Cost Estimation Tool
Business Processes

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Standard Business Processes

The business processes in this document are used for proposal budgeting and review.

The Cost Estimation Tool

The Cost Estimation Tool is maintained by the Office of Sponsored Programs as a means of expediting budget creation and review while also promoting consistent budgeting practice across the University of Montana. Please utilize these business processes as a guide through both the tool itself as well as the budgeting process. The OSP pre-award team are the resident experts on use of this tool. Please feel free to reach out to them as needed, and certainly for review of all budget drafts in the proposal developmental phase. All budgets material to sponsored projects proposals must be reviewed by OSP before submission to the sponsor.

Summary Budget Information

Item 1: Administrative Details
UM Proposal Number, Pre-Award Specialist, Date Prepared, and Sponsor are all requested as a means of identifying the budget, independent of its file name or where it is stored. This ensures proper preparation, routing, review, and reference throughout its useful life.

Item 2: PI and Co-PI(s)
Please identify the PI and any Co-PI(s) in this section. Names listed here will auto-fill into the estimation sheet starting on Row 17. If the user does not wish to utilize these rows for salary calculation (e.g. the PI is a research associate making lower rows quicker for filling), the auto-filled rows may be hidden as desired. As with Item 1, these data points also help identify the budget.

Item 3: Title
The entire proposal title should be entered here as a point of reference for the budget.

Item 4: Project Period
The timeframe during which the PI proposes the subject project will be active. These dates will inform entries in Item 6.

Item 5: Escalation Rates
This field is one of the few on the sheet which cannot be edited. These rates are provided by OSP in coordination with HR and should be updated approximately each fiscal year. The rates published on the current budget template posted to OSP's website are the effective rates.

Item 6: Budget Periods and Inflation in Year 1

Budget Periods:

The number of budget periods should be provided here and correspond to the project period. This number will ensure calculations on salary, fringe, and health insurance are only made in the subject years. Note this field will not affect calculations in subsequent categories and so the user must verify only zero values are provided in non-subject years before hiding rows.

Inflation in Year 1:

Health Insurance, Fringe Benefits, and Salaries are all subject to a uniform method for escalation in Year 1. These escalations are based on start date, and apply to the entire first year. That is to say, if the project starts on or after 12/1, health insurance will be escalated by the proper rate for the entirety of Year 1. If the project starts before 12/1, health insurance will not be escalated for the entirety of Year 1, but will be escalated in Year 2. The same method applies for other categories based on the dates listed in the sheet. Please ensure these entries are accurate based on the start date provided in the project period.

Salary Time Basis

AY Fac Appt Mos	8.7692
FY Emp Appt Mos	12
AY days	190
Summer Days	70
Days in Month	21.667

Employees at the university divide into roughly three categories for purposes of salary calculation: AY salaried, CY salaried, temporary/hourly. These fields, beginning in AM6, describe the time bases for AY and CY salaried employees.

AY salaried employees are employed on a 190-day contract which forms the basis for their pay rate. 190 days of a standard 260-day working year in equivalent to 8.7692 months of pay. Therefore, for AY salaried employees, any division of their contract amount must be done on the basis of 190 days for a daily rate, or 8.7692 months for a monthly rate. This pay rate, their institutional base salary (IBS), must be used on every proportion of their effort, either AY or Summer time. Summer time must never exceed 70 days in a single year, given these employees will already be paid for 190 days on their AY time and there are only 260 days in a standard working year.

CY salaried employees are employed on a 12-month contract and will be budget for on the basis of percent time and a 12-month maximum.

Person-Months Table

This table makes explicit the calculation of person months for every person on the budget. Generally speaking, entries should only be made in gray cells based on the following definitions.

	Person-Months Table						
FTE < 1? Manual H.I.	**Base Salary**	**Appt. Mos.**	**AY/CY/Sum.**	**Sum. days**	**%** Year 1	**# Mos.**	**P-Mos.**
	0.01	8.77	AY		0.00%	0.00	0.000
	0.01	8.77	Summer	0.00	0.00%	0.00	0.000
1	2	3	4	5	6	7	8

Item 1: FTE Verification
If a person is employed on the basis of less than one FTE, and employment on a resulting project will not result in full-time employment, this field should be selected yes on the person's salary row(s). All "yes" entries will cancel automated health insurance calculations, requiring health insurance to be calculated manually on the basis on the person's anticipated FTE. "Yes" entries will also flag the salary line for other checks such as proper base salary calculation.

