gradually to start. (Applying, US Visa and IELTS)

- Will university fund travel expense?

Mostly No.

- How is the life there?

Good.

- When are admission mostly open?

Oct/Nov for fall of the following year.

List of universities

- <https://drive.google.com/file/d/1saKaVhq1taUnCmS4zWCCEZkgVJK3qQxi/view?usp=sharing>
- https://drive.google.com/file/d/1sUpOsSmznB-lic1MumaVvXn_pLigR0gn/view?usp=sharing

Visa Process

- Get your I-20.
- Fill out DS-160 form on US-embassy site.
- You will have to pay two fees. Appointment fee \$350 and another fee \$160.
- Use Youtube resources to prepare for interview.

Resource

- <https://www.dipendranathmahato.com/my-blogs>

Thank you

I thank Mathematics Professional for this initiative for the Mathematics community in Pakistan.

I thank Jawad Ali for his hardwork and effort to put all this together.

I thank Dipendranath Mahato for providing helpful suggestion to better this slides and sharing his data.

Best of Luck!!!