



# Proposal Budgeting Basics

Updated: March 11, 2019

# Introductions



- We are...
  - Alyssa Bunn, Contract and Grant Officer
  - Kassie Obelleiro, Training Officer
- Please tell us...
  - Name and department
  - Have you worked on a proposal budget? If so, how many?

# Learning Objectives

After today's training session you should:

- Know the common direct cost **budget categories**
- Know the various **indirect cost rates and bases** used at UC Davis
- Understand the different **types of collaborators**
- Know the **basic formulas** for preparing a proposal budget



# Today's Handouts

- Proposal Budgeting Basics Workbook
- Common Proposal Budget Formulas





# Common Direct Cost Budget Categories and Formulas

# Personnel Line Items

Salary/Wages

- Determine Personnel Needs – Who will be on the grant
- Determine Salary (Annualized?)
- Calculate Effort Commitment
- Calculate Salary to Charge

# Salary and Wages: Determine Personnel Needs

## (Lead) Principal Investigator/Project Director (PI/PD)

- Required
- Designs and conducts the project
- Overall responsibility

## Co-Principal Investigator(s) (co-PI)

- May not be allowed
- Often has equal administrative authority with the PI

## Co-Investigator (co-I)

- Other senior personnel

## Consultants

- “Brains and briefcase”
- Should not include UC employees
- Not responsible for completing the scope of work

## Unpaid Collaborators

- May or may not be listed as senior personnel depending on role
- May provide as needed advice or be integral to project



# Salary and Wages: Determine Salary of Personnel

- Identify the **actual** salary and wages if possible
  - If unknown, use the UC Davis salary scales to estimate
  - UCOP Academic Salary Scales: <https://www.ucop.edu/academic-personnel-programs/compensation/2018-19-academic-salary-scales.html>
  - UC Davis Staff Salary Scales: <http://www.hr.ucdavis.edu/Salaryscales>
- Determine **wage adjustments**
  - Are there any known wage adjustments, such as merit increases
  - May escalate to standardize projected increases
    - 3 to 5% is the UCD standard
- Determine the **type of appointment** for each academic employee
  - Staff employees all have a 12-month appointment
  - Academic employees may have a 9-, 11- or 12-month appointment
  - Important for **annualizing salary** and calculating **effort commitment**

# Salary and Wages: Determine Salary of Personnel

## **UC Davis uses annualized effort; consider using annualized salary for accuracy:**

- Definition: A person's total salary over 12 months (Academic plus summer)
  - Differs from the salary of someone's 9- or 11- month appointment
- Why annualize?
  - Helps determine annual effort commitment
  - Identifies if someone will exceed a sponsor-imposed salary cap
- Formula
  1. *Salary ÷ # of Appointment Months = One Month Salary*
  2. *One Month Salary x total number of months worked annually = Annualized Salary*
    - If estimating or projecting, use 12 months

## Salary and Wages: Determine Salary of Personnel

### *Let's Practice!*

Professor Smith is paid \$100,000 per year and has a 9-month appointment. She is allowed to work up to 3 summer months. What is her **Annualized Salary**?

Step 1: Calculate her monthly salary:

$$\boxed{\$100,000} \div \boxed{9} = \boxed{\$11,111}$$

# Salary and Wages: Determine Salary of Personnel

Step 2: Calculate her Annualized Salary

$$\boxed{\$11,111} \times \boxed{12} = \boxed{\$133,333}$$



*Salary ÷ of Appointment Months x 12 months (9 AY + 3 SMR) = Annualized Salary*  
 $\$100,000 \div 9 \times 12 = \$133,333$

## Salary and Wages: Determine Salary of Personnel

### *Let's Practice!*

Professor Jones has a base salary of \$100,000, has an 11-month appointment. She is allowed to work up to 1 summer month. What is his **annualized salary** for this project?

Step 1: Calculate his monthly salary:

$$\boxed{\$100,000} \div \boxed{11} = \boxed{\$9,090}$$

# Salary and Wages: Determine Salary of Personnel

Step 2: Calculate his Annualized Salary

$$\boxed{\$9,090} \times \boxed{12} = \boxed{\$109,080}$$



*Salary ÷ of Appointment Months x 12 months (11 AY + 1 SMR) = Annualized Salary*  
 $\$100,000 \div 11 \times 12 = \$109,080$

# Salary and Wages: Calculate Effort Commitment

- PI is responsible for determining amount of effort commitment
  - Estimating is OK
- May be included as a % of annual effort or number of person-months
  - Depends on sponsor requirements
  - Federal sponsors require person-months