Item 2: Base Salary
For all people who are existing UM employees, the annual, full-time equivalent institutional base salary (IBS) should be provided here. For persons who are part time, the base salary will need to include a calculation to convert the persons' part-time salary to a full-time equivalent (e.g. $21,000/0.6 FTE = $35,000/1FTE). Deviations from a person's current base salary may only be made in light of a pending, documented change. For any persons who are not named or who are not yet UM employees, an anticipated salary may be entered.

Item 3: Appointment Months
The appropriate appointment months must be provided for each person based on their employee type. All AY salaried employees must have a 8.7692-month basis. All CY salaried employees must have a 12-month basis. All temp/hourly employees can be calculated either by the hour or on a 12-month basis.

Item 4: Time Category
Each salary row must correspond to either AY, Summer, or CY time. AY salaried employees will work on AY and Summer time. CY salaried employees will always work on CY time. Temp/hourly employees will either be CY or simply an hourly calculation which excludes a time category.

Item 5: Summer Days
For AY salaried employees, any summer time budgeted must be provided on the basis of number of days. If a percent time, months calculation is preferred, this can be easily converted on the basis of 21.667 days/month. All AY salaried employees should work 70 or less summer days in a single year.

Item 6: Percent Time
AY and CY time should be expressed on the basis of percent time during a number of months (Item 7). The percent time may be entered here, and should never exceed 100% for full-time employees, 50% time for GRAs, or desired maximum for temp employees. Months and percent time entries are not needed on Summer salary rows.
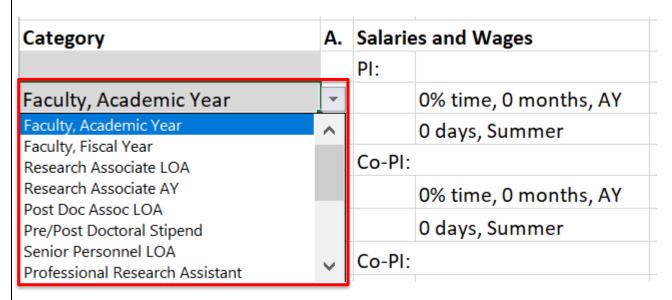
Item 7: Number of Months

AY and CY time should be expressed on the basis of percent time (Item 6) during a number of months. AY salaried are limited to 8.7692 months in a single academic year. CY employees have a 12-month maximum. Months and percent time entries are not needed on Summer salary rows.

Item 8: Person-months
This is an output based on earlier entries and drives the salary calculations in subsequent columns.

Employee Category

Category	A.	Salaries and Wages	
		PI:	
Faculty, Academic Year ▾		0% time, 0 months, AY	
Faculty, Academic Year		0 days, Summer	
Faculty, Fiscal Year		Co-PI:	
Research Associate LOA		0% time, 0 months, AY	
Research Associate AY			
Post Doc Assoc LOA		0 days, Summer	
Pre/Post Doctoral Stipend			
Senior Personnel LOA			
Professional Research Assistant		Co-PI:	

Each person should have a current or anticipated category for employment at UM. All entries are available in each cell. This selection informs many downline entries including: appointment months, time category, fringe benefits rates, and health insurance calculations. Please ensure the appropriate category is selected on each salary row.

Salary Outputs

		Year 1	Year 2	Year 3	Year 4	Year 5	Total
A.	**Salaries and Wages**						
	PI:						
▾	0% time, 0 months, AY	0	0	0	0	0	0
	0 days, Summer	0	0	0	0	0	0
	Co-PI:	0	0	0	0	0	0
	0% time, 0 months, AY	0	0	0	0	0	0
	0 days, Summer	0	0	0	0	0	0

PI name, Co-PI name, and time expressions will all pre-populate based on earlier entries. These may be overwritten whenever desired, but retaining the default is encouraged whenever possible. Similarly, salary outputs and totals will populate based on person-months table and budget periods entries.

