

Applying for Graduate Research Fellowships

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Available Graduate Fellowships

- NSF Graduate Research Fellowship
- Hertz Foundation Fellowship
- DOE Office of Science Graduate Fellowship
- National Defense Science and Engineering Fellowship
- ...

Some General Guidelines for Proposal Writing

- Follow Directions!
 - Find out what the agency wants to fund, and address your proposal to those aims
 - Check off all the boxes
 - Follow formatting requirements
 - Get all your materials in on time
- What Makes Your Application Unique?
 - Your application is an advertisement for you
 - Make it enjoyable to read– Say it simply
- Finish Early– Get Feedback
 - Have other grad students, postdocs, or faculty read your proposal

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The NSF Graduate Research Fellowship

- **Basic Information about the Fellowship**
 - 3 years of research funding (salary) \$30,000 per year
 - 3 years of tuition offset
 - Access to super-computing facilities
 - Fellowship Website: www.nsfgrfp.org
- **Who is Eligible?**
 - U.S. Citizens, Nationals, and Permanent Residents
 - Graduating Seniors
 - Graduate students who have completed no more than 12 months of graduate study at time of application (one academic year = 9 months)
- **Why Apply?**
 - More Time for Research
 - Looks Good on the Resume: Research Positions in Academia, Industry, Education
 - Good Practice
- **Deadline: Early November**

What You Need to Submit

- Basic Personal Information
- Transcripts
- GRE Scores: General and Subject Test (Recommended)
 - NSF will pay for subject test! (October deadline)
- 3 Letters of Recommendation
- Essays
 - Personal Statement
 - Previous Research Experience
 - Proposed Plan of Research
- Choice of Research Institution

Letters of Recommendation

- Choose letter writers who know you
- Give your letter writers lots of warning (1 month at least)
- Show your letter writers your application materials
- Try to choose one or more people from NCSU
 - If undergrad applying elsewhere, letter writer from that university is helpful.
- Any letter writer who can comment on past research experience is a plus.

Essay: Proposed Plan of Research

- I have an intended research mentor/ am working on a project already.
 - Write about your project!
 - What is novel/new? Why is it important?
- I'm not sure what I want to work on yet.
 - Identify a research area that interests you
 - Write about problem(s) in that area that seem interesting to you
- Be ambitious but realistic
- Research your subject area and write correctly about it
- **Make sure your research project is appropriate for your intended institution**

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Essay: Previous Research Experiences

- Discuss any past research experiences
- Show how these experiences demonstrate your initiative/creative thinking
- Link previous research experiences to proposed plan of research
- I don't have any past research experience!

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What Counts As Previous Research Experience?

- REU, REG experiences
- Senior Thesis
- Final Project in Course
- Attending Research Seminars
- Keeping up with Research Trends in Mathematics
- If you don't have formal research experience, talk about something that shows your initiative.
- **Don't leave this blank!**

Essay: Personal Statement

- Why are you fascinated by your research area?
- What examples of leadership skills and unique characteristics do you bring to your chosen field?
- What personal and individual strengths do you have that make you a qualified applicant?
- How will receiving the fellowship contribute to your career goals?
- How do these activities address the Intellectual Merit and Broader Impacts criteria?

Some General Advice for the Essays

- Integrate essays to create singular theme, link the content together
- Display your passion and motivation in the essays
- Mention what sets you apart from a typical applicant - be unique!
- Keep essays clear, simple to read, scientifically sound, and professional
- Thoroughly address both Intellectual Merit and Broader Impacts

Review Criterion: Intellectual Merit

- How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields?
- How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of prior work.)
- To what extent does the proposed activity suggest and explore creative, original, or potentially transformative concepts?
- How well conceived and organized is the proposed activity?
- Is there sufficient access to resources?

Review Criterion: Broader Impacts

- How well does the activity advance discovery and understanding while promoting teaching, training, and learning?
- How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)?
- To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships?
- Will the results be disseminated broadly to enhance scientific and technological understanding?
- What may be the benefits of the proposed activity to society?