# Salary and Wages: Calculate Annual % Effort Commitment

- If the PI is providing the same level of effort for an entire project period/year, no calculation is needed.
- What if the annual effort if the PI is providing specific effort during the academic and/or summer months?
- Converting non-annualized effort to annualized effort
  1. Convert Academic Effort to Annual Effort
    - $(\text{Academic Appointment Months} \times \text{AY Effort\%}) \div 12 = \text{AY Effort\%}$
  2. Convert Summer Effort to Annual Effort
    - $(\text{Summer Months} \times \text{Summer Effort\%}) \div 12 = \text{Summer Effort\%}$
  3. Determine Total Annual Effort
    - $\text{Effort\% for Academic Months} + \text{Effort\% for Summer Months} = \text{Total Annual Effort\%}$

*Note: Academic and Summer Effort should be listed on two separate lines on the OR Budget Template*



## Salary and Wages: Calculate Annualized % Effort Commitment

### *Let's Practice!*

Professor Smith has a 9-month appointment and can work up to 3 summer months annually. She will commit 3% effort during the academic months and 50% effort during the summer. What is her total **Annualized Effort** commitment for this project?

Step 1: Calculate her effort commitment based on her academic year effort.

$$\left( 9 \times 3\% \right) \div 12 = 2.25\%$$

## Salary and Wages: Calculate Annualized %Effort Commitment

Step 2: Calculate her effort commitment based on her summer months effort.

$$\left( 3 \times 50\% \right) \div 12 = 12.5\%$$

# Salary and Wages: Calculate Annualized %Effort Commitment

Step 4: Calculate her total annual effort commitment.

$$2.25\% + 12.5\% = 14.75\%$$

# Salary and Wages: Calculate Annualized %Effort Commitment

Enter onto OR Budget Templates as two lines, each showing annual effort:

<i>PERSONNEL</i>									<i>Salary Basis</i>	<i>*</i>
<b>Name/Role:</b>	<b>Annual Salary</b>			<b>Project Period % Effort</b>					<b>Salary Basis and Type</b>	<b>Escal</b>
	<b>Base</b>	<b>Summer</b>	<b>Total</b>	<b>Per 1</b>	<b>Per 2</b>	<b>Per 3</b>	<b>Per4</b>	<b>Per5</b>		
<b>1</b> Dr Smith - AY	100,000	33,333	133,333	2.3%					AY 9/12	3%
<b>2</b> Dr Smith - Summer	100,000	33,333	133,333	12.5%					SMR 9/12	3%
<b>Total Salaries</b>										
		<i>FY Split:</i>	<i>9/3</i>	<i>0/0</i>	<i>0/0</i>	<i>0/0</i>	<i>0/0</i>	<i>0/0</i>		
<i>Benefits by Person</i>		<b>UCPath CBR Group</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>		
<b>1</b> Dr Smith - AY	Faculty, Acad, MSP, Safety		38.3/39.4							
<b>2</b> Dr Smith - Summer	Faculty Summer-A		10.2/10.5							
<b>Total Benefits</b>										
<b>Total Personnel</b>										

## Salary and Wages: Calculate %Effort Commitment

### *Let's Practice!*

Professor Jones has a 9-month appointment and can work up to 3 summer months. She will commit 10% effort during the academic months and 20% effort during the summer. What is her **Annualized Effort** commitment for this project?

Step 1: Calculate her effort commitment for the academic months.

$$\left( 9 \times 10\% \right) \div 12 = 7.5\%$$

## Salary and Wages: Calculate %Effort Commitment

Step 2: Calculate her effort commitment for the summer months.

$$\left( 3 \times 20\% \right) \div 12 = 5\%$$

# Salary and Wages: Calculate %Effort Commitment

Step 3: Calculate her total annual effort commitment.

$$7.5\% + 5\% = 12.5\%$$

# Salary and Wages: Calculate Salary to Charge to the Grant

- Use the percent or person-months effort
- Annual Salary

1. *Annual Salary*  $\times$  *Annualized Effort* = *Salary to Charge to Grant*



## Salary and Wages: Salary to Charge

### *Let's Practice!*

Professor Smith has a 9-month appointment. She will commit 10% annual effort and her annualized salary is \$133,333. **What amount should be charged to the grant for her salary?**

$$\begin{array}{c} \$133,333 \\ \times \\ 10\% \\ \hline = \\ \$13,333 \end{array}$$

