Preparation of an S-STEM Proposal: The Budget

Ron Buckmire, PhD
Lead Program Director, NSF S-STEM Program
# Outline

<table>
<thead>
<tr>
<th>Overview of Budgeting for NSF S-STEM proposals</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSF Budget Form (Step-by-Step Instructions)</td>
</tr>
<tr>
<td>Budget Justification Form</td>
</tr>
<tr>
<td>S-STEM Scholarship Amount Exercise</td>
</tr>
</tbody>
</table>
Objectives of this presentation

✓ Learn about what information to enter into each budget category of the NSF budget form

✓ Learn how to prepare a budget justification statement

✓ Recognize the mutual dependence between the budget and project description

✓ Be alerted to common errors that can be avoided

✓ Get answers to questions on budget development and budget forms
Overview of S-STEM Project Budgets

- Top Line Budget Amounts
  - Track 1 (≤$650K over 5 years)
  - Track 2 (≤$1M over 5 years)
  - Track 3 (≤$5M over 5 years)

- 60% of total award amount must be in direct financial support to students in *no quid pro quo* $$ to defray (COA-EFC)

- Other 40% (minus IDC $) can be used for other activities selected by the PIs (project mgmt, undergrad research, knowledge generation, tutoring, mentoring, student travel, evaluation, etc etc)
Budget and Budget Justification

✓ Budget Form
  • automated
  • specified expense categories

✓ Budget Justification
  • tells why $ are requested
  • ties money requested to project activities and personnel
  • provides background on how line items are computed
Budget Form Access...

Important Proposal Preparation Information

FastLane will check for required sections of the full proposal, in accordance with Proposal & Award Policies & Procedures Guide (PAPPG) instructions described in Chapter II.C.2. The PAPPG requires submission of: Project Summary; Project Description; References Cited; Biographical Sketch(es); Budget; Budget Justification; Current and Pending Support; Facilities, Equipment & Other Resources; Data Management Plan; and Postdoctoral Mentoring Plan, if applicable. If a required section is missing, FastLane will not accept the full proposal.

Note that for conference or international travel grant proposals, or program solicitations, submission instructions may deviate from the PAPPG instructions.

Forms for Temp. Proposal #7724973

Form Preparation

To prepare a form, click on the appropriate button below.

<table>
<thead>
<tr>
<th>Form</th>
<th>Saved</th>
<th>Form</th>
<th>Saved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover Sheet</td>
<td>10/04/16</td>
<td>Project Summary</td>
<td>10/04/16</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>N/A</td>
<td>Project Description</td>
<td>10/04/16</td>
</tr>
<tr>
<td>References Cited</td>
<td>10/04/16</td>
<td>Biographical Sketches</td>
<td></td>
</tr>
<tr>
<td>Budgets (Including Justification)</td>
<td>10/04/16</td>
<td>Current and Pending Support</td>
<td></td>
</tr>
<tr>
<td>Facilities, Equipment, and Other Resources</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Supplementary Documents

- Data Management Plan
- Mentoring Plan
- GOALI - Industrial PI Confirmation Letter
- Project Summary with Special Characters
- RAISE - Program Officer Concurrence Emails
- Other Supplementary Docs
NSF Budget Form:

- **You calculate costs for:**
  - A. Senior Personnel
  - B. Other Personnel
  - C. Fringe Benefits
  - D. Equipment
  - E. Travel
  - F. Participant Support
  - G. Other Direct Costs
  - H. Total Direct Costs
  - I. Indirect Costs

- **The system calculates:**
  - J. Total direct & indirect costs
  - L. Amount of This Request

---

## NSF Form 1930 (1/99)

### Summary Proposal Budget

<table>
<thead>
<tr>
<th>Organization</th>
<th>Proposal No.</th>
<th>Duration (Months)</th>
<th>For NSF Use Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Investigator/Project Director</td>
<td>AWARD NO.</td>
<td>Proposed</td>
<td>Granted</td>
</tr>
</tbody>
</table>

- **A. Senior Personnel:**
  - NSF-Funded
  - Proposal:
  - Funds Requested by:
  - Funds Granted by NSF (if different)

- **B. Other Personnel:**
  - NSF-Funded
  - Proposal:
  - Funds Requested by:
  - Funds Granted by NSF (if different)

- **C. Fringe Benefits:**
  - NSF-Funded
  - Proposal:
  - Funds Requested by:
  - Funds Granted by NSF (if different)

- **D. Equipment:**
  - NSF-Funded
  - Proposal:
  - Funds Requested by:
  - Funds Granted by NSF (if different)

