



*The rising STAR of Texas*

# **Training Guide: Preparing Research Proposal Budgets**

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*This training guide is intended to provide the Principal Investigator and/or staffer a reference for preparing budgets for proposals. This guide outlines the basic points covered in most standard budget details. Exceptions will occur, but generally those are specific to the type of work being performed on the project or an exception according to specific solicitation requirements. Example calculations are scattered throughout the guide with an answer key provided on pages 13 thru 15. Contact the Office of Sponsored Programs at 512-245-2102 with questions and comments. Happy funding!*

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## **BUDGET BASICS: TERMS**

**Total cost** of a sponsored agreement is comprised of the allowable **direct** costs plus the allocable portion of the allowable **Facilities and Administrative (F&A) Costs**.

**Direct costs** are those costs that can be identified specifically with a particular sponsored project, an instructional activity, or any other institutional activity, or that can be directly assigned to such activities relatively easily with a high degree of accuracy.

**Facilities and Administrative (F&A) costs** are those that are incurred for common or joint objectives and therefore cannot be identified readily and specifically with a particular sponsored project, an instructional activity, or any other institutional activity. F&A costs are synonymous with “Indirect or Overhead Costs”. F&A costs are calculated by multiplying MTDC by the Institutional negotiated federal rate.

**Modified Total Direct Costs (MTDC)** is a subset of the direct costs per the university’s rate agreement, MTDC consists of all:

- Salaries and wages
- Materials
- Services
- Subawards – include up to the first \$25,000 of each subaward
- Fringe benefits
- Supplies
- Travel

MTDC exclude:

- Capital equipment
- Charges for patient care
- Rental cost of off-site facilities
- The portion of each subaward and subcontract excess of \$25,000
- Capital expenditures
- Tuition
- Scholarships and fellowships

# BUDGET BASICS: COST CATEGORIES

## Direct Costs

### Personnel: Salaries and Wages

The budget detail should include the title, name and percentage of time/number of months, summer or academic for each person listed on the budget. If a specific person is identified on the budget then their projected actual salary rate should be used.

If a specific technician, staff person, graduate student or other student worker has not been identified at the time of budget preparation, the salary amount for those categories should be consistent with those normally paid by the University.

Note: Secretarial/Clerical salaries are normally included in Facilities and Administrative (F&A) Costs as required by section F.6.b of Circular A-21. Inclusion as direct costs is not typically allowed but may be appropriate in certain situations.

### *Salary calculations*

An annual escalation factor (most commonly 3%) is added to all salaries each September 1st. Maximum amount of time graduate students are allowed to work any month while attending class is 50%. Note: the following table gives the standard number of hours to be used in salary calculations.

1 work month		4.3 weeks	22 days	174 hrs
Calendar Year	Jan1 thru Dec 31	52.0 weeks	260 days	2,088 hrs

### Level of Effort

Read the sponsor guidelines carefully to determine how to calculate personnel costs. Some sponsors guidelines may require budget information based on the “percent time” format while proposals submitted through Grants.gov’s using SF424 R&R budget form require calculations based on “man months”.

#### Percent Time

Time commitments on proposed projects can be expressed as a percentage of an individual's time.

#### Man Months

Man months, or "person months", as they are commonly called, represent the total time commitment of an individual as complete monthly units. For example, if a person spends

50% of their time for 12 months, it is expressed as 6 man-months or person-months. NSF, NIH, ONR and USDA are just some of the sponsors that use this format.

**Example A:** See Answer Key on page 13.

A researcher provides the following information for the budget. Indicate the unit used for each type of salary calculation.

