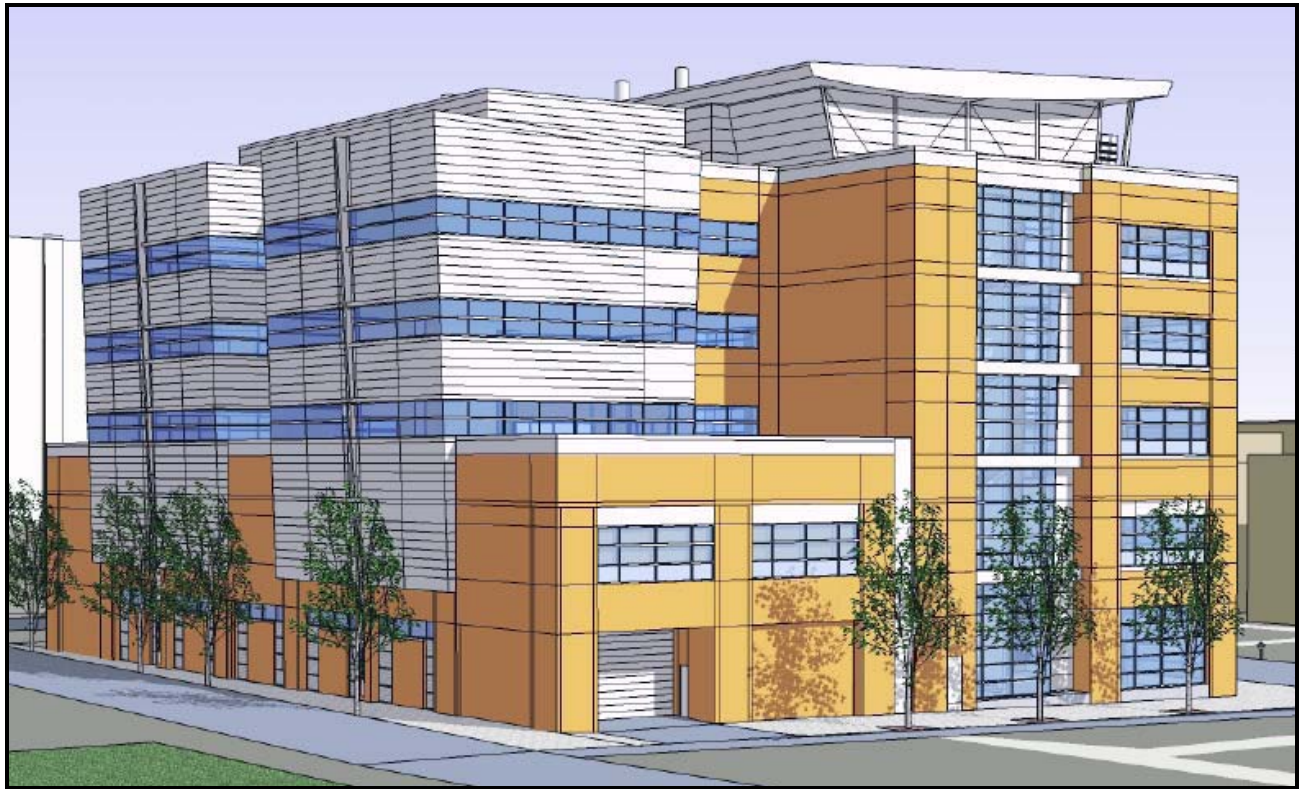


# EXECUTIVE SUMMARY



The Forensic Medical Center is a five-story, 105-foot tall building, with 121,000 square feet of office, classroom, and laboratory space. The structural system as designed is an 11"-thick two-way flat-plate concrete slab, with 24"x24" concrete columns, and a dual lateral system consisting of concrete moment frames and 12"-thick concrete shearwalls.

Because of the high-tech laboratory equipment inside, vibration issues are very important in the design of the structural system. Concrete is a logical choice, but there are few design guidelines for vibrations in concrete. The proposed thesis will include an investigation of a composite steel floor system that can be more easily designed for vibrations, along with steel columns and a steel braced frame lateral system.

As with almost any construction project, budget and schedule are crucial to The Forensic Medical Center. As part of a breadth study, the proposed thesis will analyze the effects of a steel structural system on the overall cost, schedule, and constructability of the project, compared to the existing concrete system.

An early project idea was the inclusion of a temporary triage unit in the ground floor parking area of The Forensic Medical Center in the case of a local catastrophic event. The idea was cut because of budget constraints. The proposed thesis will research the lighting, electrical, plumbing, and architectural requirements of such a triage unit, and include a cost estimate and feasibility study for the inclusion of the unit into the building.