Caltech

California Institute of Technology
Office of Cost Studies

Fiscal Year 2018
Space Functionalization Study

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May 30, 2018, June 7, 2018, and June 14, 2018

http://finance.caltech.edu/Cost_Studies/Training_Materials

Agenda

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Purpose

- The Space Functionalization Study allows the Institute to use the F&A Rate to recover facilities costs related to space where organized research activities are performed.

  - Facilities costs include:

    - Building depreciation expenses

    - Equipment depreciation expenses

    - Interest expenses

    - O&M (utilities, maintenance, non-capital rehabs/improvements)

    - Library

- Federal regulations require completion of a new Space Study every 2 years

Team Members

The Space Study Team consists of personnel from:

- Facilities
  - Wayne Bottomley, Space Information Manager
- Office of Cost Studies
  - Ginger Baker, Senior Director
  - Ted Lieu, Director
  - Jessica Solorzano, Manager
  - Renee Cowan, Senior Cost Analyst
  - Linda Zhong, Senior Cost Analyst
  - Evan Prochaska, Cost Analyst
- Division Space Representatives
  - DAs / PIs / Administrative Staff

Space Study Team Responsibilities

- Facilities
  - Provides up-to-date physical space information including division/department and occupants
  - Provides current floor plans
- Cost Studies
  - Provides training
  - Provides functional definitions
  - Provides financial profile data to help support functionalization
  - Reviews and analyzes survey results
  - Interviews division representatives and/or PIs/ occupants, as needed
  - Uses the space study data for the F&A cost study

Space Study Team Responsibilities

- Division Space Representatives
  - Review the data provided
  - Meet with PIs or occupants
  - Provide the requested space information for each room they are responsible for
  - Respond to questions from Cost Studies after Cost Studies team has completed their review and analysis of the study results
  - Coordinate follow up meetings with PIs or occupants, as needed

Space Study Schedule
(Tentative 5-Months)

- **May 1 to May 31st** – Campus to update information in BSDS system
- **June 1st-** DCAA observation of database file form BSDS with a copy to DCAA. Any changes in physical information at this point will need to be justified (may be deferred to next cycle).
- **Week of June 4th-** Campus Space Training
- **Week of June 4th-** Distribution of Space information to Divisions
- **June 11 to July 27th** (7 weeks)- Campus updating space information
- **July 1st to July 31st-** Data collection & integration
- **August 1 to August 31st-** Cost Studies data integration & review, work with campus on resolving questionable data
- **September 3rd-14th** –Draft space results to Campus & acceptance
- **September 17th-21st-** Final report preparation & DCAA observation
- **September 24th–28th-** Finalize Space Results and Closeout Space Study

U. S. Congressional Mandate

- Congress had mandated that DCAA must complete all outstanding audits through the end of FY2017 by end of March 2019

- Going forward, DCAA must complete each audit within a 12 month period from when the cost proposal was submitted

- DCAA is currently auditing FY2014 and FY2015 F&A and Staff Benefit cost proposals

- Caltech has been doing multiple year audits last year, this year, and we expect to do this next year as well.

Resources

- Because DCAA audits have become much more extensive, Cost Studies has limited resources remaining to complete all of the other activities performed during the year.

- This means that it will be important to keep the space process moving to meet the targeted milestones, as we will not have much flexibility to keep the space study open beyond the targeted time frames like we normally did in the past studies.

DCAA Space Participation

- DCAA expressed interest in participating in the space study process

- It is unclear what DCAA participation means

- Caltech was able to get ONR/DCAA to delay their participation in the space study until the next space cycle when their audit backlog has been eliminated

- We still expect DCAA to perform a more substantial audit of our space results compared to the past

- We need to keep this in mind while completing this current space study

DCAA Audit

- What to expect
  - Interviews to gain an understanding of process used to complete the study in order to determine how to audit space study results
    - Knowledge of individual completing the study
    - How functional percentages were determined
    - Is there information that can be verified such as the financial profile information, occupants, physical size, room numbers, etc.
  - Requests for supporting documentation

DCAA Audit

- What to expect (continued)
  - Scrutiny of people completing the space study
    - The expectation is that the final determination on how a room is used must be made by the individuals with suitable knowledge of how the space is used.
    - Potential questions
      - How do you know know how the space is used?
      - Why are you the correct person to properly functionalize the space?