Dr. Spendmoney Principal Investigator Salary \$10,000/mo.	33% Time, 12 Calendar Months	Total Person Months _____	% Time _____
Jane Smith Research Associate	50% Time, 9 Academic Months	Total Person Months _____	% Time _____
To Be Named Graduate Research Assistant Salary \$3,000/FTE mo.	50% Time, 9 Academic Months 50% Time, 3 Summer Months	Total Person Months _____	% Time _____

### Personnel: Fringe Benefits

The Office of Sponsored Programs utilizes average rates to be used for budgeting fringe benefits. Upon award, actual rates will be applied and vary according to health insurance withholding status. Fringe Benefits for faculty and staff include:

- FICA/Medicare 7.65%
- Retirement 7.25%
- Unemployment, workman's comp, lump sum vacation pool 1.25%
- health insurance (average) 11.85%

Fringe Benefit	Rates
Faculty & Staff (with health insurance)	28% of direct salaries
Faculty & Staff (without health insurance)	16.15% of direct salaries
Graduate Students (with ERS health insurance)	17% of direct salaries
Graduate Students (without ERS health insurance)	1.25% of direct salaries
Undergraduate Students (Unempl/Wrks Comp Only)	1.25% of direct salaries

**Example B:** See Answer Key on Page 13.

Sample Calculation for fringe benefits:

- a. Use the information above for Dr. Spendmoney and calculate the fringe benefits costs for that salary.
  
- b. Use the information above for “To Be Named Graduate Assistant” and calculate the fringe benefits for that salary (assume ERS health insurance).

**Capital Equipment**

Capital Equipment is defined as an article of nonexpendable, tangible personal property having a useful life of more than one year and an acquisition cost of \$5,000 or more per unit. Any major equipment purchase must be listed separately in the budget. Do not forget to include any applicable shipping and handling as well as training and installation costs.

The need for the equipment should be adequately justified on the budget explanation page. General purpose equipment, such as computer equipment, is not eligible for support unless primarily or exclusively used for project implementation.

**Example C:** See Answer Key on page 13.

Classify the following with a checkmark.

\$2,000	Windows Workstation and Office	___ capital equipment	___ non-capital equipment
\$15,000	Gas chromatograph	___ capital equipment	___ non-capital equipment
\$8,000	Pressure testing bench fabricated from 16 - \$500 valve assemblies	___ capital equipment	___ non-capital equipment

**Travel**

Travel expenses must conform to the university’s Travel Guidelines in order to qualify for reimbursement. According to the General Appropriations Act (GAA), state employees are reimbursed for actual meal and lodging expenses for out-of-state travel up to the maximum rates based on federal travel regulations. Federal travel regulations are typically updated on October 1. **Per diem rates** are posted on the General Services Administration Web site (<http://www.gsa.gov/>).

Proposed travel should include number of trips planned, number of days per trip, number of persons for each trip, conference name, location, purpose and cost.

Estimated travel costs should be broken into the following subcategories:

- Transportation (airfare, mileage and/or automobile rental expenses);
- Subsistence (per diem and hotel expenses).

Adequately justified the purpose of the travel on the budget explanation page; budget foreign travel separately, with prior approval from the sponsor usually and notify the university’s compliance office regarding potential export control issues.

**Example D:** See Answer Key on page 13.

**Sample Travel Cost Calculation:** Dr. Spendmoney proposes to visit the sponsor in Washington D.C. for two days. A graduate assistant and a research associate will accompany him. While there, they will attend a conference (registration cost \$750 each) at the Marriott Metro Center in downtown DC at a conference rate of \$181/room. To begin the travel cost calculation, complete the table below. Use \$71/day (75% for a partial day) as the federal per diem rates from the GSA web (<http://www.gsa.gov/>) and estimate airfares at \$675 per person and auto rental at \$60/day.

<b>Trips</b>	<b>Persons</b>	<b># of Days</b>	<b>Item</b>	<b>\$Amount</b>	<b>Cost</b>
			Per diem		
		(# of Days – 1)	Lodging		
			Airfare		
			Rental Car		
			Mileage		
			Other		
				Total	\$

**Other Direct Costs**

Other Direct Costs should be itemized

The following paragraphs explain the most common direct costs which include:

- materials and supplies
- publication costs
- professional services
- computer services
- subcontracts
- animal care
- human subjects care
- participant support

### *Materials and Supplies*

Indicate in general terms the type of expendable materials and supplies required along with estimated costs. When the cost is substantial, a detailed breakdown can be listed on the budget explanation page. General purpose office supplies are not to be included in this category.

Note: Office supplies, postage, local telephone costs and memberships are normally included in the F&A Cost Agreement as required by section F.6.b of Circular A-21. Request to include these as itemized direct costs are not typically allowed but may be appropriate in certain situations.

