

Charles M. Vest and OCW



With vision, courage, integrity and heart, Charles Marsteller Vest, MIT's 15th President (1990-2004), launched a revolution in open education and established MIT as a national leader in equity and opportunity." (From the sign on this portrait of Charles M. Vest painted by Jon R. Friedman, hanging in MIT's Stata Center.)

"That is brilliant," said MIT President Charles Vest when Professor Dick Yue told him of the Lifelong Learning Committee's recommendation to create MIT OpenCourseWare back in 2000. "The idea is simple," Yue said, "to publish all of our course materials online and make them widely available to everyone."

In recent months there have been many tributes and remembrances of Charles Vest, who passed away earlier this year. [One of the best of these](#) appeared in the [Sept / Oct 2014 MIT Faculty Newsletter](#). In it, Robert J. Birgeneau, who was Dean of Science when

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Vest was President, recalls the many remarkable achievements that Vest oversaw while at MIT: how he worked to improve access to higher education for underrepresented minorities, modernized the management of MIT, investigated gender discrimination experienced by MIT faculty, and championed new MIT research centers in neuroscience. The creation of OCW was just one of many bold initiatives that took shape under Vest's stewardship.

But what led Vest to see the brilliance inherent in the concept of OCW? At the time, private companies and institutions of learning were focused on trying to make money by putting course materials up on the Internet. Yet Vest saw certain wisdom in giving MIT's teaching materials away to the entire world for free. How could he think such a thing?

> [Read the complete article](#)

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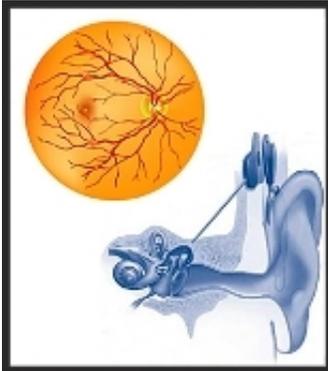
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OCW Educator



Professor Hazel Sive teaching 7.013.

The lecture continues to be a mainstay of college education, and every college graduate knows that a good lecturer can make a huge difference in how well students learn.

Professor Hazel Sive has been teaching [7.013](#) [Introductory Biology](#) at MIT for more than a decade, and she shares her thoughts about how she teaches a class with upwards of 400 students on her [This Course at MIT](#) page. Professor Sive has done a lot of reflecting and revising over the years, and her [Instructor Insights](#) contain a wealth of information on very practical concerns, such as why she uses a combination of slides, handouts, and chalkboard in class, how she designs assignments, and how she coaches students to attempt them.

She sees the lecture not simply as a way to impart knowledge, but as a group dialogue or conversation, in which she challenges students to think in practical and creative ways about the information they are learning. She makes a habit of responding in class to student questions that she receives from multiple channels: during office hours, by email, in an online discussion forum, and during class time and informally before class starts. Professor Sive makes a habit of walking up and down the aisles with a microphone. “I throw out challenges and give the class opportunities to think about and discuss them,” she says. Challenges are not the only things she throws out. She is famous for distributing at a distance toy prizes to students with the most intriguing questions and remarks. She likes toy sharks that squirt water, nose-shaped pencil sharpeners, and other quirky rewards.

Perhaps most important is her approach to the course material itself. In keeping with the MIT motto *Mens et Manus*, or “Mind and Hand,” she wants students to learn not just the terminology and facts of biology, but

how to solve biological problems. Even as students are learning how proteins are assembled and how DNA replicates itself, they are being encouraged to think how to apply this knowledge in the real world in ways that can make a difference to people's lives.

>You might like other [This Course at MIT](#) pages. They are part of the [OCW Educator](#) initiative.

Highlights for High School



Demonstration of an electrocardiogram on a student.

How Your Heart Works

The sole purpose of the heart is to pump blood. About 5 quarts per minute, which is 75 gallons per hour, which is 70 barrels per day, which is about 2 million barrels in 75 years. And it pumps about 70 times per minute.

Each heart cell is a mini chemical battery, and it pumps ions in or out as it pleases. In the normal state, each heart cell is minus 80 millivolts on the inside relative to the outside.

There are some cells which are called pacemaker cells.

They are located in a very small area, about 1 square millimeter, near the right atrium and they change their potential from minus 80 millivolts to plus 20 millivolts.

Once they go to plus 20 millivolts, the neighboring cells follow, and a wave propagates over the heart.

You can learn more about the physics behind how your heart works and see a demonstration of an electrocardiogram on a student on Highlights for High School.

> [Find out more about How Your Heart Works](#)

MITx News



The 15.390x series taught by Martin Trust Center for MIT Entrepreneurship Managing Director Bill Aulet breaks down the path to a successful startup into 24 steps applicable to not only first-time but also serial entrepreneurs.

Entrepreneurship 101

Are you an engineer who has hacked a really cool idea in your spare time but don't have the business acumen to start up a company? Are you a serial entrepreneur who keeps failing in business but don't know why? Are you working in a large corporation but

pinging to do something more entrepreneurial?

If the answer is “yes,” then clear off time on your busy schedule and enroll in the [15.390x Entrepreneurship 101](#) Massive Open Online Course (MOOC) on edX. In January 2015, MIT is re-releasing its popular [15.390.1x Entrepreneurship 101: Who Is Your Customer?](#) as well as releasing [15.390.2x Entrepreneurship 102: What Can You Do for Your Customer?](#) based off of MIT Sloan senior lecturer [Bill Aulet's 15.390 New Enterprises](#). The teaching material for [15.390 New Enterprises](#) is also available on OCW.

MIT will be releasing both courses simultaneously so students will be able to take the courses all at once rather than wait for the next module to be released. For the first time, MIT will be translating the 15.390x edX courses into Spanish, French, Mandarin, Arabic and Turkish so that aspiring entrepreneurs whose native tongue isn't English will also be able to learn how to startup a company using the “Disciplined Entrepreneurship” framework.

15.390.1x kicks off the entrepreneurial journey by focusing on any startup's most essential resource: the customer. One of the rookie mistakes that entrepreneurs often make is to come up with a great technology or product without considering “Who is Your Customer?” After defining “Who is Your Customer?” 15.390.2x continues the entrepreneurial journey by asking entrepreneurs “What Can You Do For Your Customer?” In 15.390.2x, the focus shifts towards understanding your startup's competitive advantage.

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Please keep this project in your plans as a growing amount of students like me plan to keep self studying much more material from OCW now and in the future.

This comes from a Mechanical Engineering Student extremely grateful for your efforts."

- Jose, Student -
College/University,
Canada

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