## Salary and Wages: Salary to Charge

### *Let's Practice!*

Professor Smith has a 9-month appointment and a base salary of \$100,000. She will commit 10% academic year effort. **What amount should be charged to the grant for her salary?**

Remember 10% during the academic year does not equal annual effort:

$$\begin{array}{ccccccc} \boxed{\$100,000} & \times & \boxed{10\%} & = & \boxed{\$10,000} \end{array}$$

Annualize salary and effort first:

$$\begin{array}{ccccccc} \boxed{\$133,333} & \times & \boxed{(9/12 * .10) = 7.5\%} & = & \boxed{\$10,000} \end{array}$$

Professor Smith is committing 7.5% annual effort.

# Salary and Wages: Calculate Effort Commitment in Person Months

## **Person Months Effort**

1. Calculate the number of months to be worked. Use 12 months to estimate:

$$\textit{Appointment Months} + \textit{Summer Months} = \textit{Total Months Worked}$$

2. Multiply the number of months worked by the % effort to calculate person-months effort.

$$\textit{Total Months Worked} \times \textit{Effort\%} = \textit{Annual Committed Effort in Person Months}$$

# Salary and Wages: Effort Commitment in Person-Months

## *Let's Practice!*

Professor Smith has a 9-month appointment. She will commit 3% effort during the academic year. What is her **effort** commitment in person months for this project?

Step 1: Determine the number of Appointment Months.

9

# Salary and Wages: Effort Commitment in Person-Months

Step 2: Calculate her effort commitment in person-months.

$$9 \times .03 = 0.27 \text{ person months effort}$$

## Salary and Wages: Effort Commitment in Person-Months

Professor Smith has a 9-month appointment. She will commit 10% annual effort. What is her effort commitment in calendar/person months for this project?

$$\left( 9 + 3 \right) \times .10 = 1.2 \text{ calendar months effort}$$

# Salary and Wages: Effort Commitment in Person-Months

Professor Smith has a 9-month appointment. She will commit 10% effort during the academic months and 20% effort during the summer. How many person months is she committing to the project?

$$\begin{array}{r} 9 \\ + \\ 3 \\ = \\ 12 \end{array} \quad \begin{array}{l} \times \\ \times \\ \times \end{array} \quad \begin{array}{r} .10 \\ .20 \\ ((9/12*.10)+ (3/12*.20)) \end{array} \quad \begin{array}{l} = \\ = \\ = \end{array} \quad \begin{array}{r} 0.9 \text{ academic months effort} \\ + \\ 0.6 \text{ summer months effort} \\ = \\ 1.5 \text{ calendar months effort} \end{array}$$

## Personnel Line Items

### Fringe Benefits

- Identify Benefit Code and Rate
- Calculate Fringe Benefits



# Calculating Fringe Benefits

## Identify Benefit Group and Rate

CBR Group	Personnel Category	FY 19/20 Rate	FY 20/21
HCOMP Faculty & SMG	SOM faculty and Senior Management	25.3%	26.1%
Nurses and Physicians	Nurses, Nurse Practitioners and Clinical Physicians	30.2%	31.1%
Faculty, Acad, MSP, Safety	Non-SOM faculty; Other Academic appointment such as project scientists and specialists; MSP positions such as directors; and safety services such as Fire and Police officers.	38.3%	39.4%
Faculty Summer Salary	Faculty Summer Salary	10.2%	10.5%
All Other Staff	Staff including analysts, SRAs, programmers	52.7%	54.3%
Service Staff	E.g., Janitors	65.4%	67.4%
Postdoc Employees	Postdocs	25.9%	26.7%
Grad and Undergrad	GSRs and Undergrads	1.9%	2%
Limited Benefits	Employees not eligible for full benefits (e.g., FTE % is too low)	17.2%	17.7%
No Benefit Eligibility	E.g., not eligible based on appointment type	3.6%	3.7%