### *Publication Costs*

Funds may be requested for the costs of preparing publishing or otherwise making available the findings and products of the work conducted under the research project, including costs of reports, reprints, page charges, or journal costs.

### *Professional Services*

Anticipated professional services should be justified and information furnished on each individuals' expertise, primary organizational affiliation, daily compensation rate, and number of days of expected services. A letter from the professional stating their willingness to participate, as well as their actual daily rate with proper documentation, is occasionally required for submission.

### *Computer Services*

The cost of computer services, including the computer based retrieval of scientific, technical, and educational information, can be requested. Computer Costs should include the name of the computer to be used and the University established hourly rate.

### *Animal Costs*

Any costs associated with the purchase or daily care of an animal is budgeted here. For purchases you must list the species, the number of animals and the price per animal. For daily care list the cost per day associated with one animal.

### *Human Subjects Costs*

The only costs classified as human subject costs are monetary payments made to an individual for their participation in a project.

### *Participant Support Costs*

Participant support costs are direct costs for items such as stipends, travel subsistence allowances, and registration fees paid to or on behalf of participants or trainees (not PI's or university employees). **For NSF projects this category is exempt from F&A costs.**



The table below represents an example of other direct costs that may be included in the MTDC base for F&A calculations.

<b>F. Other Direct Costs included in MTDC base</b>	<b>Cost</b>
1. <b>Materials &amp; Supplies</b>	\$ _____
2. <b>Professional Services</b>	\$ _____
3. <b>Publication/Page Charges, Photocopying</b>	\$ _____
4. <b>Computer Software</b>	\$ _____
5. <b>Telephone/fax - long distance only</b>	\$ _____
6. <b>Conference fees</b>	\$ _____
7. <b>Lab equipment under \$5,000</b>	\$ _____
8. <b>Other (specify)</b>	\$ _____
<b>Total Other Direct Costs included in MTDC base</b>	<b>\$ _____</b>

## **Subaward (Subrecipient, Subcontract, Subgrant) or a Procurement?**

Federal Acquisition Regulations and Uniform Guidance guide the distinctions between subcontracts and procurements. These distinctions include the purpose of the distribution of funds to a subawardee as well as the necessity to flow-down the terms and conditions of the award from the organization initially receiving the funds.

The subaward process is used when a portion of the award is passed -through to another entity for the purpose of programmatic effort on the project. The entity receiving the funds is a sub-recipient. All the terms and conditions that are part of the primary award must be included in the sub-award document. Signature of acceptance of these terms by the receiving entity is required.

However, when goods or services are bought for the benefit of the project, the activity is termed a *procurement*, and the entity receiving the funds is called a *vendor*. When preparing the budget, determining whether an activity is classified as a procurement or a subaward is VERY IMPORTANT.

Note: single individuals are not generally sub-recipients or subcontractors. Individuals are considered professional services or non-professional services.

## **Determining a Sub-award**

Does the entity receiving a portion of the funds from you:

- Have their programmatic involvement identified as a separate scope of work, with separate budget and organization approval?
- Have their performance measured against whether the objectives of the project are met?
- Have responsibility for programmatic decision-making?
- Have responsibility for adherence to applicable program compliance requirements?
- Use the sponsored funds to carry out a program of their organization as compared to providing goods or services for a program at this university?
- Have responsibility for assisting in completion of project deliverable and/or technical report?
- Have the right to publish project results or serve as a co-author?
- Have the option to develop patent-able technology?
- If your answers to these questions are "Yes," this activity should be classified as a sub-award.

### **Determining a Procurement**

Does the vendor/entity receiving a portion of the funds from you:

- Provide the goods and services your project requires within their normal business operations?
- Provide similar goods or services to many different purchasers? (this includes fabrication of new goods, consultants, editors, etc.)
- Operate in a competitive environment? (a for-profit organization or an entity/university providing a testing service)
- Not subject to terms and conditions/compliance of the sponsoring agency?
- Not involved in the programmatic work of the project, including project deliverable or technical report?
- If your answers to these questions are "Yes," this activity should be classified as a procurement from a vendor.

### **Applying the Classification to Your Proposal Budget: Subawardee or Vendor?**

It is VERY IMPORTANT that the activity be correctly categorized and calculated in your proposal budget.

