

STEM EDUCATION: Drafting the Budget

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Planning the Budget

Before you begin the line item budget, think about--

- What is the purpose of the budget from the agency's perspective?
- What are the roles and responsibilities when working with the university to review and approve your budget?
- What is the scope envisioned by the sponsor?

What is a budget?

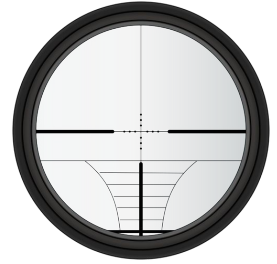
The agency wants your budget to be no less than the financial expression of your proposed work. A good budget shows program officers and reviewers that you have planned a financially viable project, you will be able to track and manage project expenses efficiently and transparently, and you will be able to make course corrections as needed. Program officers and reviewers study in detail the budget because they will be awarding you taxpayers' monies.

FINAL PILOT BUDGET			
Concept	Amount		
	Euros	Dollars	Detail
Grants for Kernel of the project	15.300,00 €	\$ 16.830,00	
Belen Bosalle			\$ 5.610,00
Joaco Alegre			\$ 5.610,00
Jorge Vicedo			\$ 5.610,00
Travel Spending:		\$ 1.050,00	
Trips Sacedon - Madrid			\$ 192,00
Trips Villena - Madrid			\$ 804,00
Public transportation			\$ 54,00
Subsistence allowance		\$ 420,00	
total budget		\$ 18.300,00	



Creating a budget that is competitive for national grant programs requires meticulous planning and compliance with federal regulations, encompassing two essential activities:

1. **What You Do** - Think about the roles and responsibilities of all personnel; where you need to travel and why; what internal supports you need (such as equipment) and what external support you need (such as an independent evaluator).
2. **What We Do** - We support all technical aspects of the line item budget and budget justification. Reach out to us early. We will help you, and then launch the institutional review and approval process.



Scope

The budget ceiling (\$100,000 or \$5,000,000?) reflects the scope of work (“SOW”) that the sponsor wants. What can you accomplish within that scope? Sketch out your budget to align with the SOW. If the draft of your budget is under or over the sponsor’s budget ceiling, ask us for help to align your budget with the sponsor’s SOW.

Line-Item Budget



Calculating the Costs: Total Direct Costs and Total Indirect Costs

How much money do you have for direct costs? That depends on the indirect cost rate....



Step 1: Calculating Direct Costs vs. Indirect Costs

The university's Indirect Cost Rate is 40%. If you are applying for a federal award with a budget ceiling of \$500,000, divide $\$500,000 / 1.4 = \$357,142$.

Totals Available:

Direct Costs = \$357,142

Indirect Costs (remaining) = \$142,858

Step 2: Calculating Modified Total Direct Costs

Certain categories, such as Equipment, Participant Support, and Subawards in excess of \$50,000, are exempt from indirect costs. Subtract these from Direct Costs, and then calculate the Indirect Costs.

Example: \$500,000 budget ceiling

1. Direct Costs include \$25,000 in Equipment + \$75,000 in Participant Support.
2. Direct Costs eligible for Indirect Costs: \$400,000 ($\$500,000 - \text{Equipment } (\$25,000) + \text{Participant Support } (\$75,000)$).
3. Direct Costs eligible for charging Indirect Costs: \$285,714 ($\$400,000 / 1.4$)
4. Indirect Costs: \$114,286 (remaining funds)
5. Total Direct Costs available: \$385,714

Modified Total Direct Costs: Exempt Thresholds

The Code of Federal Regulations increased the thresholds for certain categories that are exempt from indirect cost charging. As of October 1, 2024:

1. Equipment = \$10,000 and above
2. Materials and Supplies = up to \$10,000
3. Subawards = in excess of \$50,000

Final Advice: Make sure budget reflects technical aspects of award.

For example, what is the start date of the award? The federal fiscal year starts October 1st and end September 30th. This may impact your award's start and end dates. If so, when planning the budget for the fall semester in the first year, faculty will not be eligible for Release Time because the grant start date would have had to be in the summer.

Solution: Use October, November, December as a planning period for your major award.

Institutional Base Salaries

The first thing University Initiatives does is ask who will be involved in the proposal. Once we are notified we will run salary reports on all faculty and staff involved. The “institutional base salary” for employees is used to calculate the request to buyout time.

- A faculty member earns \$80,000 and requests two course buyouts. One course buyout is 10% of the faculty member's time. Two course buyouts would be equal to $20\% * \$80,000 = \$16,000$.
- A staff person earns \$80,000 and requests 25% buyout. $25\% * \$80,000 = \$20,000$

University Initiatives then will run salary and fringe benefit reports on all faculty and staff involved and calculate the rates to be charged:

FACULTY NAME	
Salary Calculations	
Academic Year ("AY") Base Salary = monthly salary x 9 (months). Example: \$9,984 monthly salary	\$89,856
One course buy out = 10% (3 Weighted Teaching Units/WTUs out of 30 WTU load for AY)	\$8,986
One month salary = AY base salary divided by 9 (months). One month salary can be used for summer months or weeks. <i>Also see final entry</i>	\$9,984
Overload (during AY) may be based on percentage of AY base salary, for example 5%. <i>Also see final entry below.</i>	\$4,493
Hourly Rate = AY base salary divided by 1360 hours. This can be used for both summer work and overload work.	\$66
Fringe Benefit Rate Calculations	
Monthly fringe benefit (FB) amount divided by monthly salary amount. Example: \$4,361 in fringe benefits on monthly report divided by \$9,984 monthly salary	43.68%
The full FB rate is applied against all buy out (for example one course release)	\$3,925
The all -university rate of 10% is applied against all additional work (e.g., summer or overload)	\$998

Institutional Rates for STEM K-12 Teachers

This also applies to other personnel. For example, a STEM education proposal may provide support for K-12 teachers to attend summer professional development. The State of California provides “Teacher Professional Development Rates” by the hour. The teacher’s effort will be billed per hour:

Example: One week of summer professional development camp = 40 hours x \$66 Professional Development Rate = \$2,640.