## Calculate Fringe Benefits

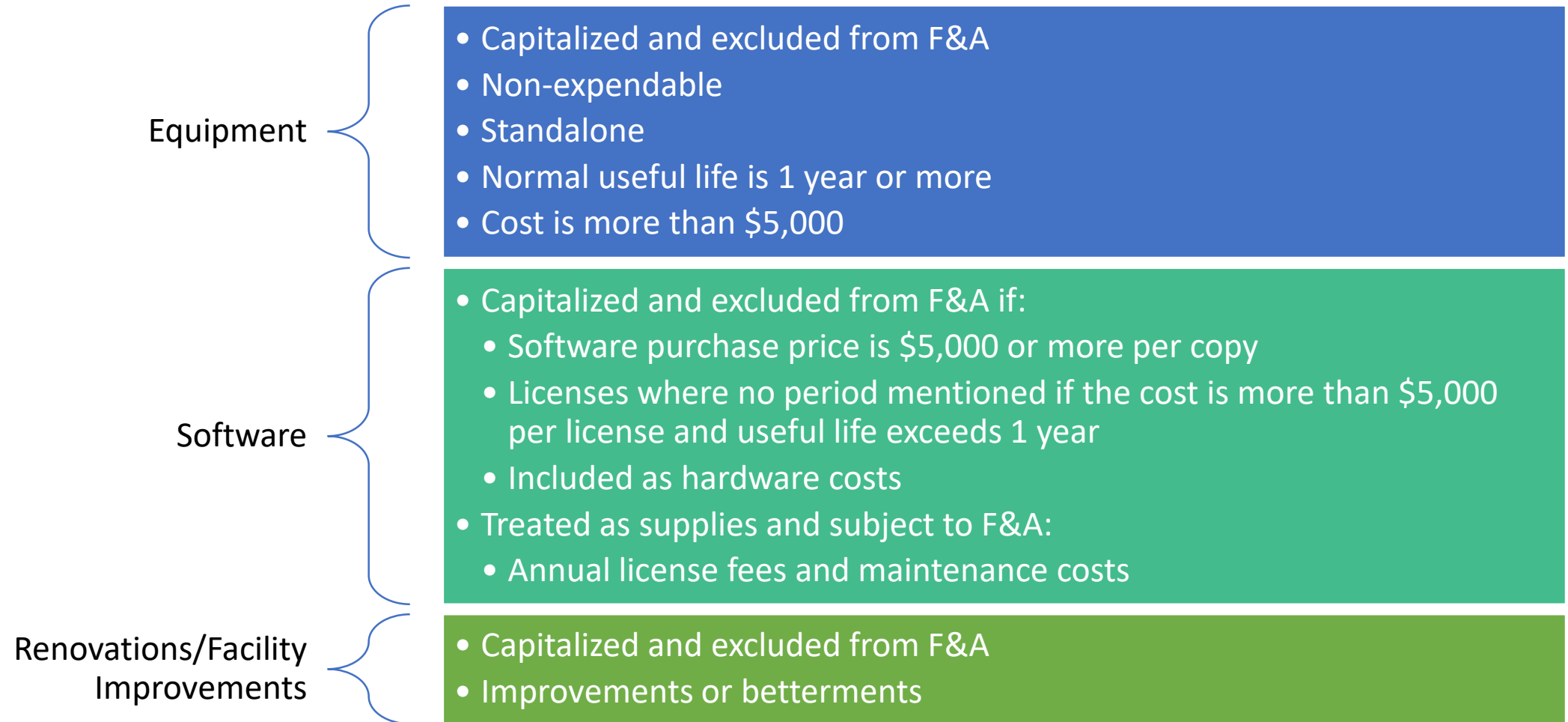
Annual Salary Charged x Fringe Benefit Rate  
= Annual Fringe Benefits to Charge

### Example:

$$\$3,600 \times .383 = \$1,378.80$$

Round to: \$1,379

# Equipment and Capital Asset Line Items



# Supply and Expense Line Items

## **Materials and Supplies**

- Tangible items
- Laboratory
- Project
- Specialty

## **Expenses**

- Tuition and registration fees
- Event registration fees
- Facility recharges
- Publication Fees
- Participant Support Costs

# Participant Support Costs

## **Costs paid to or on behalf of trainees/program participants who are not employees**

✓ Participants may be students, national scholars and scientists, private sector representatives, agency personnel, teachers, and others who attend and participate in the conference, workshop, or training activity supported by a particular award. University employees cannot be participants. Participants perform no work or services for the project or program other than for their own benefit. A participant is not involved in providing any deliverable to the University or a third party.

