



Uof T's Department of Physics *Leading Education, Leading Research*

Physics—the study of matter, energy and their interactions—is an adventure that expands our knowledge about Nature and underlies many technological advances. The Department of Physics at the University of Toronto is the place where that adventure begins—where discovery happens and knowledge inspires.

Recognized by the American Physical Society as a leader among North American public universities, Uof T's Department of Physics offers an exceptional range of undergraduate and graduate educational programs, as well as numerous theoretical and experimental research opportunities.

As the critical thinking and practical skills of physicists become increasingly relevant across the sciences and beyond, the department is not only educating the next generation of physicists, but also engaging students across all disciplines.

*"The pilot was a great experience. I attribute a lot of my physics understanding to the physics practicals."
(a student's view)*



Partnering to Build First-Year Physics Laboratories

By giving a gift towards this essential project, you will make an important contribution towards educating the next generation of Canadian scientists and thinkers.

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"Physics occupies a central place in the sciences. As a core discipline and the most quantitative of the natural sciences, it provides the intellectual infrastructure behind many scientific advances. For the same reasons, physics fulfills a critical role in the education of students in all disciplines. A strong physics department is at the core of a strong university."

*Professor Michael Luke
Chair*



A New Vision for Undergraduate Physics Education

*I hear...and I forget
I see...and I remember
I do...and I understand*
– Chinese Proverb



The department is transforming its first-year curriculum according to the latest teaching practices to inspire both science and non-science students to learn about physics. In an interactive, small-group, learning environment, students:

- Design and implement procedures to solve problems through discovery activities which introduce general principles of best practices in experimental science.
- Learn computer skills in data acquisition and analysis that are essential for modern experimental work.
- Work through computer simulations that assist comprehension through problem visualization and intuitive problem-solving techniques.
- Build strong communication, presentation and group interaction skills.

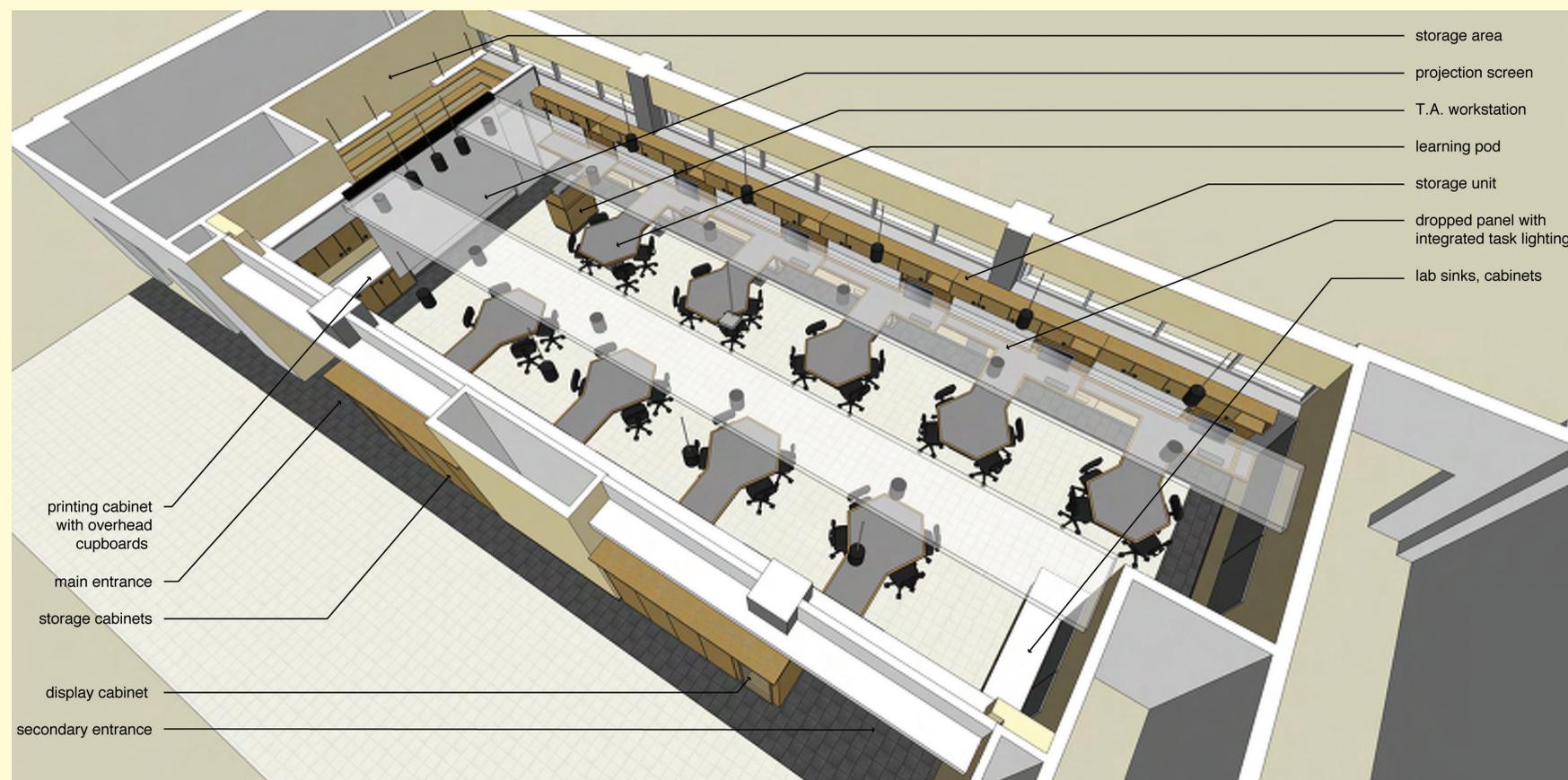
Implementing this exciting curriculum requires new, state-of-the-art learning facilities and collaborative workspaces.

*1,600 students enroll each year
in first-year physics courses.*

PARTNERING TO EDUCATE A NEW GENERATION OF PHYSICISTS

One undergraduate laboratory was completed in January 2008—and the response from instructors and students alike to the pilot project has been overwhelmingly positive! Four more labs are planned for a total complement of five—enough to accommodate all first-year students. Plans also include the creation of a new Student Common Room, fostering collegial interactions, and a Technologists' Centre to ensure optimal functioning of the labs.

The total cost for transforming the undergraduate physics wing is \$4.5 million. The University has committed seed money and matching funds, but private-sector investment is needed to transform these plans into reality. Investment levels for named spaces range from \$250,000-\$500,000. The University will match funds equivalent to 50% of the naming levels, providing a remarkable opportunity to increase the impact of gifts made to the project.



*“Whenever we had time, my group liked to explore the topics more deeply...
which enabled me to develop an intuition for the material.”*
(pilot student's experience)