

# Creative Design of Mechanical System (e.g. 3D Printing Machine) using Legos

## PROJECT DESCRIPTION

The proposed project will integrate expertise from 3D printing, manufacturing learning factory and develop innovative model. The project will develop mechanical systems and its control (e.g. 3D printing machine) with Legos. This will be done by studying the available mechanical systems, combine their creative ideas and develop a system. The project shall also involve designing various parts of the machine in 3D modeling software Solidwork or Mindstorm.

The proposed research projects will advance the lean learning lab existing facilities by introducing more creative design strategies. Student will learn the basics of 3D printing from various existing processes that need to be conducted as a part of their training.

The internship project shall involve the identification of state-of-the-art technologies/methodologies, finding creative ways to install Lego models, integration of FDM printing head to the Lego structure and derivation of the new creative ways to demonstrate 3D printing capabilities with Legos. The internship project will involve collaboration with other research groups/team members in the departments.

## FACULTY-DEPARTMENT

Engineering-Mechanical

## DESIRED FIELD OF (STUDENT) STUDY

Bachelor of Science (or Engineering) degree in Mechanical/ Industrial/ Mechatronics/ aeronautical/ manufacturing/ design/ Computer Science.

## INTERNSHIP LOCATION

University of Alberta Main Campus - Edmonton

## NUMBER OF INTERNSHIP POSITIONS

2

## INTERNSHIP START DATE

July 4

Contact: Brendan Cavanagh, Internship Coordinator (Inbound)  
University of Alberta International  
intern@ualberta.ca

## INTERNSHIP END DATE

October 4

## ARE THE DATES FLEXIBLE?

Yes, I am flexible regarding the internship dates. Selected students can contact me to request a date change.