The rates vary by Unified School District (USD), so confirm the rates with the teachers involved.

NSF Budget Categories:

Budget

Proposals to NSF can typically include the following categories in their budget. For the full guidance on these categories, see [PAPPG II.D.2.f](#), or click on a particular category to learn more in the relevant section of the PAPPG:

1. [Salaries and wages](#).
2. [Fringe benefits](#).
3. [Equipment](#).
4. [Travel](#).
5. [Participant support](#).
6. [Other direct costs](#), including materials and supplies, publications, consultant services, computer services and subawards.
7. [Indirect costs](#).

[Please refer to NSF PAPPG for more information](#)

Budget Justification



A **good budget justification** justifies each cost, explaining how all costs are reasonable, necessary, and allowable under the funding guidelines. A strong justification should be **clear, concise, and aligned with the project's goals**. Below you will find information extracted from sponsored guidance for various grant applications as well as examples obtained from grant submissions prepared by University Initiatives:

Key Elements of a Strong Budget Justification:

1. Personnel Justification

- List each position, the person's role in the project, and percentage of effort (FTE or hours).
- Justify why each position is necessary.
- Example: *The Project Director (3 WTUs) will oversee program implementation, ensuring compliance with grant objectives and reporting requirements.*

Here is how to calculate your release time





Faculty Release Time, CSU Regulations, and Anticipated Annual Salary Increase

Faculty release time in the CSU system is equivalent to three WTUs (Weighted Teaching Units) per course. Faculty usually carry 30 WTUs total per academic year, with 15 WTUs per semester (four courses, plus service that is equivalent to one course). Therefore, one course release (three WTUs) equals 10% of the faculty member's base academic year salary.

How To Calculate Person-Months in the Academic Year:

Faculty teach on a 9-month contract (though salaries are paid out over 12 months). One course (3 WTUs) equals 10% of a faculty member's 30 WTUs academic year load, so 10% of 9 months is 0.9 person months per course release (during the academic year).

Summer months: One month equals...one month.



2. Fringe Benefits Explanation

Fringe benefits include all mandated federal and state/local payroll taxes, such as FICA, Workers' Compensation, Unemployment Insurance, and Medicare. Additional benefits for salaried employees include health, vision, dental, and life insurance, and may include optional 401K contributions. Fringe benefits are billed at the actual current rate for the California State University, Fresno employees, plus any anticipated increases. Rates for new hires are billed at the CSUF Foundation's current rates for employees in similar positions. Actual fringe benefit rates for this grant will be provided.

Faculty and Staff Fringe Benefits are calculated by University Initiatives: The monthly fringe benefit amount is divided by the monthly salary amount. Example: \$5,451 in fringe benefits on monthly report divided by \$9,201 monthly salary = 59.24% (your fringe benefit rate). **Faculty enroll themselves and/or dependents in different health care plans, so the fringe benefit rate will vary for individual faculty.**

If a faculty member participates in summer pay or academic year overload, the FB rate is about 10%.

The all-university fringe benefit rate is 3% for students working on an award.



3. Equipment Justification

- List each item, its cost, and why it's necessary for the project.
- Distinguish between capital equipment (\$10,000+) and minor equipment and supplies (\$9,999 and below).
- Example: *One laptop (\$2,000) is required for the Data Analyst to manage program evaluation and reporting. You can combine all computer components together into one line item in the budget.*

4. Travel Justification

- Specify the purpose of travel (e.g., conferences, site visits).
- Include estimated costs for airfare, lodging, per diem, transportation, and destination.
- Example: *The Project Director will attend the annual NSF awardees annual meeting in D.C. (\$1,200 airfare, \$150/night lodging, \$50/day per diem) to present project findings and network with other NSF awardees.*

5. Participant Support Justification

- Describe how funds will be used to support participants (stipends, workshop, materials).
- Example: *\$10,000 student scholarship per year per undergraduate Scholar.*



6. Other Directed Costs: Materials, supplies, publications, consultant services, computer services and subawards.

- Materials and Supplies.** A total of \$10,000 has been budgeted for materials and supplies. This breaks down as follows:
 - \$5800 is budgeted for a key chemical reagent, high-purity glycolic acid. Pricing documentation supporting a cost for 20 units (500 gram quantity) is included in the “other supplementary documents” section of the proposal;
 - \$1300 is budgeted for a 3” cobalt sputtering target;
 - \$700 is budgeted for purchase of a preamplifier board (model XXX);
 - \$1200 is budgeted for miscellaneous glassware;
 - and \$1000 is budgeted for other commodity chemicals. (example taken from [NSF sample justification](#))
- Consultant Services.** Identify consultants, their roles, and justification for their inclusion. Break down hourly rates and total expected costs. Example: *An external evaluator (\$150/hour, 100 hours) will conduct an independent assessment of project outcomes.*
- Subawards.** Identify recipient, amount, and services to be provided. For example, Reedley College will receive a subaward for \$40,000 to support faculty liaisons (\$2,500 per year) in the four disciplines x 4 years. *Note:* A letter of commitment from an authorized organizational representative (AOR) of the subawardee is also included in the other supplementary documents section of the application.

Reach out to us anytime

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