

Earth and planetary science education on the Internet: Tokyo Tech's first MOOC,  
"Introduction to Deep Earth Science"

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Recently, massive open online courses (MOOC or MOOCs) have gained wide-spread attention as a new educational platform delivered via the internet. MOOC is defined as "an online course that is open to anyone with internet access" and many leading institutions all over the world have provided many fascinating courses in various fields. Students enrolled in MOOCs study their interested topic in a course not only by watching video lectures, reading texts, and answering questions, but also by utilizing interactive online tools such as discussion boards, Q&A sessions and peer assessments. MOOC is also gaining popularity as a way to do outreach activity and diffuse research results. Tokyo Institute of Technology provided its 1<sup>st</sup> MOOC, "Introduction to Deep Earth Science Part1", on edX, which is one of the largest MOOC providers. This four-week-long course was designed for 1<sup>st</sup> year college students and with two learning goals in this course; 1) to introduce students to the fascinating knowledge of solid Earth, 2) to provide an opportunity to use scientific thinking as well as to show how interesting and exciting science can be. This course contained materials such as 1) structure of inside of the Earth 2) internal temperature of the earth and how it is estimated and 3) chemical compositions and dynamics inside the earth.

In this presentation, we will share details on the course and feedback received from some of the 5000 enrolled students from 150 countries and regions. Furthermore, we will explain our MOOC making model, which is a team based course creation effort between the course instructor, Tokyo Tech Online Education Development Office (OEDO) staff and student teaching assistants (TA).

Keywords: online education, MOOC (massive open online courses), outreach, solid earth, high-pressure geoscience , career education for young scientists