DCAA Audit

- What to expect (continued)
  - Comparisons
    - Space results provided by Divisions to BSDS and Cost Studies space data
    - FY2018 space study results to FY2016 and possibly even FY2014 results
      - Will need to explain variances
  - Physically visit selection of rooms
  - May ask to talk with the faculty and other occupants of rooms

DCAA Audit
What does all of this mean?

- Make sure that all the information associated with your rooms is correct
  - Room numbers
  - Type of room (room use code)
  - Physical size of room seems reasonable
  - Floor plans are correct and properly reflects your rooms
  - Name of department, operating unit and number, or organizational unit name
    - Increased importance that Department/Operating Unit is accurate

DCAA Audit
What does all of this mean?

- Be prepared to justify the functional percentages used
  - Consider the contribution from
    - Funding sources
    - Types of activities
    - Type of occupants
    - Time occupant spends in the room
- Using financial profile only to assign functional percentages for a room
  - Do those percentages reasonably reflect all of the major activities performed in that space and the contributions listed above?
    - Yes => functionalize the room with the financial profile percentages
    - No => two options

DCAA Audit

What does all of this mean?

- Two options if the financial profile is not a defensible option to use to complete the space study.

  - Option 1, use financial profile and make an adjustment to the profile results to account for the contributions noted on the previous slide

    - OR

  - Option 2, determine the proper functional percentages for the room based on factors that are relevant.

- Document, document, document!

- Keep all communications you received, or send out to people regarding space

DCAA Audit Recap
Importance of Documentation

- Audit, Audit, Audit!
    - Every room in the space survey is subject to audit by the Federal Government.

- All functional percentages used in the Space Study must have documentation to support the basis for how the percentages were determined.

- Types of Documentation
    - Salaries and wages information (percent labor distribution)
    - Occupant information (Students, PIs, Visitors, etc.)
    - Types of activities (committees, teaching, etc.)
    - Document how the results are obtained for each room
    - Document explanations for any major changes in space

Space Study Methodology

Space Information Package

- Will be provided to the DAs via "dropbox" no later than June 8th
    1. Space Study Notification Memo
    2. Space Materials
        A. Space Presentation
        B. Space Functionalization Study Guidelines
        C. Functional Definitions
        D. List of Room Use Codes
        E. Room Use Code Definitions Quick Reference
        F. Considerations
        G. List of rooms with physical information from BSDS
    3. Financial Profile file (3A=LD and 3B=Total Funding)

Additional Available Information

- Cost Studies staff will be available to answer questions or help you gain an understanding regarding space study related concepts, if needed.

- The following can also be provided
  - List of operating units
  - List of funding by award manager
  - Floor plans (need to request from Wayne Bottomley)

- Is there anything else that may be needed or would help with this process?

Space Study Period

- The space study is being conducted for FY2018
    - Consider how the room has been used when it is in use for the period of October 1st – May 31st
    - Consider any material changes to the activity that you know will occur in the period June 1st – September 31st.
    - The time when a room is empty during the day, evenings, or weekends is not considered if the room is assigned and in use by the occupants.
- Financial profiles will be based on the period October 1st – May 31st

Step 1 - Verification & Update of Initial Space Information

- Make sure that all the information associated with your rooms is correct
    - Floor plans are correct and properly reflect your rooms
    - Room numbers should be reflect current floorplans
    - Type of room (room use code)
    - Physical size of room seems reasonable
    - User Group, responsible faculty/PI, occupant
    - Name of department, operating unit and number, or organizational unit name

Step 2: Identify all of the following Rooms

- Service centers
- Faculty/PI offices
- Offices of all executive offices and the division chairs
- Student and Visitor Offices
- Rooms vacant more than 12 months
- Rooms under renovation
- Rooms used by external parties (e.g., HHMI, TMT, etc.)

Step 3: Identify Research Labs and Class Labs

- If a laboratory performs more than 50% organized research or departmental research, then the room use code should be 250 (255 for service space); otherwise it would be coded 210 (215 for service space) as a class laboratory.

- We want to make sure this is correct because research labs (250/255) get weighted 2x more than class or open labs (210/215 and 220/225) for the purposes of recovering utility costs in the F&A rate.

