**Grant Writing 101**

**A&S Research Office**

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[**http://louisville.edu/artsandsciences/research**](http://louisville.edu/artsandsciences/research)

*A place to start for faculty and graduate students planning to write grant proposals. For assistance on specific proposals, please contact the A&S Research Office.*

**The Basics**

 Grant proposals are not academic papers. They are arguments about why your project should get money, using your scholarly expertise to explain the project. It is a lot like applying for a faculty position or a slot in graduate school – each school has its strengths and goals, and you write your application to emphasize how your strengths match theirs. Sponsors/funders also have strengths and goals. Emphasize the elements of your research that will further those goals.

**The purposes of a grant:**

* To accomplish a goal desired by the funding person or organization.
* To provide funding needed by a researcher to develop, conduct, analyze, and disseminate research projects.

**Follow directions!**

 The majority of sponsors/funders provided guidelines for organizing and presenting your information. ALWAYS READ THEM CAREFULLY AND FOLLOW THEM PRECISELY. Something as small as using the wrong typeface or going over the page limit could result in your proposal being eliminated from consideration, regardless of the quality of your idea or methodology.

**Main elements**

 Sponsors/funders range widely in their requirements. Know before you begin writing how much space you have. Your approach will be very different when writing seven pages vs. 35 pages. Also, notice what must be included in the main narrative page count and what can be placed in the appendices. Below are the main elements of most proposals, and the order they typically are required:

* Problem: Explain the current state of the problem you want to research, and why knowing more about it is a good thing.
* History (lit review): Explain what other people have done to learn more about it, and what they have learned.
* Holes (more lit review): Explain why we need to know more about the problem.
* Your contribution: Explain how you plan to add to that knowledge, and why your insight will be useful.
* Work plan:
	+ *Methodology* – How you will collect and analyze information.
	+ *Resources* – What you will need to accomplish the project. This includes your time, the time of anyone who helps you, and any non-person resources you need including computers, software, paper, travel expenses, printing (if, for example, you are using a questionnaire), etc. This will form the basis of your budget. Check with your department’s Unit Business Manager (UBM) to find out if any of those areas are covered by the Facilities & Administration costs, also known as indirect cost (more on that later).
	+ *Analysis* – What will you do to make sense of the information you’ve collected? Why did you choose that method? Why is it the best method? How long will it take you? What do you expect to find out using that method? Have others used that method?
	+ *Dissemination* – Most funders want to know that others will learn about the data you collected the conclusions that data has led you to draw. Explain how you’ll get that information out: a paper given at a conference, a scholarly article submitted to journals, even publication in a newsletter or other medium. Always include a report to the funder in your list of dissemination materials.
* Budget/narrative: Talk about the money.
	+ Calculate how much time you will need to do the project. Then attach a cost to that time, using either your monthly salary (based on your 9-month contract, if a faculty member) or your monthly stipend (if you’re a graduate student). Also include appropriate fringe benefits. Your UBM will be able to help you with those.
	+ If you need help on the project from others, also calculate their time, then cost it out including benefits.
	+ List what else you need and put a cost to it, with some actual basis for the cost. For example, if you want specific software, look up what it costs and use that figure. Always use figures you can defend if anyone questions them. Funders know that prices change over time, and you can usually make adjustments in the budget allocations after funding is awarded. However, you CANNOT request additional funding for a project from a specific funder after that funder has awarded you a specific amount, even if your costs increase in the interim. You will need to find the additional funding elsewhere.
	+ Determine whether the project requires indirect costs (see definition in NOTE, below) that go to the university. Usually it will. Currently, the university requires 26% of funding awarded for off-campus research and 50% for on-campus research. That’s a big chunk, so keep that in mind when planning your funding needs. For example, if your project is on-campus research and will cost $70,000 to complete, the university will require $35,000 in indirect cost (50%). Therefore, you would need to request $105,000 in total funding to ensure $70,000 in project funding. Indirect is percent of \*project cost\*, not \*total funding awarded\*.
		- Some funding sponsors do not allow indirect costs, or limit it to a certain percent, such as 10%. Read the grant guidelines to determine if this is true for the grant/funding/sponsor you are seeking. If the rate is different from our U of L negotiated rates, then it has to be written in the sponsor’s institutional policy OR in the sponsor’s RFP (request for proposal). A copy of the official statement on indirect is required at the time the proposal is submitted to U of L’s Office of Sponsored Programs Grants Administration (OSPGA), or the university will automatically take the amount normally set for that type of project when the funding is released to the university.
	+ Write out a detailed budget using either a form provided by the funder or using a spreadsheet program like Excel.
	+ Write a budget narrative that briefly explains each item on your budget and why it is needed for the project.
* Conclusion
	+ This is basically a summary of all you’ve said before and a final plea for funding.

**NOTE:** Indirect costs include expenses of the University that support your research but are not a direct cost of the project itself. For example, direct costs could include your time, experimental specimens, software, or printing costs for a questionnaire. Indirect costs could include the time of the grant specialist reviewing your proposal, the finance staff who monitor and administer the finances of the grant, office space, utilities, etc. In the natural sciences, indirect costs also include construction and maintenance of laboratories. MOST grants allow indirect costs, and if they are allowable, the university requires that you include them in the budget at the university’s negotiated rate.

