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Swarthmore College Unified Science Cente

Swarthmore, Pennsylvania

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EINHORN YAFFEE PRESCOTT AND HELFAND ARCHITECTURE SMOOTHLY INTEGRATE MODERNIST FORMS WITH TRADITIONAL MATERIALS.

By Suzanne Stephens

Architect: *Einhorn Yaffee Prescott (EYP) and Helfand Architecture (HA; formerly Helfand Myerberg Guggenheimer), architects in association—Cahal Stephens, AIA (EYP), principal in charge; Margaret Helfand, FAIA (HA), design principal; Kip Ellis (EYP) project manager; Jennifer Tulley Stevenson, John Tinmouth (HA), Lila Khalvati, AIA (EYP), project architects; Yelena Lembersky, AIA, Jay Hallinan, AIA, Nikolas Dando-Haenisch, AIA (EYP), Elisa Testa, Tom Chang (HA), design team*
Client: *Swarthmore College—Lawrence Schall, vice president for administration; Janet Semler, director of planning and construction; Rachel Ann Merz, planning committee*
Engineers: *Christakis VanOcker Morrison (structural); Einhorn Yaffee Prescott (m/e); Robert W. Sullivan (plumbing)*
Landcape design: *Gladnick Wright Salameda; ML Baird & Co.*

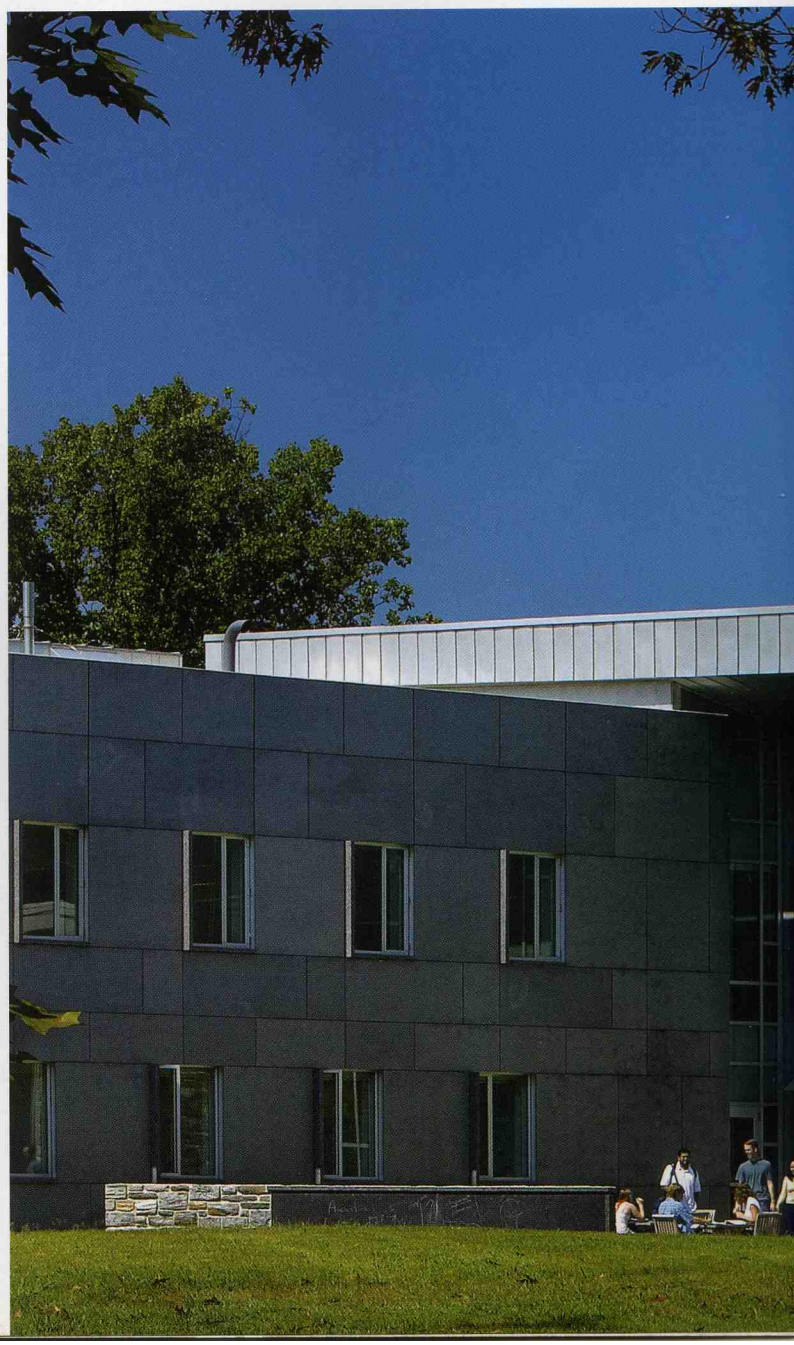
Size: *69,000 square feet (renovation); 75,000 square feet (new construction)*
Cost: *$48.2 million*
Completion date: *Summer 2004*