Step 4: Specific Room Analysis

For example: Building GoodLab; Rm 123; 2,575 ASF

1. What is this room? It is a physics laboratory
2. Who works in this room? Dr. Knowmore research group (2 grad student, 2 postdocs)
3. What are the major activities performed in the room? 1) Discover new energy sources (75%) 2) Teaching activities (25%)
4. What sources of funding are paying for the work?

   1) U.S. Department of Energy 2) Gift award
5. What does Dr. Knowmore Financial Profile look like?

   1) DOE.000666 (85%) 2) Gift.000789 (15%)

Step 5: Decide on the Functional Percentages & Document Rationale

For example: Building GoodLab; Rm 123; 2,575 ASF

Activities	Est. Effort	Funding Sources	Dr. Knowmore	Postdoc 1	Postdoc 2	Grad Student 1 (4th year)	Grad Student 2 (4th year)	Total Labor	Financial Profile Summary	Final Functional Percentage
			($K)	($K)	($K)	($K)	($K)	($K)		
Discover New Energy Sources	75%	DOE.000666	$ 182.50	$75.00	$75.00	$ 25.00	$ 25.00	$382.50	85%	80%
Teaching/Learning Activities	25%	GIFT.000789	$ 17.50			$ 25.00	$ 25.00	$ 67.50	15%	20%
	100%		$ 200.00	$75.00	$75.00	$ 50.00	$ 50.00	$450.00	100%	100%

Basis of Functional Percentage Determination : Average of estimated effort spent on activities and finanical profile summary. Takes into consideration 4th year graduate student and Gift funding in support of IDR activities

Step 5: Decide on the Functional Percentages & Document Rationale

- Keep in mind that assigning functional percentages to each room
  - Is not an exact science
  - Is very subjective
  - Needs to be done consistently and methodically
  - Cost Studies is available to help you with more complicated scenarios or special needs

Space Occupants

Types of Occupants

a. <u>Faculty/ PI's:</u> Consider if they teach classes, serve on committees, or collaborate on non-research issues, and where they prepare research proposals

b. <u>Emeritus Faculty</u>: Typically OIA if not on CIT payroll or not working on a Caltech research

c. <u>Caltech Researchers:</u> If funded by sponsored awards ➔ OR

d. <u>Visitors:</u> Not paid by Caltech (i.e., HHMI)➔ OIA

e. <u>Students:</u> More senior students should have greater amounts of OR, than IDR

f. <u>Postdoc:</u> Look at type of funding

g. <u>Department Administrative Staff:</u> Will be DA unless they are part of "program" level activities such as LIGO or IPAC, in which case, they will be OR

Occupant Information

- Identify, Verify, and Update Room Occupants
  a. Identify Occupants
      i. Review Faculty Labor Distribution Report to identify all Division/ Department employees
      ii. Identify any non-institute individuals that occupy rooms
  b. Verify that room occupants listed in the BSDS space report are correct
  c. Update occupant information for each room if any prepopulated information is incorrect
      iii. Add missing occupants including institute employees, students, and non-institute occupants
      iv. Indicate whether a room is occupied by a Division Executive Officer or Division Chair.

Occupants: What Information do we need from you?

- Non-Student Employees – Specific Occupant Names
  - Rooms with 3 or less employees
    - We need the names of those employees
    - Occupant 1 – Occupant 3 data fields
  - Rooms with more than 3 employees
    - We need the name of the department or group that uses the room ➜ Group Name field
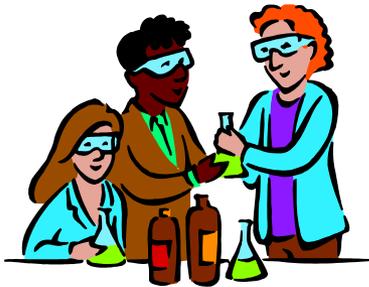
Occupants: What Information do we need from you?

- Students – Occupant Names
  - Provide the name
    - In comments field indicate their status (i.e. grad vs undergrad) and year

  OR

  - Provide the number of students
    - 4 / 2nd year grad students
    - 2 / 3rd year undergrad students
    - 2 / 1st year grad students
    - 3 / 4th year grad students

Occupants: What Information do we need from you?

