

U.S. Department of Veterans Affairs (VA) Ambulatory Care Center

Abstract

This project brought together Master of Architectural Engineering students to create an interdisciplinary design team consisting of structural, mechanical, and electrical subdisciplines. Each team, and each discipline, was assisted by industry professional engineering mentors, and presentations of important milestone phases were evaluated by additional professional volunteers. Three separate multidisciplinary teams of eight or nine students, 26 in total, were challenged to design the structural, mechanical, and electrical systems for the U.S. Department of Veterans Affairs (VA) Ambulatory Care Center in Omaha, NE, a three-story 157,000 SF medical office building that expands upon the existing Omaha VA Medical Center Campus. The building focuses on providing outpatient care through three primary services – a dedicated women’s health clinic, a radiology unit, and five ambulatory surgical rooms – and includes several other specialty clinics. The project design scope included the entirety of the building, and student teams were also asked to develop integrated and innovative design solutions to the following challenges: identify building elements for modular construction, improve the energy performance of the building envelope, and achieve WELL Silver Certification.

A total of 57 professionals, consisting of 51 PEs and 6 EIs, volunteered their time to mentor student teams or serve as evaluators for presentations of milestone deliverables. To give the students a clear understanding and appreciation of the significance of input from industry mentors and evaluators, the teams estimated the monetary value of volunteers’ time using an average standard billable hourly rate. They determined that the professionals' contributions to this two-semester capstone experience was valued at over a half-million dollars! The overarching goal of this immersive activity was to develop excellence in architectural engineering students, and to prepare them for realistic career experiences by carrying out a fully integrated, multi-disciplinary approach for the planning and design of cutting edge, high-quality, and operational building systems.