

Can creativity and innovation be taught? A new free online course says 'yes'

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For the faculty members of a new free online course, creativity and innovation aren't just the purview of artists, musicians or designers. Instead, they say, it's about the process.

"It's a unique and trend-bucking view of creativity, and it's unusual for an engineering topic," explained Kathryn Jablokow, associate professor of [mechanical engineering](#) and [engineering design](#) at Penn State Great Valley and one of the course's three instructors. "But at its core, it's about delivery of process, not just content."

The course, Creativity, Innovation, and Change, is part of a new movement in higher education called massive open online courses (MOOCs), which allows universities to provide courses on an immense scale. In addition to Jablokow, the class will be taught by Darrell Velegol, distinguished professor of chemical engineering, and Jack Matson, professor emeritus of environmental engineering.

The free eight-week course, which begins on Sept. 1, focuses on teaching participants techniques to unlock their innate creativity, to solve problems and to become more innovative.

"It's a myth that only some people are born creative," Velegol stated. "In fact, all of us are born with creative ability. This ability can then be radically enhanced by learning a process for creativity, which we lay out in this course. Creativity can be learned – that's the key."

Matson added, "We want people to recognize their latent creativity." In February, Penn State joined 33 other institutions around the world to offer classes through Coursera, a for-profit industry leader in large-scale online education. The firm is partnering with these institutions to provide free courses for anyone, anywhere, in the hope of educating millions of people.

The course is one of five that Penn State launched this spring. The others are Introduction to Art: Concepts and Techniques; Maps and the Geospatial Revolution; Energy, the Environment and Our Future; and Epidemics: the Dynamics of Infectious Diseases.

Since the courses were launched, more than 100,000 people have registered, including 51,000 for the trio's course. According to Penn State World Campus officials, the MOOC platform can support 500,000 enrollments in a single course.

Since Coursera's debut in April 2012, the firm has registered more than 3.9 million users, with about 1.45 million [students](#) enrolling in courses each month. The firm also recently began offering students opportunities to receive credit and recognition for their work through organizations such as the American Council on Education, which offer the potential for students to receive transfer credit to college degree programs for some classes.

For Penn State, the foray into MOOCs allows the University to showcase faculty expertise, test innovative learning strategies, engage in communities around the world and attract students to continue their education at the University, either on campus or through World Campus. MOOCs also allow high school students the opportunity to test drive college majors and give current college students and all adults a way to supplement their learning.

Matson marveled at the potential for the team's MOOC: "In my teaching career, I had about 3,000 students. This was an opportunity to expand to the rest of the world."

To develop the course, the three faculty members brought their own teaching experiences and classroom materials to bear, such as Matson's lessons in intelligent fast failure – a process in which students quickly experiment and integrate the knowledge from the failures to fuel innovations that lead to positive change in society.

"One major challenge in the course is how to facilitate student projects through videos with as much interaction as possible" he stated.

For Velegol, developing and teaching a MOOC was a leap.

"Could we really educate students in learning creativity online?" he recalled asking himself. "One of my frustrations in education is that students are often confined in a classroom, and often focus more on their letter grade than on the learning. We aim to move beyond the classroom, so that students can make a real change in their family, work, or community."

The three said they want participants to identify and develop their creative identities; understand and use failure as part of the innovation process; develop a working knowledge of the creative design process; and be able to apply problem-solving methods.

Because the class isn't grade-based, students are offered different levels of participation and commitment. These levels depend on the interest level of the student and the time available, ranging from casual interest and up to heavily engaged students. The levels are labeled "tourist," "explorers" and "adventurers."

"We're interested in an outcome," Velegol said. "We want students to start with their experience and passion, learn the processes for creativity and innovation, and then go change their corner of the world."

People interested in finding out more about the course or signing up can go to www.coursera.org/course/cic.

Jablokow said, "We are trying to teach people to tap into their creative potential. Everyone is born creative – but we are creative in different ways and in different domains. Helping students discover their unique brands of creativity and learning, and how to apply that creative diversity to solve real-world problems – that's a key goal for this course."

Provided by Pennsylvania State University

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