- Non-Institute Occupants
  - Provide the name
    - In comments field indicate their status i.e. Unpaid Faculty Emeritus, Visiting Faculty, HHMI, etc.

Functional Definitions & Room Types

Functional Definitions for Activities

a. <u>Departmental Administration (DA):</u> Department level administration, non-research

b. <u>General Administration (GA):</u> Institute level administration, non-research

c. <u>Instruction/Departmental Research (IDR):</u> Funding is not competitively obtained, scope of work may be discretionary, may or may not have significant deliverables

d. <u>Library (LIB):</u> Functional percentage for campus central library space. Departmental libraries are not considered libraries for this purpose

e. <u>Other Institutional Activities (OIA):</u> Unrelated to Caltech's mission and objectives (HHMI)

Functional Definitions for Activities

g. OM (OM): Functional percentage for campus facilities Operations and Maintenance space

h. Organized Research (OR): Funding obtained competitively, well define scope of work, has significant deliverables

i. Service Center (RC): Functional percentages are determined based on customer billings

j. Vacant (VACANT): Space vacant for twelve or more months should be functionalized as 100% vacant

Funding Sources

a. <u>Sponsored Awards:</u> Organized Research (OR)

    i.   NSF, NIH, etc.

b. <u>Gifts, Endowments:</u> Instruction/Dept. Research (IDR)

c. <u>Grants:</u> OR or IDR - Look at type of research or activities that the funding is supporting

    i.   Moore Grant, etc.

d. <u>General Budget:</u> Department Admin (DA), IDR, OR - Look at type of activities that these funds are supporting

    i.   General Budget (GB)

e. <u>Other:</u> Other Institutional Activities (OIA)

    i.   HHMI, etc.
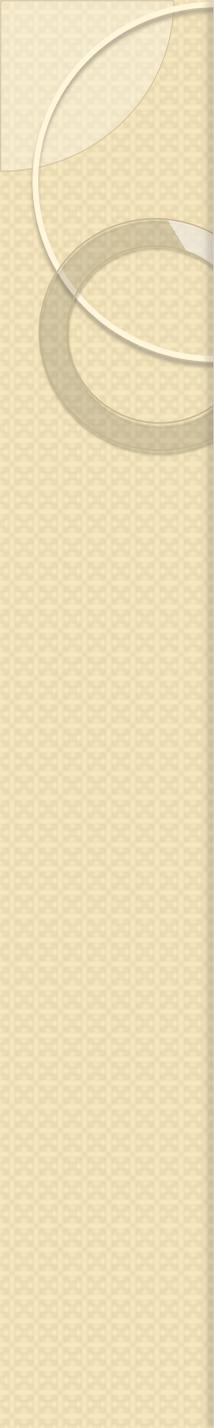
Room Types

Typical Functionalization Selected Room Types

- 110/115 Classroom and Classroom Service ➔ IDR

- 210/215 Class Labs and Class Lab Service ➔ Functionalize based on usage

- 220/225 Open Labs and Open Lab Service ➔ Functionalize based on usage

- 250/255 Research Labs and Research Lab Service ➔ Functionalize based on usage

Typical Functionalization Selected Room Types

- 350/355 Conference Room and Conference Room Service ➔ Functionalize based on usage or for rooms where the entire department uses the space, consider using *Department Average Functional Percentages* to assign functional percentages.

- 680/685 Meeting Room and Meeting Room Service ➔Functionalize based on usage or for rooms where the entire department uses the space, consider using *Department Average Functional Percentages* to assign functional percentages.

Typical Functionalization Selected Room Types

- 310/315: Office and Office Service
  - Provide names of occupant(s) using the office
    - If more than 3 occupants, specify as "department use" by indicating the name of the department in the occupant column.
  - In general, calculate functional percentages using the labor distribution data for each of the occupants.
  - Use Departmental Average Functional Percentages for rooms where the entire department uses the space.