- **E. Travel:**
  - NSF-Funded
  - Proposal:
  - Funds Requested by:
  - Funds Granted by NSF (if different)

- **F. Participant Support:**
  - NSF-Funded
  - Proposal:
  - Funds Requested by:
  - Funds Granted by NSF (if different)

- **G. Other Direct Costs:**
  - NSF-Funded
  - Proposal:
  - Funds Requested by:
  - Funds Granted by NSF (if different)

- **H. Total Direct Costs:**
  - NSF-Funded
  - Proposal:
  - Funds Requested by:
  - Funds Granted by NSF (if different)

- **I. Indirect Costs:**
  - NSF-Funded
  - Proposal:
  - Funds Requested by:
  - Funds Granted by NSF (if different)

---

### For NSF Use Only

<table>
<thead>
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<td>Proposed</td>
<td>Granted</td>
</tr>
</tbody>
</table>

- **J. Total direct & indirect costs**

- **L. Amount of This Request**

---

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<th>For NSF Use Only</th>
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<td>AWARD NO.</td>
<td>Proposed</td>
<td>Granted</td>
</tr>
</tbody>
</table>

---

### Signature:

- PIPD Typed Name and Signature:
- Date: Date Check:
- Indirect Cost Data Verification:
- Date:

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**NSF Form 1930 (1/99)**: All Previous Editions

*SIGNATURES REQUIRED ONLY FOR REVISED BUDGET (OPG RSC)*
# A. Senior Personnel

## Budget Year 1 for Florence-Darlington Technical College

### A. Senior Personnel

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Calendar Months</th>
<th>Academic Months</th>
<th>Summer Months</th>
<th>Funds Requested By Proposer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elaine L. Craft</td>
<td>Principal Investigator</td>
<td>0.0</td>
<td>2.0</td>
<td>1.0</td>
<td>20000</td>
</tr>
<tr>
<td>Patressa Gardner</td>
<td>Co-PI</td>
<td>4.0</td>
<td>0.0</td>
<td>0.0</td>
<td>15000</td>
</tr>
<tr>
<td>Joshua B. Phiri</td>
<td>Co-PI</td>
<td>0.0</td>
<td>0.0</td>
<td>2.0</td>
<td>11000</td>
</tr>
<tr>
<td><strong>Total Senior Personnel:</strong></td>
<td></td>
<td><strong>4.0</strong></td>
<td><strong>2.0</strong></td>
<td><strong>3.0</strong></td>
<td><strong>$ 46000</strong></td>
</tr>
</tbody>
</table>

[Add/Remove Senior Personnel]

[Calculate]
Example #1

Faculty with $54,000, 9-month academic year contract and separate contract for summer work

How to budget for 1 day/wk. + 2 months summer work?

- 1 day per 5-day week (or 1 course release where normal teaching load is 5 courses) = 1/5 or 20% of the person's time = 20% of 9 months or 1.8 months, academic calendar (ACAD). 0.20x54,000 = $10,800
- 2 months full-time work on grant in summer = 2.0 months, summer (SUMR). $54,000/9 = $6000/month x 2 = $12,000
- Total annual budget request = $22,800
## Example #2

Staff with $40,000, 12-month annual contract

<table>
<thead>
<tr>
<th>NSF-Funded Person-Months</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CAL</td>
<td>ACAD</td>
<td>SUMR</td>
</tr>
<tr>
<td>2.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### How to budget for 1 day/wk. year-round?

- 1 day per 5-day week = 1/5 or 20% of the person’s time = 20% of 12 months or 2.4 months, calendar year (CAL).
  
  \[0.20 \times 40,000 = \$8,000\]

- Total annual budget request = $8,000
Quiz Question

You want to request 20% of a faculty member’s salary for a 1-course reduction for 2 semesters.

How will you enter the NSF supported months in the budget?

a. 0.2 academic months
b. 1.8 academic months
c. 1.8 calendar months
d. 9 academic months
e. 1.8 academic and 1.8 calendar months
Mistakes to Avoid

Budget mistakes include entering:

• Using percent of time instead of months
• Total months working on the project vs. portion
• Both academic and calendar months for person
• Including only PIs and not including other senior personnel at the college
• Including faculty not at your college (use subaward or consultant)
• Name with no dollar amount in budget
• PI with no time in budget
### F. Participant Support Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stipends</td>
<td>0</td>
</tr>
<tr>
<td>2. Travel</td>
<td>0</td>
</tr>
<tr>
<td>3. Subsistence</td>
<td>0</td>
</tr>
<tr>
<td>4. Other</td>
<td>0</td>
</tr>
</tbody>
</table>