✗ Not employees

✗ Not paid speakers

✗ Not the same as participants in a research study (human subjects)

- Excluded from the F&A base

# Subaward Line Items

- Outgoing Subawards = Subawards
- Another organization is performing a portion of the project and:
  - Their Scope of Work is intellectually significant and separable from the overall project's programmatic effort,
  - They have programmatic decision making,
  - Their work could result in the development of intellectual property or publishable results, and/or
  - They will need animal and/or human subjects' approval.
- Vendor agreements/procurement contracts are categorized as **expenses**

# Subaward vs. Vendor (Procurement Contract)

<b>Subaward</b>	<b>Vendor</b>
Subaward organization <u>lead is senior personnel</u> on the project	Management at organization is <u>not senior personnel</u>
Subject to <u>federal audit requirements</u> associated with Prime Award	Work at organization is <u>not subject to audit monitoring</u>
Typically issued to an organization such as a <u>university or other non-profit</u>	Issued to <u>individual or organization</u> ; entity <u>may or may not be identified on proposal</u>
Requires a <u>detailed statement of work</u>	Requires a statement of work, but <u>might be less detailed</u>
<u>Budget is detailed and effort</u> of senior personnel is specified	Budgeted amount is usually only a <u>lump sum or by sample cost</u> ; personnel not usually listed
<u>Intellectual property ownership is shared</u> when jointly created; <u>publication is encouraged</u>	Service provider does <u>not own (or create) intellectual property</u> stemming from sponsored project
Subrecipient performs <u>substantive programmatic work</u> as described in the proposal	Service provider <u>provides the services to many different purchasers</u> as part of its <u>normal business operations</u>
<u>Services are not commercially available</u> on the open market	Operates in a <u>competitive environment</u> ; services are <u>commercially available</u> on the open market
Subrecipient bears responsibility for <u>programmatic decision making</u> and has <u>measurable performance requirements</u>	Organization <u>does not make programmatic decisions</u> related to the project; UC Davis does not provide oversight or management over activities performed at subrecipient
<u>Terms and conditions flow down from prime</u>	<u>Terms and conditions do not flow down</u>
Subrecipient has responsibility for adherence to applicable program <u>compliance requirements</u> (IACUC, IRB, COI)	Vendor is <u>not subject to compliance requirements</u> of the program

# Subaward Line Items

- Terms are influenced by the prime agreement
- The first \$25,000 of each Subaward is subject to F&A if MTDC
- **Except** for Subawards to other UC Campuses
  - Do not apply F&A on UC Davis budget
  - Included in Subaward budget

# Other Basic Formulas



# Escalations

- Consider including escalations for costs that increase over time
- Only escalate when allowed by the sponsor
  - Read the guidelines
- May escalate by:
  - Project Year or
  - Fiscal Year
- Escalate by 3% to 5% for most direct costs
  - Salary
  - Fringe Benefits
- Escalate up to 10% for tuition and fees
- Subawards may include their own escalations
  - Do not add any other escalations

# Escalating Salary and Wages

## *Let's Practice!*

Professor Smith has a 9-month appointment. She will commit 2.7% effort (previous calculation), and her annualized salary is \$133,333. Based on the previous calculation, \$3,600 is to be charged the grant annually.

$$\begin{array}{|c|} \hline \$133,333 \\ \hline \end{array} \times \begin{array}{|c|} \hline 2.7\% \\ \hline \end{array} = \begin{array}{|c|} \hline \$3,600 \\ \hline \end{array}$$

Now, let's factor in a 3% increase.

$$\begin{array}{|c|} \hline \$3,600 \\ \times \\ 3\% \\ \hline \end{array} + \begin{array}{|c|} \hline \$3,600 \\ \hline \end{array} = \begin{array}{|c|} \hline \$3,708 \\ \hline \end{array}$$

# Calculating with Split Rates

- UC Davis Fiscal Year (FY): July 1 – June 30
- Use split rate calculations for project periods spanning multiple FYs
- Steps
  1. Determine one month of costs.  
*Annual Costs  $\div$  12 = One month of costs*
  2. Determine the number of months at Rate 1.  
*Months before end of the FY (before June 30th)*
  3. Calculate the costs to charge at Rate 1.  
*One months of costs  $\times$  Months at Rate 1  $\times$  Rate 1 = Costs to charge at Rate 1*
  4. Determine the number of months at Rate 2.  
*Months after start of next FY (on or after July 1st)*
  5. Calculate the costs to charge at Rate 2.  
*One months of costs  $\times$  Months at Rate 2  $\times$  Rate 2 = Costs to charge at Rate 2*
  6. Calculate the total costs for the project period.  
*Costs at Rate 1 + Costs at Rate 2 = Costs for PY*

# Calculating with Split Rates

## *Let's Practice!*

Professor Smith's salary charged to the grant for the first period is \$3,708. The first project period begins on September 1, 2018 and ends on August 31, 2019. Her fringe benefit rate for FY 2018-19 is 38.9% and for FY 2019-20 is 40.1%. **What is the total amount/cost for her fringe benefits for the first project period?**

Step 1: Determine one months of costs.

$$\boxed{\$3,708} \div \boxed{12} = \boxed{\$309}$$

## Calculating with Split Rates

Step 2: Determine months at Rate 1.