Typical Functionalization Selected Room Types

- Various types of offices
  - Staff Office – A room used by administrative staff i.e. Staff, Administrators or Professional Staff ➔ DA
  - GRA Office – A room used by students employed as research assistants ➔ Functionalize OR, IDR
  - Faculty Office - A room used by a Faculty member, researcher, engaged primarily in teaching, research ➔ Functionalize OR, IDR, DA

Typical Functionalization Selected Room Types

- Various types of offices (continued)
    - Lecturer Office – A room used by part-time non-research faculty engaged in teaching. ➔ IDR
    - GTA Office – A room used by students employed primarily as teaching assistants ➔ IDR
    - Research Office - A room used by a research faculty ➔ Functionalize OR, DA
    - Emeritus, Visiting Faculty, or Visiting Staff Office - Offices used by retired faculty, professionals, visiting faculty or visiting staff not funded by Caltech ➔ OIA

Typical Functionalization Selected Room Types

- Research Labs - **Initial instinct is 100% Organized Research, but …..**
  - Are there individuals that work in the Lab not funded from a Organized Research fund?
  - Are there other activities taking place in the Lab that are not related to Organized Research?
  - If yes, then will be less than 100% Organized Research

Special Considerations

Special Considerations

- <u>Office Spaces</u>: A PI office with 100% OR suggests that no non-research activities are done in the office

- <u>Student Offices</u>: More senior the student the larger the OR percentages

- <u>Libraries</u>: Only for space associated with the main Caltech centralized library

- <u>Restricted Common Areas</u>: Functionalized based on space where activities are performed

Special Considerations

- Vacant Space: Space vacant for over a year should be functionalized as 100% vacant. Space vacant for less than a year should be functionalized based on use before or intended use after depending on the period of vacancy.

- Relocations more than 6 months ago, and will remain there for at least the next 6 months.

  - Survey as if the occupants were in the current location all fiscal year

  - Provide Cost Studies with a crosswalk that shows each room that was vacated during the relocation and which room each occupant was moved to.

Examples

Example Case 1

Within a research lab area, there is a room used as a PI's office, where he works on his research and writes a single grant proposal for new research. How is this area functionalized?

a. 100% OR
b. 50% OR. 50% DA
c. 95% OR, 5% DA
d. 50% OR, 25% IDR, 25% DA
e. 33% OR, 33% DA 33% OIA
f. None of the above

Example Case 2

This is an office for a visiting faculty, who gets all of his salary ($200K) paid by his home organization. He spends 50% of his time on a NASA award ($500K) obtained at Caltech. He also spends 50% of his time on an NSF award ($500K) from his home organization. How is this office functionalized?

a.   100% OIA
b.   50% OIA, 50% OR
c.   33% OIA, 67% OR
d.   33% OIA, 33% OR, 33% INSTR
e.   None of the above

Example Case 3

This is an office occupied by graduate students. One student is in his first year, the second student is in his 3rd year, and the last student is going to graduate at the end of the term. All 3 students spend time working on the same NSF award. How is this office functionalized?

a. 100% OR
b. 67% OR, 33% INST
c. 33% OR, 67% INST
d. 50% OR, 50% INST
e. None of the above

Next Steps

- Cost Studies

  - Distribute information packets

- Academic Divisions/Department Space Representatives

  - Request and acquire floor plans from Facilities

  - Meet with users of the space to determine occupants, room use codes, and functional usage of each room

  - Retain documentation for future audit of space study results

  - Update space information and submit it to Renee Cowan and Evan Prochaska

Next Steps

- Cost Studies
  - Available to answer questions and provide guidance regarding functional percentages or to assist academic representatives in facilitating the return of the completed space survey information
  - Review and analyze the space functionalization study results using multiple tools and methods.
  - Follow up with Academic Division/Department space representatives to resolve issues, clarify functionalization, and to gain an understanding of any space changes since last space functionalization study conducted in FY2016.

Next Steps

- Cost Studies
  - Update space data based on discussions with academic divisions
  - Include the final space study results in the FY2018 F&A Incurred Cost Proposal
  - Provide final space study results to Campus, Facilities, and Institute Leadership

Contact Information

- **Office of Cost Studies**
  - Renee Cowan, Senior Cost Analyst
    - Ext 8104,
    - renee.cowan@caltech.edu
  - Evan Prochaska, Assistant Cost Analyst
    - Ext 4428
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- **Facilities**
  - Wayne Bottomley, Space Information Manager
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Questions

Questions or comments?

Thank You

- For attending!

- For your assistance in completing the FY2018 Space Study!

This presentation is available at:

http://finance.caltech.edu/Cost_Studies /Training_Materials