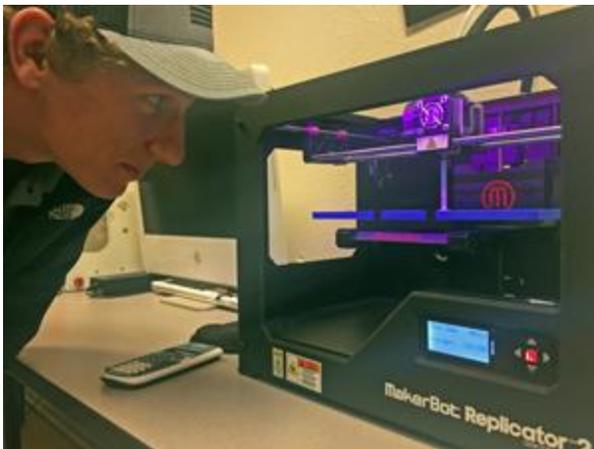


UNM Engineering Students Learn "How-to" Design Bridges Using 3D Printing

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UNM civil engineering students enrolled in structural engineering design completed a strenuous semester of hard work by building a railroad bridge that they designed in their class using 3D printing. Design projects in this class expose students to real deadlines, engineering codes, deliverables, scheduling, and a final presentation of their work to a hypothetical board of governors that select the best group to do the project. Through the 3D printing of their design, students learned about the relevance of their engineering calculations. The 3D printed bridges made their design more tangible and understandable. Through a collaboration with the [Social Media Workgroup \(SMW\)](#) and their director [Dr. Andrea Polli](#) (also an UNM professor) students were able to build scaled versions of their design using the 3D printers from the SMW. The results were that students could visualize their engineering design better. The interactions outside of the classroom with the SMW also allowed them to learn new design and communication skills, and to communicate their solutions to different audiences.



Michael McAninch supervises the fabrication of one of the floor beams at the Social Media Workgroup.



Students proudly show a model of their bridge printed in 3D.

This is a new class offered since fall 2015 and it is taught by **Dr. Fernando Moreu, PE**, Assistant Professor in structural engineering. At the beginning of the semester, students went “**Under the Bridge**” on Central Avenue (Rail runner downtown station), and became familiar with topics including loading, impact, track design, cost-effective solutions, and constructability. In this fall semester, students interacted with consultant engineers and stakeholders, including **ESCA Consultants, Inc.**, **Exxon Mobil**, and structural engineering consultants **Dekker/Perich/Sabatini (D/P/S)**. The Department of Civil Engineering at UNM is since 2016 an affiliated member of the **National University Rail (NURail) Center**, a consortium of colleges and universities offering an unparalleled combination of strengths in **railway engineering research and education in North America**.

Source:

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<<http://civil.unm.edu/news/2016/12/unm-engineering-students-learn-how-to-design-bridges-using-3d-printing.html>>.