*Note users are highly encouraged to only hide/unhide cells to best utilize the built-in capabilities of the tool. That is to say, please do not add or delete rows if at all possible. Names and titles may be

overwritten as needed. Once all persons are entered on existing rows, those rows not utilized may be hidden.

Cost Share Columns

Year 1	Cost Share Year 1	Year 2	Cost Share Year 2	Year 3	Cost Share Year 3	Year 4	Cost Share Year 4	Year 5	Cost Share Year 5	Total	Cost Share Total	Cost Share Source
0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	

Hidden between the years columns are the above cost share columns. These may be un-hidden as needed. There are no pre-populated formulas—all entry will be manual in these columns, except for cost share totals. OSP encourages a cost share source be identified on the sheet in the given column for each row bearing cost share.

Fringe Benefits

	B.	Fringe Benefits				Rate
Faculty, Academic Year	PI:					24.80%
Faculty, Academic Year		Summer				24.80%
Faculty, Academic Year	Co-PI:					24.80%
Faculty, Academic Year		Summer				24.80%
Faculty, Academic Year	Co-PI:					24.80%
Faculty, Academic Year		Summer				24.80%
Faculty, Academic Year	Co-PI:					24.80%
Faculty, Academic Year		Summer				24.80%
Faculty, Academic Year	Co-PI:					24.80%
Faculty, Academic Year		Summer				24.80%
Research Associate LOA	Research Associate:					31.30%
Research Associate LOA	Research Associate:					31.30%
Research Associate LOA	Research Associate:					31.30%

Fringe benefits calculations will auto-fill based on earlier entries including, employee category and person-months table. Rates will be updated in the template approximately each fiscal year. The rates published on the active template on OSP's website are the applicable rates at any given time. Fringe benefits will escalate based on standard rates provided in the escalation rates table as well as the Year 1 escalations inputs.

Health Insurance

	C.	Health Insurance					Rate
Faculty, Academic Year	PI:					$	1,142
Faculty, Academic Year		Summer				$	1,142
Faculty, Academic Year	Co-PI:					$	1,142
Faculty, Academic Year		Summer				$	1,142
Faculty, Academic Year	Co-PI:					$	1,142
Faculty, Academic Year		Summer				$	1,142
Faculty, Academic Year	Co-PI:					$	1,142
Faculty, Academic Year		Summer				$	1,142
Faculty, Academic Year	Co-PI:					$	1,142
Faculty, Academic Year		Summer				$	1,142
Research Associate LOA	Research Associate:					$	1,054
Research Associate LOA	Research Associate:					$	1,054
Research Associate LOA	Research Associate:					$	1,054

Health insurance calculations will auto-fill based on earlier entries including employee category and person months table. Auto calculations will be disabled and "Manual" will display, prompting manual entry for any rows where <1 FTE is selected "Yes" in the person-months table. Health insurance will escalate based on standard rates provided in the escalation rates table as well as the Year 1 escalations inputs.

Capital Equipment

	D.	Capital Equipment					
63199 - Capital Equipment		Item 1					0
63199 - Capital Equipment		Item 2					0
63199 - Capital Equipment		Item 3					0
63199 - Capital Equipment		Item 4					0
		Total Capital Equipment					0

All capital equipment entries will be manual and should reflect any internal calculation/multiplication required to arrive at a sum/product. Descriptors for equipment items must be provided by item in column C (please overwrite "Item 1", etc.). Equipment should only be listed here when the value of a single item of combination of items meant to combine to form a single piece of equipment values $5,000 or greater and has a useful life of at least one year.

Travel

When the sponsor requires detailed estimates on travel, the following table and method must be utilized.

	E.	Travel					
		Domestic	*Cost*	*No. Days*	*No. People*	*No. Trips*	
		Description					
Domestic Travel		Airfare			0	0	0
Domestic Travel		Lodging (GSA rate) + tax	0	0	0	0	0
Domestic Travel		Meals Per Diem (UM rate)	0	0	0	0	0
Domestic Travel		Incidentals	0	0	0	0	0
Domestic Travel		Conference Registration		0	0		0
Domestic Travel		Ground Transportation		0	0		0

Please overwrite "Description" for each trip with summary details of the trip(s) (e.g. XYG Conference, New Orleans). Providing specific locations will allow utilization of per diems for specific locations. When locations are not provided, the "at large" lodging rates must be used. Entries in pink cells will drive calculations in Year 1 only. If a given trip occurs in multiple years, the calculation will need to be carried and escalated based on the Other Costs escalation rate manually. 10% tax should be added to all GSA lodging per diems.

