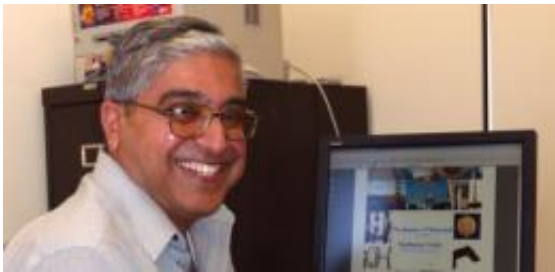


'Mechanics of Materials' Textbook Published Online, Available for Free

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Madhukar Vable

(PhysOrg.com) -- There are at least two good reasons to check out Madhukar Vable's undergraduate textbook 'Mechanics of Materials.'

1. You can find out lots of interesting stuff: e.g., how good engineering actually saved thousands of lives in the World Trade Center attacks, why it only took three hours for the unsinkable Titanic to sink.
2. It's free.

Vable, an associate professor of mechanical engineering-engineering mechanics, has published all 500-plus pages of the [second edition of "Mechanics of Materials" online](#), available without password, without Pay Pal, without hassle. The 81 students in his introductory class ME2150 sometimes print it out—they come to his office with questions and a big binder—but they don't have to.

This saves them a lot of money, about \$125-\$185, because technical books don't come cheap. "My son's an engineering student, and every semester, we pay \$500 or \$600 for engineering textbooks," Vable notes.

"Mechanics of Materials" has a sample syllabus, lecture slides and sample exams, plus plenty of color photographs. For years, Vable never left home without his camera, and he took hundreds of photos to illustrate concepts in his book.

While the photos add color to the text (it's fun to see the Portage Lift Bridge and downtown Houghton), the most appealing part of the book may be the analyses of famous engineering fiascos that Vable uses to illustrate concepts.

In his "MoM [Mechanics of Materials] in Action" modules, written with the lay reader in mind, he details the good, the bad and the ugly of engineering, from the Egyptian pyramids to the Titanic and Challenger tragedies. Each module shows how the triumph or disaster centered around an understanding (or lack thereof) of the mechanics of materials.

And throughout the text, he tries to knit in anecdotes that show how his field is tied to almost everything we do.

"I include examples from around the house, so people could relate," he said. "And I wanted it to be interesting; everybody loves a story."

Provided by Michigan Technological University ([news](#) : [web](#))

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