Sources
Ashlar stone: *Wissahickon schist*
Metal and glass curtain wall: *Kawneer*
Aluminum windows: *Wausau*
Glazing: *Pilkington*

For more information on this project, go to Projects at **www.architecturalrecord.com.**

In renovating and adding onto an existing science facility, Swarthmore College faced an old dilemma. The college wanted to create a contemporary architectural response befitting an evolving program, yet not jeopardize the cohesion and spirit of the campus's historic architecture. Located on the edge of a 200-acre woods, the college, founded in 1864 by the Hicksite Quakers—the more liberal branch of the Society of Friends—was, and still is, coeducational and fiercely intellectual. "Architecture is vitally important in expressing this tradition as well as inspiring imagination and creativity," says its president, Alfred Bloom.

The campus displays its fair share of architectural styles, including the central building, Parrish Hall, a Second Empire–style, mansard-roof affair dating to 1881, plus superbly iconic examples of Collegiate Gothic buildings by Karcher and Smith, such as Clothier Hall, designed in 1929, and Worth Hall, a dormitory built in 1924. Although Swarthmore's architecture has taken on a variegated look over the years, the campus buildings are unified by the pervasive use of local stones, most notably Wissahickon schist, glinting of silver and gold mica. Yet the DuPont Science Center, designed by Vincent Kling in 1958, egregiously diverged from the campus mien. The Modern rectilinear center, clad in a yellow-tan precast-concrete aggregate panel, has always struck a jarringly



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In keeping with the college's stone buildings, the architects clad new spaces in the local Wissahickon schist, alternating it with granite (this page).

V-shaped roofs are sheathed in terne-coated stainless steel (below). Ceramic fritted glass creates a partly gauzy curtain wall (below center).

tacky note. Fortunately, it needed to be updated and expanded.

Program

For economic reasons, the college wanted to keep most (69,000 square feet) of DuPont, adding 75,000 square feet of new construction for science classrooms, laboratories, offices, and a student commons. The new addition would also link physically to an adjacent library, along with Martin Hall, a handsome, Moderne-style stone biology building, designed in 1937 by Cram and Ferguson.

The college first brought in Einhorn Yaffee and Prescott (EYP) of Boston to program the spaces. As Larry Schall, vice president of administration at Swarthmore explains, the school was impressed by the architecture and engineering firm's previous work on large science buildings at other college campuses. But Swarthmore also valued the design sensibilities of Margaret Helfand, FAIA, of Helfand Architecture (HA; formerly Helfand Myerberg Guggenheimer), who in 1996 had designed the Modernist stone-clad Kohlberg Hall [RECORD, February 1997, page 70]. "Helfand's design talents and our experience in working with her before proved so successful, it made us want to do that again," says Schall. So the college (Schall, Bloom, and the Science Center Planning Committee) proposed an arranged marriage between the two firms for the job. Cahal Stephens, AIA, of EYP would be the principal in charge, and Helfand the design principal.

SITE/FLOOR PLAN

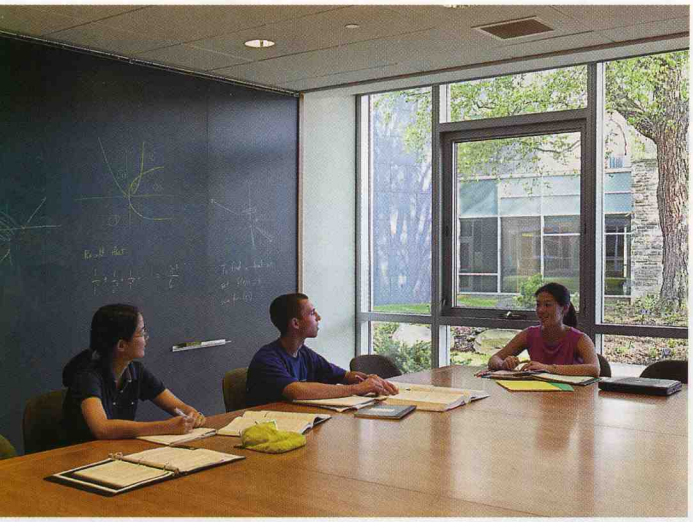
1. *Gateway entrance*
2. *Lecture hall*
3. *Chemistry*
4. *Math, statistics, computer science*
5. *Physics and astronomy*
6. *Main (upper) court*
7. *Lower courtyard*
8. *Student commons*
9. *Science library*
10. *Biology building*
11. *Chiller plant*

