

UC Berkeley Helios Energy Research Facility Innovation in Design Credit Proposal Comprehensive Ergonomics Strategy

General note: This innovation credit outline follows the requirements of the Pilot Credit 44: Ergonomics Strategy

Intent: To promote healthy, comfortable, and productive work by designing the workplace to accommodate its users

Environmental Benefits: Maintaining and optimizing human health is a central goal of green building. The activities in the offices and laboratories were identified to have benefit from the application of ergonomics. Building occupants spend a great amount of time using work-related furniture and equipment, and proper workplace ergonomics helps prevent workplace injury and chronic problems.

Proposed requirements and metrics: Develop and implement a comprehensive ergonomics strategy that will have a positive impact on human health and comfort when performing daily activity for at least 75% of Full Time Equivalent building users. This strategy must include the four components listed below:

1. Identify activities and building functions for which ergonomic enhancement (i.e., ergonomic strategies which exceed standard industry practice) is both possible and desirable through education and equipment. The building users should be consulted and their needs analyzed prior to designing the interior of the building. The occupants should review the potential design options to get their feedback.
2. Define a set of performance goals and expectations for the ergonomics strategy that address productivity, comfort, and health. Develop a plan and design process to meet them. Provide procedures to track and report the results of the ergonomics strategy, ensure that the performance goals have been met, and identify areas of potential improvement. These should include the following actions:
 - a. Make the performance goals and ergonomics plan available to building users
 - b. Provide a feedback system to collect anonymous responses and respond to them. This should be informal and ongoing.
 - c. Maintain ongoing building user access to appropriate ergonomics METWA's, furnishings, and accessories and education.
 - d. Conduct a survey of user satisfaction. This should be more formal than the feedback system, and occur periodically. The survey must be collected from a representative sample of building occupants making up at least 30% of the total occupants.
3. Provide machine, equipment, tools, work-aids (METWA's), furnishings, and accessories that reduce the risk of work-related musculoskeletal disorders and are acceptable to a wide range of building users. In a setting where building users spend 50% or more of their time at computer workstations, the following four areas must be addressed: display, computer peripherals (keyboard/mouse), work surface, and chair.
4. Provide at least two opportunities for building users to understand and take advantage of ergonomic features in their environment. At least one of these opportunities must be interactive with the campus ergonomist, and at least one must include an explanation of the provided METWA's and furnishings, preferably by the manufacturer. Post-education evaluations must be conducted.

How requirements are met:

1. Preventive workstation evaluations for all faculty and staff who use a computer four hours a day or more are (1) required by the campus Health and Safety Guidelines for Computer Users, and (2) the responsibility of each department. Helios has a Department Safety Coordinator and at least one staff or faculty member who serve as a Department Computer Workstation Evaluator (DCWE) after being trained by the campus-wide ergonomics program. In addition, the ergonomics staff has consulted with the architects and occupants for Helios to identify the activities in the building where ergonomic enhancements would be possible and desirable. These activities are primarily computer use in offices and adjustable tech stations in the laboratories.
2. A plan has been developed to meet the ergonomics goals, track results, and identify areas of potential improvement, including:
 - a. Plan and goals: Helios will be furnished with computer furniture and equipment that meet or exceed the ANSI/HFES 100-2007 standard. In addition, the laboratories will be furnished with adjustable tech work benches. Helios's goals and plans are part of our campus-wide ergonomics program and are widely available through the program's website:
<http://www.uhs.berkeley.edu/facstaff/ergonomics/ergoatwork.shtml>
 - b. Ongoing feedback: workstation evaluations are performed by the Department Computer Workstation Evaluators (DCWE) for all building occupants using a computer 50% time or more. DCWE(s) will perform evaluations upon building occupancy, and as needed thereafter for new users, survey respondents scoring 11 or less, and by request on an ongoing basis.
 - c. Ongoing access to equipment and education is also available through our campus-wide program, please see 4 below.
 - d. User satisfaction: the department will conduct a computer user satisfaction survey (see attached) of relevant users with the following goals and follow-up:
 - i. Target at least a 30% response rate of relevant building users.
 - ii. Target 80% of the survey respondents to score 12 or higher on the satisfaction survey (out of 15 yes/no questions).
 - iii. For non satisfactory results, the DCWE(s) will review the workstations and make recommendations.
 - iv. The department will make any necessary changes.
3. UC has negotiated Strategic Sourcing Agreements that enable departments to purchase computer furniture and equipment that meet or exceed the ANSI/HFES 100-2007 standard. We maintain a pre-approved product list available at <http://www.uhs.berkeley.edu/facstaff/ergonomics/matchingfunds/productlist.shtml>, and also use the attached checklists for Interior Designers, DCWEs, systems furniture, task chairs to ensure the furniture and equipment outside the pre-approved list meets the ANSI/HFES 100-2007 standard for computer users. These products offer a wide range of adjustability and reduce the risk of work-related musculoskeletal disorders through adjustability and ample work surface to support the computer equipment and peripherals. This list covers computer peripherals including keyboards, mice, and keyboard trays. We maintain Laboratory Ergonomics Requirements on the Capital Projects website at http://www.pdc.berkeley.edu/CDS_ucb/SR-6A.html and this information was utilized for this project.

4. Ergonomics education and workstation evaluations will be provided to the building users using the following approaches:
 - a. Interactive Computer Health Matters trainings can be taken either in person (taught by campus ergonomist) or online.
 - b. Ergonomics@Work's website provides ergonomics resources and information for computer and lab tech users including the Campus Computer Health and Safety guidelines, and the pre-approved product list of computer workstation furniture and equipment.
<http://www.uhs.berkeley.edu/facstaff/Ergonomics/computer/ergguide.shtml>.
 - c. Appointments to learn about or select adjustable computer workstation furniture and chairs can be scheduled at the Campus ergonomics showroom by calling 1-877-722-9090.
 - d. RSI Guard stretch break software is downloadable through blu.berkeley.edu
 - e. For more information about training and support, please see:
<http://www.uhs.berkeley.edu/facstaff/Ergonomics/computer/ergresour.shtml>

Summary of performance: The University's campus-wide ergonomics program has participated in the selection of computer furniture, equipment and tech work benches for Helios to accommodate the different user characteristics and the tasks they perform. The items selected provide versatility, flexibility and allow all the users to change their postures throughout the day. Our ergonomics program offers excellent support for all faculty, staff, and students to enhance the ergonomics of their workplaces. The referenced standards adequately address all of the ergonomic needs for the office environment in the facility. Our program exceeds the requirements of the Pilot Credit 44: Ergonomics strategy.

Supporting documents, uploaded in a separate file:

1. Overview of office furniture, equipment and task lighting provided at Helios
2. Overview of lab furniture, [mobile storage](#) and task lighting provided at Helios
3. UC Berkeley ergonomics standards for laboratories
4. UHS laboratory ergonomics resources and information
5. Designers checklist: covers requirements for work surfaces for seated or standing users
6. Department evaluators checklist: used in individual evaluations described in 2b above
7. Checklist for task chair selection
8. Checklist for display screen selection
9. Computer workstation design guidelines (primarily for faculty and staff)
10. Laptop tips (primarily for students) – Items 9 and 10 are available from our web site <http://www.uhs.berkeley.edu/facstaff/Ergonomics/computer/ergguide.shtml> for all campus computer users; this is just a small portion of the online, phone, and in-person ergonomics training and support available to faculty, staff, and students
11. Survey form