Number of Participants: 0

**Total Participant Support Costs:** $0

---

A. Senior Personnel  B. Other Personnel  C. Fringe Benefits  D. Equipment  E. Travel  **F. Participant Support Costs**  
G. Other Direct Costs  H. Total Direct Costs  I. Indirect Costs  J. Total Direct and Indirect Costs  K. Residual Funds  L. Amount of This Request
Participant Support Costs

• In S-STEM, participants are S-STEM scholarship/stipend recipients
• Can include stipends, student travel and subsistence, other related costs
• Not for support of project employees (i.e. faculty!)
Budget Considerations

• Specify total number of individual scholarships to be distributed by project each year

• **NOTE:** $ can **not** be transferred **in** or **out** of this budget category without NSF approval

• $ can **not** be shifted **within** this budget category without NSF approval
Participant Support Costs: Helpful Hints

• **F.1** The total on this line must be **greater than or equal to 60%** of the total amount of the award over the duration of the project

• **F.2. Travel** can be used to support travel by students to conferences or to internship/industry partners, or other institutional consortia members

• **F.3. Subsistence** can include food and beverages for working meals, if associated with a program (no alcohol)

• **F.4. Other** can include $ for other support activities for S-STEM scholars
  - Summer undergraduate research stipends, GRE exams, members in STEM disciplinary organizations, student peer mentoring, tutoring, etc
Participant Support Costs: Helpful Hints

• Budget category must include estimated number of participants

• The 60% number does not have to be reached in EACH individual project year, or among EACH participating institution but must be true over total duration of project

• After an award is made this is a “sacred” budget category (very difficult to change)
### G. Other Direct Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Funds Requested By Proposer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Materials and Supplies</td>
<td>0</td>
</tr>
<tr>
<td>2. Publication Costs/Documentation/</td>
<td>0</td>
</tr>
<tr>
<td>distrib</td>
<td></td>
</tr>
<tr>
<td>3. Consultant Services</td>
<td>0</td>
</tr>
<tr>
<td>4. Computer (ADPE) Services</td>
<td>0</td>
</tr>
<tr>
<td>5. Subcontracts</td>
<td>0</td>
</tr>
<tr>
<td>6. Other</td>
<td>0</td>
</tr>
</tbody>
</table>

**Total Other Direct Costs:** $0

---

A. Senior Personnel  B. Other Personnel  C. Fringe Benefits  D. Equipment  E. Travel  F. Participant Support Costs  
G. Other Direct Costs  H. Total Direct Costs  I. Indirect Costs  J. Total Direct and Indirect Costs  K. Residual Funds  L. Amount of This Request
Consultant Services

- Fee-for-service tasks that are performed by an external contractor
- An independent evaluator is often budgeted as a consultant
- A daily rate plus the number of days, along with estimated travel expenses should be included in the line item for the independent evaluator (their biosketch should be included in the Supplementary Documents)
### I. Indirect Costs

<table>
<thead>
<tr>
<th>Indirect Cost Item</th>
<th>Rate %</th>
<th>Base</th>
<th>Check here to delete item</th>
<th>Funds Requested By Proposer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Indirect Costs:** $0

A. Senior Personnel  B. Other Personnel  C. Fringe Benefits  D. Equipment  E. Travel  F. Participant Support Costs  
G. Other Direct Costs  H. Total Direct Costs  **I. Indirect Costs**  J. Total Direct and Indirect Costs  K. Residual Funds  L. Amount of This Request
I. Indirect Costs

Rate

- Negotiated with federal agency
- Handled by your institution's business office
- Subject to change over time
- Or use a *de minimus* indirect cost rate recovery of 10% of modified total direct costs (if no negotiated IDC is in place).

Base

- Determined when your rate is negotiated
- May be total salaries and wages, or
- May be all direct costs except participant support, equipment, and subawards.
Budget items not eligible for indirect cost

- Participant Support
- Equipment
- Subawards (beyond first $25,000)

Total Direct Costs less ineligible costs =
Total Modified Direct Costs (TMDC)

Rate: enter 10 for 10% or 34.6 for 34.6%

Calculate once rate and base are entered
Completed Budget Form

- Fill out the forms for additional years.

- A cumulative budget for all years is generated automatically once you press the “calculate and save” button.