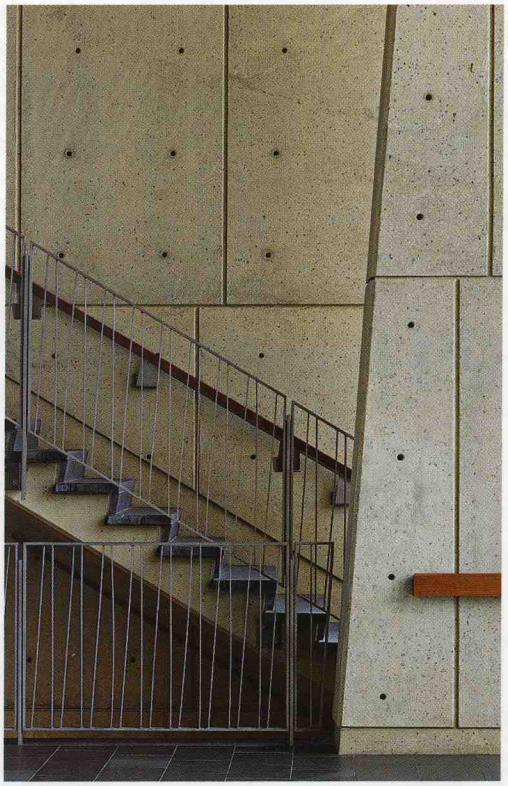
Solution

The architectural team decided to place the new additions to the science center along the eastern and southern edges of the renovated buildings, where they would create an outdoor courtyard, with the Kling structure forming the rear backdrop. A second outdoor court carved out of the slope to the west allows daylight to be admitted into physics laboratories placed under the student commons. Two V-shaped, terne-coated stainless-steel roofs, essentially rectangles folded on a diagonal, define indoor and outdoor areas through their projecting cantilevers. Although the existing Kling building's precast-concrete aggregate panels and its poured-in-place concrete frame would remain, the architects installed a new, sleek glass curtain wall at its base, and fully revamped the interiors. In addition, new steel-framed blocks for laboratories, auditoriums, and classrooms, clad in glass, aluminum, and stone, are cranked slightly so that their front elevations become a series of inflected planes: "This was to foster a path of movement from the parking lot—the new primary visitor entrance—on the east down to the center of the campus on the south," says Helfand.

Inside and out, HA combined vibrantly natural materials—the Wissahickon schist in an ashlar (squared) pattern, black and gray granite, cherry wood, and slate—to great effect. Details diverge from the usual fast-and-cheap school specifications; for example, granite lines the window sills indoors and provides brise-soleils outside. "These are cost effective and low maintenance," states Helfand. The stairs have slate treads and blasted-stainless-steel banisters, while sintered aluminum fiber over perforated masonite provides acoustical surfaces inside classrooms and auditoriums. To dramatically shape the indoor space of the commons, the social heart of the science center, the architects designed a glue-laminated timber-truss roof that cantilevers from poured-in-place concrete piers and wood columns. The furnishings in this meeting place appear comfortably noninstitutional, with chairs by Dakota Jackson and Cassina, and

Honed black granite is used as outdoor chalkboards for science classes (left); a lighter granite clads the new chemistry wing on the eastern end of the complex (below), articulated by granite brise-soleils. The entrance canopy (bottom) frames a courtyard edged at the rear by the renovated science buildings.





Fritted glass keeps birds from crashing into the panes (above). The student commons (below and opposite) is dynamically charged by a ceiling with a glue-laminated wood truss (below), one leg of which extends 41 feet 4 inches, cantilevered from concrete piers. Slate covers the commons floor and the treads for the stairs inside and outside (right).

solid cherry tables by Ted Boerner.

Elsewhere, HA combined durability and comfort with high design in its conversational groupings and niches for studying and socializing, while EYP attended to creating crisp state-of-the-art laboratories and classrooms. Corridors may often end in inglenooklike alcoves with built-in high-backed cherry wood benches. The professors' offices come with small conference areas lined with walls of slate for chalkboard discussions. The effect is pure Cy Twombly.

Since both the college and the architects were interested in sustainability, the team went after a silver LEED rating. Accordingly, the architects specified products for wood ceilings and walls, as well as carpets and tile, that are derived from recycled materials. Operable windows, local temperature controls, and single-loaded corridors make the most of natural light and ventilation. To deter birds from crashing into the glass, the architects consulted an ornithologist. The result: Gauzy screenlike panes of ceramic fritted glass alternate with clear glass to signal a "no flying zone" to the birds.

Commentary

The architects' handsomely detailed synthesis of Modernist forms and traditional materials for this complex of buildings brings to mind Louis Kahn's houses in the area, from the Oser House in Elkins Park (1942) to the Fisher House in Hatboro (1967). Although the south elevation for the grouping of buildings appears more stretched out horizontally and episodic than the tightly composed forms of other stone buildings on the campus, it does a good job of concealing, or at least mitigating, the sore-thumb aspect of the precast-concrete aggregate panels of the 1958 building. The Unified Science Center is aptly named in its use of clean geometrical forms and its interrelation of the outdoor and indoor spaces, particularly in such a sylvan setting. More important, it offers meticulously elegant places in which to study, work, or socialize. ■