

WHEELOCK COLLEGE CAMPUS CENTER AND STUDENT RESIDENCE  
200 THE RIVERWAY, BOSTON, MA 02215

# Thesis Proposal

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## Breadth Studies for AE 482

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## EXECUTIVE SUMMARY

This proposal explains the work to be completed for AE 482 in the spring semester of 2009. The alterations to be considered are breadths in architecture and acoustics. The architecture breadth will comprise of redesigning the glazing on the first floor of the building to provide better daylight control. The acoustical breadth will be comprised of a reverberation and STC analysis for the lounge on the first floor. After analyzing the space I will consider changing the materials based on the results.

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## BACKGROUND

### THESIS OVERVIEW

The architectural engineering thesis will be completed as part of a Bachelor of Architectural Engineering degree from The Pennsylvania State University.

### BUILDING OVERVIEW

The Wheelock College Campus Center and Student Residence is currently under construction in Boston, Massachusetts. The project site is on the Wheelock College Campus on The Riverway. This 60,000 square foot addition to the campus is the first construction in 40 years and will cost \$23 million. The building is a multi-use facility that will serve as a dormitory, cafeteria, student lounge, office space, café and conference room. The modern architecture makes this building stand out against the other buildings on the Wheelock campus. Construction began in September 2007 and is expected to be completed by January 2009.

## BREADTH PROPOSALS

### ARCHITECTURE

The architectural breadth study will comprise mainly of the south facing façade on the first floor of the building. The glass materials will be redesigned with an alternative material to provide better daylight control to the first floor lounge. The sun shades, which currently help to control the daylight entering the space, will also be studied and redesigned. Both of the redesigns will involve daylight calculations and cost analysis for new materials. The final report will include design documentation and renderings.

### ACOUSTICS

Acoustics in a large gathering space is very important to maintain a level of comfort and intelligibility of intimate conversations. I will complete a reverberation time and STC analysis for the lounge on the first floor of the building. The lounge is a main circulation space for the building, but also a place for students to study and do homework. After analyzing the spaces I will decide if alternative materials and changes are needed. If the acoustical results are undesirable, products will be selected and the layout may be altered to optimize acoustical performance.