Wired, Wireless, and Wowing Everyone  Hodson Hall, the new academic building that opened in Fall 2002 on the Homewood campus, is 44,200 square feet and $15 million worth of high-tech media and education. It’s all wrapped up in an exterior that complements Homewood’s elegant Georgian architecture. Hodson Hall is wired for sound, video, the Internet, and more. As Civil Engineering major Asher Peltz ’02 puts it, “It’s very plug-and-play.” Part of Homewood’s ongoing campus enhancements, Hodson Hall sets a new standard for the digital learning experience.

“It’s a wonderful place to teach,” says Robert A. Dalrymple, the Willard and Lillian Hackerman Professor of Civil Engineering and chair of the department. “You walk in a room, and the lights come on. Push a button, and the shades go down. The multimedia tools are designed to be dummy-proof. Teaching there, I find myself trying to discover all the ways I can incorporate multimedia into my classroom presentations.”

When Peltz, now a graduate student in coastal engineering at the Whiting School, gave a presentation in one of the smaller rooms, he could have chosen from “overheads, slides, PowerPoint, online access, or any combination.” In the end, he says, “I put all my figures on a web site and projected the pages on a large screen.”

A gift from the Hodson Trust, founded by Clarence Hodson in 1920, Hodson Hall also houses the archives of The Hodson Trust and Beneficial Corp., and has become the meeting place for the Johns Hopkins University trustees and the Hodson trustees. “The opening of Hodson Hall marks another chapter in our more than four-decade partnership with the Hodson Trust, whose generosity to Johns Hopkins and three other Maryland colleges has had an enormous impact on Maryland higher education and this university,” noted William R. Brody, president of the University. Construction began in June 2001 and was completed just in time for the start of the academic year last fall.

Hodson Hall has eight small classrooms, one with 40 seats, two lecture halls with 60 seats each, a large lecture hall (110 seats), and an auditorium (each of its 500 seats has an Ethernet port). Each classroom comes equipped with a Dell Pentium-4 PC Workstation, a CD/DVD player, a VHS video recorder, a dual audio cassette deck, a document camera, JBL sound system, a slide-to-video converter, and touch screen control system. There are 1,300 active data ports with power. Laptops love it: There’s wireless access everywhere the building can’t be wired.

Visit Hodson Hall online at [www.jhu.edu/classrooms/hodsonhall/](http://www.jhu.edu/classrooms/hodsonhall/).
It’s hard enough finding a needle in a haystack. But try constructing a robot, then using it to guide a needle through a grape buried in Jell-O, as if you were a surgeon implanting radiation seeds in a cancer patient.

Eight high school teams took up that challenge as they competed in the CISSRS Surgical LEGO® Robot Competition. Held from January 23-26, the competition was sponsored by the Whiting School’s Engineering Research Center for Computer Integrated Surgical Systems and Technology (ERC CISST), which is directed by Russell H. Taylor ’70 (see the Spring 2002 Johns Hopkins Engineer). The competition took place in a former Stieff Silver Building, renovated for use by the Whiting School.

The three-person teams came from five high schools—Southwestern and Lake Clifton in Baltimore City; Woodlawn in Baltimore County; Walt Whitman in Montgomery County; and Conrad Weiser in Robersonia, Pennsylvania. During the four days, the students received an introduction to Computer Integrated Surgery (CIS); tutorials on various LEGO MindStorms building techniques, including ways to use motors, gear trains, and sensors; and tutorials on LEGO programming language. Then they set about building their computer-based medical robots from the $200 kits. On the final day, they tested their devices—and their dexterity.

Each team that completed a robot had to use it in a simulated surgery, guiding a surgical needle to puncture the grape (representing a tumor) suspended inside the jelled cube. A lamp and a light sensor that interfaces with the robot’s microprocessor helped them locate the target. The competition simulates using one of the tools that CISST is designing for operating rooms of the future.

The annual LEGO competition (the first was in 2000) is organized by students in the Computer Integrated Surgery Student Research Society (CISSRS) at the Whiting School, as well as students in two partnering institutions—the Massachusetts Institute of Technology and Carnegie Mellon University. The Johns Hopkins Alumni Association is a sponsor of the competition.

For more information, visit cisstweb.cs.jhu.edu/.
The link for the student organization is cisstweb.cs.jhu.edu/~cissrs/index.html.

In a surgical simulation, high school students test their LEGO robot by targeting a “tumor” (a grape plays the part, embedded in Jell-O).
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