

*The budget narrative is an excellent place to continue to sell your project by pointing out the various strengths of faculty and resources and through the suitable allocation of funds over the project period. Make certain that the numbers included on the Budget Justification match those on the budget pages and in the narrative. **The budget justification is limited to a maximum of three pages.***

BUDGET JUSTIFICATION GUIDELINES

A. Key Personnel *(includes PI and Co-PIs)*

For each person, it is recommended that the following be included for clarity.

- *Role, position, and suitability to project*
- *Enter relevant work or accomplishment here, which shows suitability to project*
- *List specific role in project, e.g., directing the project, contributing a specific expertise, showing how this is the best person to lead the project*
- *Commitment of effort to project*
- *NSF forms request commitment be listed in academic (9 month), summer, or calendar months. Personnel with no salary request may not be listed in the budget; their expertise may be listed in the Facilities section*
- *You may choose to list 1st year salary, or multiply annual salary with commitment effort. It is optional, but in general, an explanation of your salary should be made. If you are committing 1 person month of your total academic time, you should include an explanation that says you are requesting one academic month of your base salary be funded by this proposal, should it be awarded. If you are requesting money that may be used for summer, you should request summer months. Note: **There is a limit of 2 months total per PI** for ALL of their NSF proposals, which may not be exceeded without prior NSF approval.*

Please remember to escalate salary for subsequent years, as natural rate of inflation can cause a multi-year project to become underfunded in the later years. A 3% escalation is faculty union specific and standard practice. (In some cases, PIs have chosen to exclude escalation for their own salaries for various reasons. One reason may be to focus on the cost of supplies or other expenses that are vital to the execution of the project, and to fit the budget cap instituted by the funding agency.)

Examples:

Professor Beacon will serve as PI on this project. A Professor of Biology at UMass Boston, he/she has researched ecosystem pollutants extensively throughout the US and Europe. Dr. Beacon will oversee the graduate student and postdoc. Dr. Beacon is committed to the project for 3 calendar months per year (2 summer months and one academic month). A salary escalation rate of 3% per year has been calculated.

Dr. Mia Boston, Co-PI of this project, is Associate Professor of the Department of Chemistry at UMass Boston. She has been funded for several NSF chemistry projects focusing on green chemistry initiatives and is noted for her work in xxx. (You may include area of expertise, notable accomplishments, especially those that are relevant to the project.) Her expertise in biochemistry will assist in the project goal of designing environmentally friendly chemical compounds.

She and her collaborator, Professor John Jones of Harvard (subcontractor), are both committed for 0.5 summer months, respectively. A salary escalation rate of 3% per year has been calculated.

B. Other Personnel *(includes non-key personnel, that is, members who will not be playing a leadership role, but will contribute through their labor, such as graduate students, postdocs, technicians, and administrative staff)*

Example:

Biology graduate student: Dr. Beacon requests one graduate research assistant for the project. His/her current research work is on wetland denitrification, and he/she will devote 100% of his/her research time to the project. His/her stipend is \$XX,XXX* for the first academic year and summer.

**The current minimum salary for graduate students negotiated by their union is \$15,908. Actual minimum salary may change and will also vary by department and scope of work. See your Graduate Program Director for more up to date*

information while determining your budget. Also see:
http://www.umb.edu/academics/graduate/info_for_faculty/ga_hiring_procedures

Postdoctoral fellow and technical support: Dr. Beacon requests one postdoctoral associate and one technician to assist in biochemical analysis and development. The postdoc will commit 100% of his or her time at the salary of \$XX,XXX* in the first year. A technician is also requested at 50% time. The postdoc will be responsible for performing and for directing the technician to perform the biochemical experiments. Salary is escalated by 3% for both individuals in following years. *Salary for postdocs are department specific and by their scope of work. You may want to view the NIH salary range for postdocs: <http://www.niaid.nih.gov/researchfunding/paybud/pages/salarystip.aspx>

C. Fringe Benefits

Fringe Benefits change yearly, and should be confirmed before submitting your budget to ORSP. Updated rates may be found at: http://www.umb.edu/research/info_for_faculty_staff/how_to_obtain_funding/orsp_forms As determined by DHHS negotiations, fringe benefits from 7/1/14– 6/30/15 are the following. Please note the type of appointment and time of year to determine which rate to apply to the salary. List fringe for each salaried personnel.

Fringe rate is based on faculty academic effort and calculated using the following rates:

Example:

The applicable fringe rate for Dr. Beacon's faculty summer support is x.xx%. Applicable rates for Dr. Beacon's faculty academic support and benefited Post-Doctoral Fellow staff are xx.xx% plus Health and Welfare fringe at \$xx biweekly/FTE. The applicable rate for graduate research assistants' summer support is x.xx%. Total requested fringe is:
PI: \$xx
Post-Doc and Technician: \$x,xxx
RA: \$xx

D. Equipment

Equipment is defined as an item of property that has an acquisition cost of \$5,000 or more. Allowable items ordinarily are limited to research equipment and apparatus not already available for the conduct of the work. List the equipment you are requesting for the project. Include model no. and price quotes from a reputable source, listing name of source. Explain the necessity of the equipment to the project, and how this item will be used by the different parties in the proposal.

E. Travel

List total amount requested in first year, with breakdown of expenses, e.g., airfare, hotel, per diem, and mileage reimbursement. If you know which conferences you will be attending, providing this detail would be helpful, as this is one gauge of the breadth of work you will be doing, presenting results and participating in academic exchange. Please specify domestic or international travel, and include reasonable amounts. Please read the announcement carefully to ensure that you've included any required travel, for instance for the PI to travel to NSF-sponsored events relevant to the project.

