Problem
The problem our team is attempting to solve is how to build, perform, and test Aggrebind bricks during an eight week summer course.

Though the time constraints limited what we were able to accomplish, significant progress was achieved:

We have created a large number of experimental bricks using a combination of various aggregate materials, and have tested them against ASTM standards.

Though we are targeting the Midwestern market; Aggrebind’s applications are truly global in size and scope.

Solution
Our solution was to create several prototypes and determine what combination yielded the greatest fracture strength.

The possible impact on our target market would ideally redefine modern masonry by creating a less expensive building block that is more environmentally friendly and sustainable than current masonry units.

Aggrebind relies on local materials
Fewer materials needed for importing
CO2 emissions are significantly decreased
Transportation costs are reduced

Organization of the Team
There are three major tasks that need to be addressed in order to reach our goals: Research – Documentation – and Fabrication

How have others built and produced building blocks?

What methods and processes work best and in which climates, specifically the Midwest? Since our project has three main areas of tasks to be completed in order to reach our goal we have divided ourselves into three such groups.

Research: Matthews, Melody, Teresita, Yangge

Documentation: Christina, Kevin, Ryan

Fabrication: Cesar, Davyd, Eric, Ethan, Jin, Sean, Shafaq

Sustainable
AggreBind is a water-based geo-polymer and is completely biodegradable and

Modular
AggreBind is incredibly easy to mix and produce, and is compatible with a multitude of soil types in a wide variety of climates.

Effective
The AggreBind Masonry Unit complies fully with ASTM Masonry standards, and is benchmarked against industry leaders.