Participant Support

	F.	Participant Support					
			Cost	*No. Participants*			
62868 - Participant Support		Stipend					0
62868 - Participant Support		Travel					0
62868 - Participant Support		Subsistence					0
62868 - Participant Support		Other					0
62868 - Participant Support		Stipend					0
62868 - Participant Support		Travel					0
62868 - Participant Support		Subsistence					0
62868 - Participant Support		Other					0
		Total Participant Support					0

Estimated costs for participant support should always be segregated into stipend, travel, subsistence, and other and provided in the pink cells. Similar to Travel, entries will only drive calculations in Year 1. Manually entry is required to carry costs to out years. The Other Costs escalation rate should be applied manually to all travel, subsistence and other costs in out years.

Other Direct Costs

G. Other Direct Costs					
Materials and Supplies					
	Lab Supplies				0
	Computers				0
	Monitors, cords, speakers, etc.				0
	Small Equipment (<$5k)				0
	Field Research Equipment (<$5k)				0
	Postage and Mailing				0
	Communications				0
	Animal Per Diem				0
Publication Costs					0
ents Human Subjects payments					0
Contract Services					
	Name of contractor/consultant				0
Subrecipients					
	Subaward 1 [enter recipient]	Direct Costs			0
		F&A Costs			0
	Subaward 2 [enter recipient]	Direct Costs			0
		F&A Costs			0
	Subaward 3 [enter recipient]	Direct Costs			0
		F&A Costs			0
Other					
	Conference Costs (Um conf., non-regist.)				0
	Shipping Costs				0
	Off-site Facility Rental (F&A Exempt)				0
s	Tuition Remission (F&A Exempt)	# GRAs	# Semesters		0
Total Other Direct Costs					0

All other direct costs items must be manually entered into each year. Applying the other costs escalation rate is recommend on all items except: human subjects payments, contract services, subawards, and tuition remission. The tuition escalation rate must be applied to all tuition figures. Subaward costs must be segregated by direct costs and F&A costs—this helps drive a calculation on MTDC required for NIH projects.

IDC Basis

H. Total Direct Costs					0	0
Total Direct Costs less Sub F&A (for NIH)					0	0
	MTDC Base	Number of Subs:	0		0	0
	*update MTDC formula as applicable for each year if subaward costs are less than $25,000 in Year 1					
			IDC Exclusions		0	0

Most proposals will budget indirect costs (IDC) on the basis of modified total direct costs (MTDC). Determining MTDC is largely automated, but users will need to ensure to account properly for any subawards. For each subaward whose total Year 1 costs are >=$25,000, increase the "Number of Subs" field by one. For each subaward whose total Year 1 costs are <$25,000, we must not increase the "Number of Subs" field and instead modify the MTDC formulas in Year 1 and, if applicable, subsequent to capture the appropriate exclusions.

IDC Calculation

I.	Facilities and Administration (F&A) Costs					
	On Campus: MTDC Base					
	Predetermined for the period 7/1/21-6/30/22:			48.00%		
	Provisional thereafter per HHS agreement dated 3/6/2020.					0
J.	Total Costs					0

Care must be taken to ensure the appropriate F&A rate is applied to the project costs based either on UM's federally negotiated rate agreement, applicable master agreement, per a documented sponsor policy. If an update is needed, please adjust the percentage/rate by overwriting 48% and providing a description of the rate applied. Once provided, for F&A costs and total costs will auto-fill.

BudgetForm, Travel Table, Industry, Cayuse Output

For convenience, additional outputs are provided based on entries in the estimation sheet.

The BudgetForm provides a consolidated view of the project budget and is driven by categories selected per row in column A of the estimation sheet.

The Travel Table is intended for use on budget justifications where the sponsor requires detailed cost estimates on travel (e.g. NSF).

The Industry sheet provides and even more simplified view of estimated costs for industry sponsors who do not require, or desire, greater detail.

The Cayuse Output sheet drives autofill of the budget visualization in Cayuse.