

VITAL SIGNS

VITAL SIGNS EQUIPMENT TOOLKIT LOAN PROGRAM REQUEST FOR PROPOSALS 1998-99 ACADEMIC YEAR



Eight equipment toolkits will be available to ACSA member schools of architecture and ABET member schools of architectural engineering for a quarter, semester or year-long period. Through this loan program, faculty and students will be able to gain experience with a range of measurement devices as they conduct field investigations of existing buildings.

REQUEST FOR PROPOSALS: Vital Signs Equipment Kits

ABSTRACT

To encourage student investigation and assist in the development of building case studies, the National Science Foundation and The Energy Foundation have funded eight (8) equipment tool kits for loan to schools of architecture and architectural engineering. The Vital Signs Project seeks proposals from architecture and architecture engineering school faculty interested in gaining experience with the equipment in the tool kits, and in overseeing the activities of their students as they use the equipment to conduct field investigations of existing buildings.

The loan program is offered in the context of the Vital Signs Curriculum Materials Project, an architectural education effort encouraging the field investigation of physical building performance. During the past five years the project has undertaken a variety of activities. These include coordinating the development of modular Resource Packages addressing key building performance topics, e.g. indoor air quality and health, whole building energy use, HVAC components and systems, and glazing performance; summer faculty training sessions; incentive grants to educators to support the production of building case studies by students in their classes; and two student case study competitions.

Equipment tool kits may be borrowed by participating architecture schools for a quarter, semester, or year long period. This will allow faculty and students to gain firsthand experience with the use of measurement equipment in studies of building performance using the Vital Signs approach of field investigation. Proposals must be received no later than April 3, 1998 **and must follow the submission requirements described in Section 3 of this RFP**. Applicants will be notified via e-mail by April 17, 1998 with written confirmation to follow.

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San Francisco, CA 94103		

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1. GENERAL INFORMATION

Background

Over the past five years, the Vital Signs Project has coordinated the development of course materials addressing fundamental concepts in physical building performance. Each **Resource Package** covers a different performance topic, such as whole building energy use, indoor air quality, the dynamics of solar shading devices and building mechanical systems. Modular in format, the materials are intended to be adapted for use by individual instructors in architecture programs nationwide. The Resource Packages were distributed to all ACSA member schools of architecture in the USA and Canada in the spring of 1996 and can be downloaded from the Vital Signs web site on the internet. Central to each of the packages are guided exercises that enable students to conduct field investigations aimed at examining the relationship between design decision making and the physical environment of existing buildings. Students are encouraged to write up the findings of their investigations as concise **case studies** that can be shared with other students and ultimately members of the building professions.

The loan of **equipment tool kits** to schools of architecture is part of our ongoing effort to support faculty and students as they undertake investigations of building performance. The equipment kit effort began several years ago, when Vital Signs submitted a proposal to the National Science Foundation's Instructional Laboratory Improvement Program. Vital Signs received \$100,000 on the condition that it match this amount with contributions from other sources. With completion of the acquisition of matching funds in spring of 1997, the first set of loans took place with the fall semester.

We anticipate that the experience gained by educators through our loan program will lead them to identify and acquire those pieces of equipment that most successfully support their teaching efforts and their school's curriculum. We also look forward to fostering communication between faculty and schools regarding the development of new and innovative field study techniques appropriate to the full range of students enrolled in architecture degree programs. RFPs for use of the tool kits will be issued on an annual basis.

Objectives

The principal goal of the RFP is to enable faculty and students to gain experience with data monitoring equipment as they undertake investigations of building performance. A second goal, in accordance with the provisions of the NSF award, is to assure that the tool kits are used by a broad range of students.

This RFP also encompasses other objectives. These goals are to:

1. Foster the exchange of ideas, techniques, and experiences related to architectural education and the physical performance of buildings;
2. Transform research information and results into case studies to be shared among students, educators and the design profession;
3. Provide "hands-on" experience with equipment, so that educators can propose informed equipment purchases to their own institutions;
4. Support and build upon the work of architecture schools and individuals having demonstrated excellence in research and/or teaching related to energy-efficient performance of buildings.

