

# 8.01 Students Compete in 'Shoot the Hoop Contest'

By Michael A. Saginaw  
STAFF REPORTER

Around 300 Physics I (8.01) students converged on Twenty Chimneys in the Student Center yesterday afternoon to face the challenge of "The Great 8.01 Shoot the Hoop Contest." Each had built a machine that tried to launch a ball from a table through a hoop and into a trash can.

Professors Walter H. G. Lewin and Michael S. Feld, who teach 8.01, announced the extra credit contest about two weeks ago. Students interested in participating were given a kit containing rubber bands, dowel rods, two blocks of wood, and other simple items with which to make their devices.

The contest rules required that the machine sit on a table 21/2 feet above the ground. The machine had to launch a small, hard ball into the air. The ball had to pass through a circular hoop 6 inches in diameter placed 2 feet above the surface of the table. Then, the ball had to land in a trash can which sat on the floor 5 feet beyond the table. The trash can was 14 inches in diameter.

Most students enjoyed the challenge. "I never had the opportunity before for my ideas to come to physical form," said Anthony D. Stewart '96, whose machine was successful. He added that he liked seeing engineering in action.

The three most common designs were a catapult, a device similar to

the handle of a pinball machine, and a slingshot. These machines shot the ball up and at an angle. Lewin made computer graphs which showed that the initial velocity of the ball was far more critical than its initial angle of elevation. For example, people typically placed their machines 5 feet in front of the hoop. At this distance, the initial velocity of the ball had to be 480 centimeters per second, with an allowable error of 4 percent. But the launch angle could be 37 degrees, plus or minus 11 percent, according to Lewin's graphs.

Four judges walked around the room during the contest, looking for designs that were original, unusual, and well-crafted. These special machines and their creators were videotaped. After the contest was over, the judges decided on awards for some of the machines.

### Students win special awards

Hsienchang Chiu '96 launched his ball 37 feet, making him the clear winner in the distance category. Second place went to Fonjui Tsai '96, who launched the ball 28 feet and 2 inches. Nate Jackson '96 took third place with a distance of 24 feet and 9 inches.

Gary M. Rubman '96 won the first place award for originality for his apparatus, which made the ball drop down a long tube and bounce against a tightly stretched balloon. The ball bounced off this trampoline and flew through the hoop into the

trash can. Bobby A. Apodaca '96 was the runner-up for originality.

The judges awarded Kley L. Achterhof '96 the prize for best craftsmanship. "It's like a machine made by Leonardo Da Vinci!" Lewin exclaimed when he saw Achterhof's device, which was a pinball-type machine with knobs that could adjust the angle of launch and the initial velocity of the ball. The runner-up for craftsmanship

was Keith G. Fife '96.

In the category of mechanical design, Ryan J. Bryla '96 won first place. He calls his device a "pitching machine," because it has two wheels which spin in opposite directions. The ball is placed between the wheels in contact with both. Friction between the wheels and the ball propels the ball forward. Sissela S. Park '96 was the runner-up in this category.

Finally, the judges gave Marc J. Carlin '96 the award for best overall machine. Carlin made his device in the MIT Hobby Shop.

In addition to these awards, any student with a functional device earned extra credit points in 8.01. For some, this was a true blessing. "This is a comeback story! I was over the edge; I was failing physics," said Ellen Lee '96, whose machine worked successfully.

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## Students Flood Reading Room

Room, from Page 1

close proximity of the SCC 24-Hour Coffeehouse, Lobdell, LaVerde's, and the video games. "It is safe, and we don't have to bundle up to get food or take a walk," said one Tufts Medical student.

"I come here because the coffee shop is open 24 hours. It's seriously key. There are other places that are open past midnight, but then around 2 a.m., you have to move," Khasgivala said.

MIT students don't seem to mind the invasion. Terrence L. Evans '95 didn't even know that some students in the reading room were not from MIT. He uses the Reading Room about three times a month for typical reasons. "I guess I come here because it's convenient. You have Athena here, you have the

eating places," Evans said.

"I really have no problem with [non-MIT students] being here as long as they keep quiet," said Kevin T. Hwang '93, who uses the reading room two or three times a week.

"Rarely has the room been totally full, but it's been crowded enough so that it was loud," said Pierre E. Jalkh G. He uses the reading room four to five times a week and always on weekends.

The Tufts Medical students say that it's not normally loud in the reading room, but even when it is loud, the MIT students are the ones talking. "It's not that bad. If it were, we would go someplace else," said one student.

Seung said, "Especially at two in the morning on Friday night, there are more Tufts people here than MIT people. It's our second home."


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