10

Step 3: Calculate the costs to charge at Rate 1.

$$\begin{array}{ccccccc} \$309 & \times & 10 & \times & .389 & = & \$1,202 \end{array}$$

## Calculating with Split Rates

Step 2: Determine months at Rate 2.

2

Step 3: Calculate the costs to charge at Rate 2.

$$\$309 \times 2 \times .401 = \$248$$

# Calculating with Split Rates

Step 4: Calculate the total cost at both rates.

$$\begin{array}{c} \$1,202 \end{array} + \begin{array}{c} \$248 \end{array} = \begin{array}{c} \$1,450 \end{array}$$

# Indirect/Facilities and Administrative (F&A) Costs



# Indirect/F&A Costs

- Associated with general operations of UC Davis
- Cannot be readily assigned to a specific project
- F&A Rates
  - Federally approved
  - Applicable to all sponsors
- Categories
  - Organized Research
  - Other Sponsored Activities
  - Clinical Trials (industry sponsored)
  - Instruction
  - Primate Center
- Bases
  - Direct Cost amount subject to F&A

## Indirect Cost/F&A Rates

Category	Effective Period	On-Campus	Off-Campus	Base
Organized Research	07/01/16 – 06/30/18	57%	26%	MTDC
Other Sponsored Activities	07/01/16 – 06/30/18	39%	25%	MTDC
Clinical Trials (industry sponsored)	February 1, 2006 and beyond	26%	26%	TDC
Instruction	07/01/13 – 06/30/18	50%	26%	MTDC
Primate Center	07/01/13 – 06/30/18	54.4%	54.4%	MTDC
State of California	07/01/18 – 06/30/19	25%	25%	MTDC

# Indirect/F&A Costs

- Bases: Direct cost amount subject to F&A
  - Modified Total Direct Cost (MTDC)
    - Excludes equipment, capital expenditures, charges for patient care, student tuition remission, rental costs of off-site facilities, scholarships and fellowships as well as the portion of each subgrant and subcontract in excess of \$25,000.
    - $MTDC \times F\&A\ Rate\% = Indirect\ Costs$
  - Total Direct Cost (TDC)
    - Includes all direct costs
    - $TDC \times F\&A\ Rate\% = Indirect\ Costs$

- Total Cost (TC)

- Includes all costs
- If direct costs are known:

$$\frac{TDC}{1 - F\&A\ Rate\%} - TDC = Indirect\ Costs$$

- If direct costs are unknown:

$$TC - (TC \times (1 - F\&A\ Rate\%)) = Indirect\ Costs$$

# Calculating F&A/Indirect Costs

## *Let's Practice!*

Calculate the indirect costs for the following budget. The F&A Rate is 57%, and the base is MTDC.

<b>Line Item</b>	<b>Cost</b>
PI Salary, 10% Effort	\$12,000
PI Benefits	\$ 4, 812
Microscope (equipment)	\$10,000
Subaward to Stanford	\$20,000

# Calculating F&A/Indirect Costs

- What costs should NOT be subject to F&A using the MTDC base?
  - Microscope because it is equipment
- Sum the other line items to determine the Total Direct Costs (TDC). What is that amount?
  - \$36,812
- Now, calculate the indirect costs.

$$\begin{array}{c} \$36,812 \end{array} \times \begin{array}{c} .57 \end{array} = \begin{array}{c} \$20,983 \end{array}$$

# Resources



# Websites and Online Documents

- [SPO Website](#)
  - [Preparing a Proposal Budget Toolkit](#)
  - [F&A and Fringe Benefit Rates](#)
- [CGA Website](#)
  - Cost Share Application
  - Effort Commitment System
  - Effort Reporting System
  - OMB Circulars and other related policies

# Training Sessions Offered by SPO

- Most Thursdays from 9:00 – 11:00 am at the Office of Research (1850 Research Park Drive)
- Various topics related to research administration
- Laptops available for hands-on labs
- Partial credit for related SDPS classes
- Session list and registration: <https://research.ucdavis.edu/proposals-grants-contracts/spo/spo-training/>



# Q & A

- What questions do you have?



# Thank You!

For research-related announcements, you can now follow  
SPO on Twitter and YouTube!