Eligibility for Consideration

This RFP is open to any faculty member at an architecture school that is a full member of the American Collegiate Schools of Architecture (ACSA) or architectural engineering programs with degrees accredited by the Accreditation Board for Engineering and Technology (ABET). Schools must be in the United States or Canada. In all cases, the Principal Investigator for the institution must be a member of the Architecture or Architectural Engineering faculty of the submitting institution. We encourage faculty to collaborate in joint proposals, within your institution, to share the equipment during the requested loan period.

Calendar

February 2, 1998	RFP Available
April 3, 1998	Proposals due (Friday), NOT postmarked
April 17, 1998	Notification of participants by e-mail (Friday)
July 7-12, 1998	Vital Signs Summer Faculty Training Session
August 15, 1998	Deadline for finalization of contract between UC Berkeley and schools receiving a toolkit for the year or fall semester
December 1, 1998	Deadline for finalization of contract between UC Berkeley and schools receiving a toolkit for the spring semester
January 30, 1999	Case studies and brief protocols due from schools using a tool kit during the fall term
June 30, 1999	Case studies and brief protocols due from schools using a tool kit during the spring term

2. SCOPE OF WORK:

Faculty and their respective institutions applying under this RFP should plan to carry out the work in accordance with the work schedule described in this section.

- TASK 1 Participants are strongly encouraged to attend the **Vital Signs Summer Faculty Training Session**. The first full day of the training session will focus upon use of the devices contained in the tool kits. The Faculty Training Session will take place from July 7-12, 1998 at the PG&E Energy Center in San Francisco. The training, including housing and most meals, is offered at no cost. However, participants must cover their travel costs to the Bay Area for this event.
- TASK 2 Submit a minimum of three **Case Studies** per semester of tool kit use. You may have your students conduct studies of three separate buildings or examine and evaluate three different aspects of performance in one building. Case Studies are to include measurement data, analysis and evidence of equipment use by students during their investigations of buildings. Case Studies may vary in scope and length. We encourage both longer investigations that look at a range of issues and very brief, concise studies that examine one important element or component of the building. The case studies must be prepared as HTML code with associated graphics saved as GIF or JPEG files. The case studies will be reviewed for possible inclusion on the Vital Signs web site on the internet.
- TASK 3 Submit a minimum of three **brief equipment protocols** for possible inclusion on the Vital Signs web page. Describe how a piece or pieces of equipment was used to investigate a building performance topic, or simply present a set of "how-to" tips for an equipment procedure that you found useful. Submit the mini-protocols as HTML code with associated graphics saved as GIF or JPEG files.
- TASK 4 **Evaluate the tool kit.** Review equipment performance, successes and failures of measurement and data collection, and student responses and experiences. Evaluation is a vital part of the feedback loop for other educators. In addition, equipment vendors have expressed interest in learning how the tools are used in architectural, rather than strictly engineering, applications.
- TASK 5 **Evaluate use of the tool kit within your curriculum.** What effect did availability of the tools have upon faculty and students? How did you integrate equipment use into your courses? Did the tool kit change the way you teach? How did students respond? Have other faculty members shown interest?

3. PROPOSALS: PREPARATION, SUBMISSION REQUIREMENTS AND SELECTION CRITERIA

Proposal Content

We equally encourage proposals from senior academics seeking new ways to look at buildings and young academics who might have limited experience with data-monitoring equipment. We will lend the tool kits to a minimum of eight schools per year. However, it may be possible to include more schools if we receive requests to use a kit for a semester only.