Subawards are listed as contractual agreements in the proposal and itemized in your budget. Most sponsor's budget formats have a separate line to list subawards. When using Modified Total Direct Cost Method, the F&A rate would be applied on the first \$25,000 of each sub-award.

The following information should be requested from the subawardee:

- Statement of work for subawardee’s portion of the proposal
- Detailed budget
- Letter of confirmation that authorizing official of that organization has approved their participation in the proposal
- Certification such as conflict of interest and others that may apply

Vendor procurements are listed as supplies, equipment, or services as appropriate. An example would be "lab testing services"; "vessel rental"; "fabrication of xxx equipment". If the researcher has obtained a formal quote for the services, it may be used as backup material for the budget justification and possibly requested by the sponsor for supporting cost documentation. Facilities and administrative rate is applied on the entire procurement amount.

**Example E:** See Answer Key on page 14.

Calculate the F&A cost for each Subrecipient/Subaward:

<b>48.5% F&amp;A Rate</b>	Year 1	Year 2	Year 3	TOTALS
Subcontract A	\$10,000	\$5,000	\$15,000	\$30,000
Subcontract B	\$0	\$25,000	\$5,000	\$30,000
F&A Sub A	\$	\$	\$	\$
F&A Sub B	\$	\$	\$	\$

*Tuition*

Tuition may be included if allowed by the funder. Budget should be developed using current tuition and fee schedules.

Any other direct costs that will be associated with the research effort on the proposed project should be detailed in this section of the budget.

**Facilities and Administrative Costs (F&A)**

The Facilities & Administrative cost rate is a predetermined and calculated according to the F&A Cost Rate Agreement for the university with the Department of Health and Human Services (DHHS) (our cognizant federal audit agency) for use on all federal awards. These rates are used for all proposals except those sponsors that limit F&A.

Components of the F&A rate:

<b>Facilities</b>	<b>Administration</b>
Building Depreciation	General administration and general expenses

Equipment Depreciation	Departmental Administration
Interest and debt associated with buildings	Sponsored Project Administration
Operation and Maintenance Expenses	Student administration and services
Library Expenses	Admin offices that serve the entire university

### Calculation of F&A costs

Modified Total Direct Cost or MTDC consists of direct costs less capital equipment over \$5,000, tuition, scholarships, fellowships, rental of off-campus facilities and that portion of each subaward in excess of \$25,000. Applicable rate are listed below and apply to both Research and Instruction projects.

<b>Negotiated F&amp;A Rates</b>	On-Campus	Off-Campus
Research and Instruction	48.5%	26.0%

**Example F:** See Answer Key page 14.

Calculate the F&A cost using MTDC from the following budget items.

<b>Budget Items</b>	<b>Total Direct</b>	<b>MTDC</b>	<b>F&amp;A Rate</b>	<b>F&amp;A Cost</b>
Personnel	\$57,000		48.5%	
Capital Equipment	\$10,000			
Other Direct Costs	\$ 7,000		48.5%	
Tuition	\$ 4,000			
<b>Total</b>	<b>\$78,000</b>	<b>\$64,000</b>		

Sometimes an F&A rate restriction is stated by a sponsor in a program's guidelines. It's important to carefully read the guidance/instructions for exceptions regarding F&A / indirect cost requirements. Use the following formula to calculate F&A costs when the sponsor requires or limits F&A as a percentage of total costs requested/

**Example G:** See Answer Key page 15.

Program guidelines state "F&A Costs are limited to 19% of the TOTAL FUNDS REQUESTED from the funding agency." Budgeted direct costs total \$50,000.

Formula:  $100\% - X = Y$

$X/Y = Z$

X = percentage of F&A Costs allowed by sponsor agency

Y = remainder

Z = F&A multiplier

**ANSWER KEY**

**Example A:**

Dr. Spendmoney Principal Investigator Salary \$10,000/mo.	33% Time, 12 Calendar Months	Total Person Months <b>4</b>	% Time <b>33%</b>
Jane Smith Research Associate	50% Time, 9 Academic Months	Total Person Months <b>4.5</b>	% Time <b>37.5%</b>
To Be Named Graduate Research Assistant Salary \$3,000/FTE mo.	50% Time, 9 Academic Months 50% Time, 3 Summer Months	<b>4.5</b> Person Months <b>1.5</b> Person Months  Total of <b>6</b> Person Months	% Time <b>50%</b>

**Example B:**

Use the information above for Dr. Spendmoney and calculate the fringe benefits for that salary.

