

## Breadth Depth Proposal

### **Breadth Topic 1: Rain water harvest system/ Mechanical**

New York City is one of the most densely populated cities in the world with heavy water usage. A rainwater harvesting system can be designed on Gould Plaza to accumulate water for storage and can be recycled to water urban greenery and flush toilets. Pipes will need to be installed and laid out throughout the building. A water tank will need to be installed in the basement with a pump that pumps the water back up to the various levels in the building. The pumped water can then be used to flush the toilets around the building.

### **Breadth Topic 2: Lobby Façade Architecture**

The Tisch Hall lobby façade can be developed to incorporate an efficient daylight delivery system to provide high quality daylighting to the building interior. Daylight can provide a positive psychological effect on the occupants. Studies such as the daylight pattern will be analyzed throughout the year. Various daylighting techniques such as light shelves and overhangs will be evaluated to provide the best solution to deliver quality daylight system.

## Master Depth Proposal

### **Master In-depth Study: Daylight delivery system for Tisch Lobby in Conjunction with Breadth Topic 2**

In addition to the two breadth topics, MAE/BAE students are required to perform an in-depth study related to one of the graduate level courses. The master breadth will explore the daylighting knowledge explored in AE 565. A photosensor-based lighting control system will be incorporated into the Tisch lobby. Energy saving calculations will be computed to determine the effectiveness of the daylight delivery system.