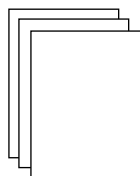
You may submit your proposal in one of three ways:



COVER PAGE: 250-word abstract summarizing key purpose for use of the toolkit, Contact information: address, telephone number, fax number, e-mail addresses for proposing team **and contract negotiator**. The contract negotiator is responsible for finalizing the agreement between your school and UC Berkeley. Tool loans **cannot** begin without a completed contract. The contract negotiator is typically someone from your University's "Sponsored Projects" or "Contracts and Grants" office.



REVIEW BY YOUR CONTRACT NEGOTIATOR OR SPONSORED PROJECTS OFFICE REPRESENTATIVE: Include a letter or statement from an authorized representative of your school regarding the institution's ability to meet the insurance and indemnification requirements outlined in Section IV of this Request For Proposals.



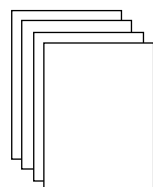
3-PAGE PROPOSAL (maximum): Description of how the equipment will be used, what type of course, undergraduate/graduate level, buildings and questions to be investigated, suggestions of possible field exercises you're interested in, and the number of faculty and students potentially involved.



ONE PAGE SCHEDULE: Indicate specific calendar dates of toolkit loan during the semester, quarter, or year (e.g. Fall semester, September 15 -December 10). Briefly elaborate on how various portions of the kit might be used.



ONE PAGE OF QUALIFICATIONS: Individual or team capabilities, qualifications, and experience of each participating person addressing how the use of the kit will benefit your teaching and the students.



VITA OF FOUR PAGES OR LESS: Include a curriculum vita for each participating faculty or staff member.

1. Mail two paper copies of your proposal to:

Bill Burke
Vital Signs Project
Pacific Energy Center
851 Howard St.
San Francisco, CA 94103

OR**2. Send one copy of the proposal in Adobe PDF format to Bill Burke via e-mail. Send the file as an e-mail attachment to the following address:**

bburke@ced.berkeley.edu

OR**3. Fax one copy of the proposal to:**

Bill Burke/Vital Signs Project
415-896-1290.

Options one and two are the preferred methods of submittal. If you choose option three, send an e-mail message to Bill Burke at <<bburke@ced.berkeley.edu>> on the day you fax the proposal notifying him of this fact.

Proposals **must** be received, not postmarked, by April 3, 1998 to be considered.

Criteria for Selection

In evaluating the proposals, we will seek submissions that demonstrate maximal use of the entire tool kit by:

- involving significant numbers of students through the tool kit's use in several courses;
- encouraging collaborative use of the tool kits, increasing the number of faculty members within the school who gain experience with and exposure to measured studies of building performance;
- proposing innovative field methods of evaluation using the devices in the tool kit;
- proposing investigations that seek to connect studies of building performance to their impact upon design decision making.

While all performance topics are legitimate areas of inquiry, we are especially interested in proposals investigating building operational energy use and the impact of design decision making upon it.

4. CONTRACT INFORMATION AND INDEMNIFICATION, SHIPPING, AND INSURANCE REQUIREMENTS

Terms of the equipment loan will be specified in a contract between participating schools and the University of California. Should your proposal be accepted, this contract **must** be completed before the toolkit can be shipped to your school. A sample copy of the contract is available upon request.

As part of this contract, your school will be required to defend, indemnify and hold University of California, its officers, agents, and employees harmless from and against any and all liability, loss, expense, including reasonable attorneys' fees, or claims for injury or damages arising out of the performance of the Agreement, but only in proportion to and to the extent such liability, loss expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent intentional acts of omissions of you, your officers, agents or employees.

Your school will also be required to maintain in full force and effect, during the term of the agreement, two types of insurance. These are: (1) a \$1,000,000 Commercial/ Comprehensive General Liability Policy, and (2) Property Damage/Transit Insurance in the form of an "all risk" property insurance policy for damage, loss and theft to the property of the toolkit for the period of the agreement and for all the time the equipment is in transit to the University of California-Berkeley, in your premises, or under your control.

Further information will be provided upon notification of successful proposals.