---

**SUMMARY PROPOSAL BUDGET**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Proposal No.</th>
<th>Project Director</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check State Community College</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A. Personnel (FTE, FDP, FDP, or FDP, if any)</th>
<th>FTE</th>
<th>FDP</th>
<th>FDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Senior Personnel (includes principal investigator)</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Total Other Personnel (optional)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Salaries and Fringe Benefits (A+B)</td>
<td>24,000</td>
<td>24,000</td>
<td>24,000</td>
</tr>
<tr>
<td>Total Equipment and Supplies (C)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Indirect Costs (D)</td>
<td>11,400</td>
<td>11,400</td>
<td>11,400</td>
</tr>
<tr>
<td>Total Other Direct Costs (E)</td>
<td>11,400</td>
<td>11,400</td>
<td>11,400</td>
</tr>
<tr>
<td>Total Other Direct Costs (F)</td>
<td>11,400</td>
<td>11,400</td>
<td>11,400</td>
</tr>
<tr>
<td>Total Direct Costs (G=A+B+E)</td>
<td>46,800</td>
<td>46,800</td>
<td>46,800</td>
</tr>
<tr>
<td>Total Indirect Costs (H=A+B+E)</td>
<td>138,000</td>
<td>138,000</td>
<td>138,000</td>
</tr>
<tr>
<td>Total Budget (I=G+H)</td>
<td>184,800</td>
<td>184,800</td>
<td>184,800</td>
</tr>
</tbody>
</table>

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**NOTE:** This form is for administrative purposes only. It does not include all necessary calculations and figures. Please refer to the budgeting guidelines for complete accuracy.
QUESTIONS?
Budget Justification

Length:

- Maximum now five (5) pages (NSF 18-1)

Formatting options:

- Narrative
- Spreadsheet
Focus on the details

Every $ should have a purpose tied to the project description

The project should be driven by a well-aligned budget
  • Not too much
  • Not too little

Devote time to budget development
  • Research costs vs. guessing
  • Be specific – don’t ask for money for “etc.” or unspecified expenses
Anticipate NSF and Reviewer Questions:

• How much?
• How calculated?
• For whom?
• What items?
• For what specific project activity/purpose?
• Explain cumulative amounts
Budget Justification Sample – Narrative

Comprehensive Community College (CC Tech) is requesting $195,896 from the National Science Foundation over the course of a three year Small Grant for Institutions New to the ATE Program. CC Tech asks for $68,911 in year one; $67,305 in year two; and $63,680 in year three. Grant funds will be used in the following manner:

Personnel (year 1=$29,846; year 2=$31,015; year 3=$27,390; total = $88,251)

A. Senior Personnel
   In each year of the grant, the PI, Peter Smith, will receive four-class reduction (two-classes in each Fall and Spring semester) in order to devote time towards implementing the grant project. Three Co-PIs will each receive a three-class (fall, spring, and summer semesters) reduction to work on the grant projects all three years of the project. Part-time faculty will be hired to make release time possible. (See Other Personnel) The focus of each Co-PI is listed below:
   Sally Morgan – Recruitment of females
   Maria D’Ablo – Implementation of existing PBLs within the Networking, Information Security, and Computer Information Technologies program.

B. Other Personnel
   Part-time faculty will be paid with NSF funds to provide classroom instruction for the PI and Co-PIs. Each of the classes covered by part-time instructors is worth $1,904 each in the first year (a 2% increase has been included for years 2 and 3. (Year 1 = $24,752; year 2 = $25,095; year 3 = $25,444; total = $75,291)

   Full-time instructors will attend the workshops during normally scheduled work time. However, adjunct instructors are a critical part of the faculty. Adjunct instructors will be given a stipend of $100 per day for each day of workshop that is attended. This is estimated at four two-day workshops (over the first two years of the grant) for 9 instructors (4 in year 1 and 5 in year 2). (Year 1 = $3,200; year 2 = $4,000; year 3 = $5,000; total = $7,200).

C. Fringe Benefits
   FICA benefits for part-time instructors equals 7.65%. (Year 1 = $1,894; year 2 = $1,920; year 3 = $1,946; total = $5,760).