Example:

The total estimated amount of \$5,000 is budgeted for travel expenses to attend relevant conferences and workshops and present findings. This includes \$2,000 for Dr. Beacon and his/her postdoc to travel to one conference per year, such as the American Chemical Society or the Ecology Society of America to present research results. It would cover airfare, hotel, and per diem. Dr. Boston requests \$3,000 total per year for both domestic and foreign travel with her graduate student. Domestic travel is budgeted at \$1,000 to cover airfare, hotel, and per diem, and foreign travel at \$2,000. Total requested for all four years is \$20,000. Possible conferences include the International Conference on Ecology, Gordon Research Conference, and Biochemical Society.

F. Participant Support Costs

Participant support costs are direct costs for items such as stipends or subsistence allowances, travel allowances and registration fees paid to or on behalf of participants or trainees (but not employees) in connection with meetings, conferences, symposia or training projects. This may include fellowships, scholarships, and other forms of student

financial aid. Generally the participants supported under an NSF award are not employees. However, for some educational or outreach projects participants being trained may be employees.

- List any other expense associated for the participants, and how this is relevant and necessary to the project (e.g., supplies, printing of materials, etc.)*
- List the stipend each participant will have, and what expenses are figured into the provision of the stipend*
- List amount allotted for travel. Do not add this amount to the amount listed in “E. Travel,” which is for key personnel and other personnel. Explain the purpose of the travel*
- List amount allotted for subsistence, which could be a food per diem. Specify the period for which you are providing assistance for subsistence*
- Review guidelines carefully to determine whether participant support costs can be included in the project budget as direct costs. NSF does not allow F&A costs. Whenever Participant Support Costs are proposed in a budget, a detailed justification will be required that describes the purpose for the costs and the way in which they will directly benefit the proposed project’s scope of work*

G. Other Direct Costs

1) Materials and Supplies

Materials and supplies are defined as tangible personal property other than equipment, costing less than \$5,000 that are essential for project completion. These expenses may include field and laboratory supplies and software. Describe the item and why it is needed for the project.

Example:

To accomplish the work needed to create green chemicals, we will be purchasing supplies for chemical formulation and testing. It is estimated that these supplies will cost \$20,000 per year. Estimates are based on prior experience.

2) Publication Costs

Many journals require a per-page or per-article publication cost, and these fees should be paid for through your grant. Other publication costs, including posters for meetings, should also be included.

Example:

We request the amount of \$1,000 in Years 4 and 5 to publish the results of our study. We project that results will be verifiable and provide data that will produce information that will be disseminated through conferences and publications in journals. The amount of \$1,000 per year will cover journal page costs and production of posters for research meetings.

3) Consultant Services

Consultants are members of a particular profession or possess a special skill and who are not officers or employees of the performing organization. Costs of professional and consultant services are allowable when reasonable in relation to the services rendered. Payment for consultant services should be comparable to the normal or customary fees charged and received by the consultant for comparable services, especially on nongovernment contracts and grants. Please make sure that the consultants are well justified and that you have also included a letter of support and a scope of work. See the [NSF Awards Guide](#) for more information.

Example:

The PI will employ an outside source to provide chemical analysis. Jenna Smith, Ph.D., is CEO of Chemsure, and will devote 5 hours per year to the project. Her rate is \$200 per hour, for a yearly budget of \$1,000.

4) Computer Services

Make certain that the need for any computer-related expenses are justified by the project, and make sure that you remember to include the cost of any software necessary for the project.

Example:

The Computer Science Department maintains a full-service computing environment to support research and instruction. For hardware, computing facilities have available four Sun Enterprise-250 servers (1-2 gb of main memory each), 3 Sun 240s (2 GBs of memory each), and, 45 linux servers dedicated to course support, and about 400 workstations. The cost for each Computer Science faculty member is \$620 and for each graduate research assistant is \$310, for a total of \$930 per year.

5) Subawards

NSF requires subcontracts to submit separate budget with budget justification. If you have a subcontractor, request these items and ensure they submit a detailed budget and justification on the correct forms. See ORSP website for Subrecipient Statement of Intent form, see: http://www.umb.edu/research/info_for_faculty_staff/how_to_obtain_funding/orsp_forms

Example:

A subcontract to Harvard School of Environmental Science in the amount of \$400,000 for four years as described in the proposal is included. The PI of this subcontract is John Jones, PhD.

6) Other

Refers to expenditures which are allowed as direct charges to a sponsored project not listed above.

H. Indirect Costs (Facilities and Administrative Costs)

These rates are negotiated every three years and can be checked at:

http://www.umb.edu/research/info_for_faculty_staff/how_to_obtain_funding/orsp_forms

Rates for projects that begin between 7/1/15 – 6/30/17

On-campus: 52.5% x Modified Total Direct Cost Base

Off-campus: 26.0% x Modified Total Direct Cost Base

See: <http://cdn.umb.edu/images/research/offcampusfanote.pdf> to determine what campus rate is applicable to your project.

The Modified Total Direct Cost Base includes all direct costs minus, plus the first \$25,000 per subcontract. Equipment over \$5,000 and participant costs are not included.

Example:

Using DHHS negotiated rates, the modified total direct cost base of \$251,085 was multiplied by the negotiated rate of 52.5% to obtain the indirect cost of \$131,819 for the first year. The same formula was applied in all subsequent years.