**Submission**

* If you are a faculty member new to grant writing, it is a good idea to have a colleague with more experience review your proposal before submitting it for final university review, so any problems can be addressed.
* If you are a graduate student, you should have a faculty member/mentor review the proposal before submission. Some funders will not allow a graduate student to be the Principal Investigator (PI), so you will need to find a faculty member willing to mentor you on the project and serve as PI.
* EVERY PROPOSAL submitted that touches on your discipline and/or uses university resources (if a faculty member) or will use university resources (if a graduate student) MUST be reviewed by the university before it is submitted. Grant awards are formal contracts between the university and the funder, and no individual faculty member or student is authorized to enter into a contract on behalf of the university. There can be serious consequences, including return of the funding, if faculty or students do submit without first going through university review.
* ALWAYS INCLUDE CONTACT INFORMATION where you can be reached during the review process; include both a telephone number and an email address. If the Research Office or Grants Administration have questions about your project, and you are not available to answer them, your project won’t be submitted to the funding agency.
* Please see the Submission process below for details on the process.

**Submission Process for Grants**

 Following are the steps to complete once your final proposal, PCF, and detailed budget are ready to submit. Remember, these must be submitted SEVEN (7) days prior to the sponsor’s submission deadline date. Always put your contact information on the PCF for the Office of Sponsored Programs Administration (OSPA) grant specialist or the Office of Industry Engagement (OIE) grant specialist to be able to contact you with any questions. Below are the web links to their contact information.

1. The lead PI and any co-PIs, as well as any other UofL personnel named on the grant, must sign the PCF.
2. The Department Chair of each person named must sign and initial where appropriate for each person.
3. The PCF with the detailed budget and budget narrative attached must be delivered to the A&S Research Office for review, approval, and signatures from Dr. Robert Buchanan, Arts & Sciences Associate Dean for Research.
4. Once Dr. Buchanan has signed off on the PCF, the A&S Research Office will deliver the PCF to OSPA for approval and signature. If the grant is to be submitted electronically, the OSPA will submit. If the application is being mailed by the PI, OSPA or OIE will contact the PI that the completed and approved proposal is available for pickup. Keep in mind. ONLY the OSPA and OIE office (depending on the type of grant) have signature authority on proposals, even on PI submitted applications. The university is committing resources even if the proposal is submitted by the PI and involves only him/her – the PI’s time is a university resource.

**Office of Sponsored Programs Grant Administration (OSPA)**

<http://louisville.edu/research/spa>

**Office of Industry Engagement**

<http://louisville.edu/research/oie>

**Finding Funding**

**Grants.gov**

[www.grants.gov](http://www.grants.gov)

 All funding opportunities, including grants and fellowships, available through the federal government are linked on this site and are searchable. It can be overwhelming, but if you are seeking the official documents for specific federal opportunities, this is the place to get them. Don’t forget to search individual federal agencies for opportunities, and don’t limit the search to agencies that seem directly associated with your field. For example, a criminal justice or criminology professor or student may not think of the Centers for Disease Control as a funding option, but the CDC has included violence as one of its areas of research and activity.

**Foundation Center**

[www.foundationcenter.org](http://www.foundationcenter.org)

 This website will give you free access to the 990s (tax returns) of all funding non-profits in the US who submit tax returns; these are private organizations which are interested in funding projects, although many will not be appropriate for university purposes. Those tax returns include instructions on applying for funding from the organization, and who they gave money to the previous year. For a searchable version of the database where you can seek funding opportunities by type (e.g. fellowship, research) or topic (e.g. literature or chemistry), your options depend on your status. Faculty members can contact the Research Office for help doing Foundation Center searches, or for training in how to do the searches themselves. Students must go to the Louisville Free Public Library downtown in Louisville. The database is accessible in their Reference Department on the second floor of the newer section of the library. The contact number is 502-574-1611. There you should be able to obtain summaries of organizations, their funding information, and website links. The Library staff can provide guidance in using the database.

Other resources for funding opportunities can be found on the A&S Research Office website.

<http://louisville.edu/artsandsciences/research/research-resources/funding-opportunities>

**Grant Application Narrative**

**Organization Template**

*Suitable for the natural sciences and/or grant applications to organizations like the National Science Foundation (NSF)*

**Goals:** The proposed work addresses…

Clearly state the project goals and concisely outline planned studies

**Specific Aims**

**Aim #1: State the aim of the proposed work**

*Hypotheses: Clearly state the hypothesis you plan to test*

Tactics: Summarize the methodology and experimentation you will use to test

the hypothesis and complete the aim.

List other aims (using the same format) in proposed research plan.

**Background**

This section should include a comprehensive and concisely written overview of the current knowledge related to the proposed research plan. The works of others cited need to be properly referenced. This section should include figures, tables, schemes, diagrams, etc., that help organize the discussion.

**Results from Prior Support**

Many granting agencies require a summary of prior results supported by agency funding. This section should focus on the key results that support and strengthen your request for additional support. If this is a request for a new project, you should include results from other sponsored research (acknowledge the source) that generated the foundation for the proposed study. Again, illustrations, diagrams, etc., should be used to help organize the discussion.

**Broader Impacts**

This is a very important section in NSF applications and should focus on the local, regional, national, and international impact of the proposed research. Impact areas are economic, educational (students, training, etc.), collaborations with other researchers and institutions.

**Research plans**: Our research plans…

Brief overview (prelude) of the proposed research.

Give outline of the aims and how they relate to the goals of the proposal.

*1A First Study: Preliminary Results*: Preliminary studies show…

*1A First Study: Proposed Research:* The proposed research seeks to correlate…

*1B Second Study: Preliminary Results*: Summarize supporting results.

*1B Second Study: Proposed Research*: Outline research plan. Use illustrations, diagrams,

 tables, etc., to clearly show proposed work.

**Aim #2:** **Follow the same steps as above for other aims.**

**References**

Use standard referencing. Format in your area of study. Follow requirements in the proposal guidelines.