D. Equipment (none)

E. Travel (Year 1 = $10,090; year 2 = $10,090; year 3 = $10,900; total = $30,270).
   In each of the three years of the grant, the PI will attend the ATE PI conference and HI-TEC or similar conferences. The Co-PIs involved in Problem-Based Learning will attend one conference per year (ATE, HI-TEC conference or similar conferences). The costs are estimated to include: $450 airfare; $50 baggage fees; $75 ground transportation/parking; $750 hotel (at $250 per night for a 3-day conference); $150 per Diem; $350 registration. The total cost per person per conference is $1,825. (Year 1 = $7,300; year 2 = $7,300; year 3 = $7,300; total: $21,900).
   The PI and one Co-PI will make the trip, two-day trips (each year of the grant project) to the SC ATE Center for assistance with grant project implementation. Travel funds will cover hotel accommodations ($150 x 1 night x 2 people= $300), per Diem ($75 x 2 days x 2 people= $300) and gas mileage ($180). Each trip will cost $780 x 2/year = $1,560. (Year 1 = $1,560; year 2 = $1,560; year 3 = $1,560; total: $4,680).
   SC ATE offered workshops on a regular basis. Funding for people to attend the training per year has been included. Travel funds will cover hotel accommodations ($150 x 2 nights x 2 people= $600) per Diem ($75 x 3 days x 2 people= $450) and gas mileage ($180). Each trip will cost $1,230 x 1/year = $1,230. (Year 1 = $1,230; year 2 = $1,230; year 3 = $1,230; total: $3,690).

F. Participant Support (year 1= $1,875; year 2= $5,875; year 3 = $5,875; total= $13,625).
   1. Stipends
      For the Innovative Education Expo, secondary school employees will be given a stipend of $100 per attendance. There will be an estimated 30 participants each summer (year 2= $3,000; year 3 = $3,000; total: $6,000).
   2. Travel
      Ambassador students will be encouraged to apply for a scholarship to attend the ATE conference. If awarded, the grant will pay for costs not covered by the scholarship (year 2 = $1,000; year 3 = $1,000; total: $2,000).
      Fifteen female students per year will be engaged as Ambassadors with a stipend of $125 each. Ambassadors will assist with the female in technology group, career fairs and campus tours (year 1= $1,875; year 2= $1,875; year 3 = $5,750; total: $5,250).
G. Other Direct Costs

1. Materials and Supplies (year 1=$4,100; year 2=$4,325; year 3=$4,325; total: $12,750).
   - Necessary materials and supplies include a display board to be used for conference and other presentations, promotional items, printing costs, postage, thumb drives, and banners. (Year 1=$4,100; year 2=$575; year 3=$575; total: $5,250).
   - For the Innovation Education Expo held in years 2 and 3 of the grant participants from each of the 10 feeder high schools to the CC Tech campus to learn about both the campus and the opportunities for Females in the STEM-related programs covered falling within the scope of the grant. Cost for supplies, marketing and refreshments (year 2=$3,750; year 3=$3,750; total: $7,500).

2. Publication Costs/Documentation/Dissemination (none)

3. Consultant Services
   - CC Tech will contract with a professional marketing person to develop materials for recruitment dissemination year 1: $4,500; total: $4,500).
   - CC Tech will construct with a social media consultant to provide the Social Media Presence using the marketing materials developed by the marketing consultant year 1: $1,500; total: $1,500).
   - The external evaluator SCATE Inc. will provide external evaluation services for $8,000/year with cost estimate/year as follows: 9 days professional services time/year at $600/day, $5400 (on-site work, travel time, data collections/analysis, report writing, electronic/phone communications); 2 site visits/yr. to conduct evaluation activities at $544/trip, $1,088 ($280 mileage, $130 lodging, $100 meals, $34 misc. travel expenses); SCATE Inc. management fee (28% of salaries & fringe), $1,512. (Year 1=$8,000; year 2=$8,000; year 3=$8,000; total: $24,000).

4. Computer Services (none)

5. Subawards (none)

6. Other (year 1=$23,000; year 2=$16,000; year 3=$16,000; total: $55,000)
   - Workshop for Faculty on promoting Gender Equity in the classroom will be held the first year. For the second and third year, Sally Morgan and Maria D’Ablo will develop the training. Cost of Speaker (Year 1: $1,000; total: $1,000)
   - SC ATE Center Trainers will present workshops (use of PBL’s in the classroom, and adaptation of PBLs) throughout the course of the grant project. Funds will be used to pay contract fees for SC ATE trainers to lead three, two-day professional development workshops. (Year 1=$8,000; year 2=$8,000; year 3=$8,000; total: $24,000)
Common Budget Justification Mistakes

- Too short (or too long)
- Hard to follow (Hint: Use budget form categories)
- Time and rate not given for consultants
- Time for personnel not justified
- Including overload pay for full-time faculty
- Materials and supplies category used as a slush fund
- Part-time faculty included as consultants or participants
QUESTIONS?
S-STEM-ext@nsf.gov