Olin College Facilities Document

Olin College of Engineering is a private undergraduate engineering college located in Needham Massachusetts. Olin is noted in the engineering community for its small size and an innovative, project-based curriculum. The nearby campuses of Babson College, Wellesley College, and Brandeis University, together with the proximity of Boston and Cambridge, afford students easy access to bustling educational and technological hubs. The Olin College campus encompasses more than 300,000 sq. ft and comprises five buildings - Academic Center, Campus Center, Milas Hall and two dorms, East Hall and West Hall.

Olin College assigns an individual office to each faculty member. Several conference rooms and the Olin College Library are available for formal and informal research meetings. All students at Olin College have a Dell Laptop, with standard computational capabilities, and all Olin faculty and staff have a desktop or portable computer and access to photocopiers, scanners and printers. Olin College's Information Technology Department has extensive resources for support of the computers. More information about the facilities and resources at Olin is listed below.

Equipment, Facilities, and Other Resources

Olin College faculty and students have access to the state-of-the-art machining equipment at the Olin Machine Shop. Currently, it is a fully functional shop capable of CNC machining, metal forming and welding, CNC abrasive water jet cutting, and laser cutting and engraving. These premises are only open to students in the presence of shop instructors. In addition to the main 3,450 square feet workspace, Olin offers students a mini woodshop and a mini metal shop with 24/7 accessibility. Additionally, there is a full-fledged wood shop equipped with a panel saw, belt and disc sanders, miter saws, spindle sander, drill press, vertical band saw, router, and several hand-operated woodworking tools. The woodshop may be accessed outside of the machine shop hours by trained users.

Olin has extensive rapid prototyping capabilities including two Stratasys Dimensions 1200 Elite FDM industrial-grade printing machines, two Formlab Form 2 SLA 3D printers, 15+ FDM 3D printers, two laser cutters, a shopbot CNC router and a Gluco injection molder. These resources are available 24/7 to trained members of the Olin community.

The Large Project Building is a 6800 square foot space for student projects like Formula SAE-Electric, Mini Baja, and Design, Build, Fly!. It is situated behind the Academic Center and consists of 4 high bay project spaces accessible by 14' roll-up doors, a dedicated machine shop, and an enclosed spraypaint and composites fabrication bay. The space currently contains basic machine tools, a 2000-pound overhead crane, an 18' diameter test pool, and a 10 x 8 x 8' painting booth.

Educational Spaces

The Academic Center is the educational hub at Olin. It houses 27 classrooms, a machine shop, a woodshop, two biology labs, a chemistry lab, materials testing and characterization lab, a microscopy lab (including confocal and SEM), an electronics prototyping lab, a rapid prototyping lab (including 3D printers), and three permanent design studios. Faculty, staff, and students utilize these spaces for courses, extra-curricular activities, workshops with internal and external guests, and seminars.

The engineering design courses at Olin are supported by three dedicated design studios, meeting room, modeling shop, photography studio, and storage space. The design studios provide a specialized environment for engineering students to learn and practice design and are similar to the studio spaces commonly available to students in architecture programs. These rooms provide space for 90 students per semester. The studio spaces are fully configurable to meet the needs of individual and team design projects as well as the different needs of different design courses.

Relevant Centers/Programs

A number of faculty members at Olin College are working towards transforming engineering education. The proposed work will be positively impacted by having the opportunity to explore the influence of this existing infrastructure on the PI's experiences in an early career faculty position at Olin College. In particular, the Olin Collaboratory organizes on-site visits, workshops, teaching fellowships and co-design experiences for faculty and institutions interested in exploring how to innovate engineering education on their own campuses. The Office of SCOPE, the Senior Capstone Program in Engineering, recruits industry partners like Boeing, Facebook, Raytheon, Ford, etc. to deliver a real-world experience to the students. In addition, the Olin Space Research Lab is an existing research space where faculty and students collaborate on satellite and communications specific projects, ranging from making CubeSats in collaboration with other academic institutions to designing advanced, hands-on courses for students at Olin and integrating spectrum policy advocacy and spectrum sharing within Olin's EE curriculum.