Fringe Benefits	\$10,000 salary	4 months	<b>28% rate</b>	<b>\$11,200</b>
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Use the information above for To Be Name Graduate Assistant and calculate the fringe benefits costs for that salary.

Fringe Benefits	\$3,000 X 50%	12 months	<b>17% rate</b>	<b>\$3,060</b>
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**Example C:**

\$2,000	Windows Workstation and Office	<input type="checkbox"/> capital equipment	<input checked="" type="checkbox"/> non-capital equipment
\$15,000	Gas chromatograph	<input checked="" type="checkbox"/> capital equipment	<input type="checkbox"/> non-capital equipment
\$8,000	Pressure testing bench fabricated from 16 - \$500 valve assemblies	<input checked="" type="checkbox"/> capital equipment	<input type="checkbox"/> non-capital equipment

**Example D:**

Specify number of trips, the number of persons per trip, the purpose of trip and if it is to a conference, the name of the conference. <i>PI must justify foreign travel.</i>					
<b>Destination: District of Columbia</b>			<b>Purpose: Conference</b>		
<b>Trips</b>	<b>Persons</b>	<b># of Days</b>	<b>Item</b>	<b>\$Amount</b>	<b>Cost</b>
<b>1</b>	<b>3</b>	<b>2</b>	Per diem	<b>(\$71+\$53*)</b>	<b>\$372</b>
	<b>3</b>	(# of Days – 1)	Lodging	<b>\$181</b>	<b>\$543</b>
	<b>3</b>		Airfare	<b>\$675</b>	<b>\$2,025</b>
		<b>2</b>	Rental Car	<b>\$60</b>	<b>\$120</b>
			Mileage	<b>Included</b>	
	<b>3</b>		Other	<b>\$750</b>	<b>\$2,250</b>
		<b>Total</b>			<b>\$5,310</b>
<b>*\$53 represents 75% of the allowed per diem rate.</b>					

**Example E:**

<b>48.5% F&amp;A Rate</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>TOTALS</b>
Subcontract A	\$10,000	\$5,000	\$15,000	\$30,000
Subcontract B	\$0	\$25,000	\$5,000	\$30,000
F&A Sub A	<b>\$4,850</b>	<b>\$2,425</b>	<b>\$4,850</b>	<b>\$12,125</b>
F&A Sub B	<b>\$0</b>	<b>\$12,125</b>	<b>\$0</b>	<b>\$12,125</b>

**Example F:**

<b>Budget Items</b>	<b>Total Direct</b>	<b>MTDC</b>	<b>F&amp;A Rate</b>	<b>F&amp;A Cost</b>
Personnel	\$57,000	<b>\$57,000</b>	<b>48.5%</b>	<b>\$27,645</b>
Capital Equipment	\$10,000			
Other Direct Costs	\$ 7,000	<b>\$7,000</b>	<b>48.5%</b>	<b>\$3,395</b>
Tuition	\$ 4,000			
<b>Total</b>	<b>\$78,000</b>	<b>\$64,000</b>		<b>\$31,040</b>

### Example G:

The sponsor guidelines limit the F&A costs to 19% of the Total Funds requested. Budgeted direct costs total \$50,000.

Using the formula:  $100\% - X = Y$ , then  **$100\% - 19\% = 81\%$** ;

Using the formula:  $X/Y = Z$ , then  **$19/81 = 23.46\%$  (.2346)**

Therefore, 23.46% would be the actual F&A rate calculated on Total Direct Costs.

**$\$50,000 \times 23.46\% = \$11,728$  F&A costs**

Budget:

Total Direct Costs     \$50,000

F&A Costs                 \$11,728

**Total Request         \$61,728** Conversely.....  **$\$61,728 \times 19\% = \$11,728$**

**Or**

**$\$50,000 / (100\% - 19\%) = \text{Total Request}$**

**Total Request - \$50,000 = F&A (indirect) Costs**