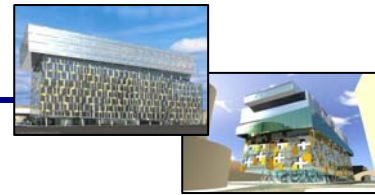


The Palestra Building

London, England

**III. Introduction – Project Background**

The fifth-year curriculum for Architectural Engineering students includes a year-long design project, where each student selects a recently renovated or constructed building to study and examine its systems. All design documents and specifications are donated by the project's owner, engineers, and contractors. The first half of the year is spent writing three technical papers on the existing conditions of the design looking at its code compliance, energy efficiency, utility consumption, and budget. Once a good sense of the building's systems has been gained a redesign is proposed to increase the efficiency of the existing design. This proposal must include a detailed analysis within the student's area of specialty (lighting/electrical, mechanical, structural, construction management), as well as two additional studies into non-option areas. The second half of the year is then spent implementing the design schemes set forth in the proposal. The year ends with the completion of the final thesis report and presentation to the jury consisting of Architectural Engineering faculty.

In addition to the research and analysis, each student is required to create and maintain a Capstone Project e-portfolio (CPEP) website displaying their progress throughout the year. This includes all technical reports, proposal and building information. The website serves as an excellent means of communicating our work with design professionals and faculty as well as fellow students.

This report is a culmination of a year-long study to optimize the design of the Palestra Building in London, England with an emphasis on mechanical, solar, wind, and acoustical systems. The report presents the feasibility the proposed designs and their impact on the overall scheme of the building. These findings are available only for educational purposes, and will be shared only with the afore mentioned sponsors.