



**NEW JERSEY INSTITUTE OF TECHNOLOGY
COLLEGE OF ARCHITECTURE AND DESIGN**

COLLABORATIVE DESIGN STUDIO – INTERACTIVE 3D

COURSE: AD 463 – Collaborative Design Studio (5 credits)
PROGRAM: School of Art + Design
LOCATION: first semester senior year/fall term
INSTRUCTOR: Angus Eade

DESCRIPTION: The penultimate design studio in the School of Art + Design brings all students from Digital Design, Industrial Design, and Interior Design (and on occasion, Architecture or Biomedical Engineering) back together for a required collaborative experience during which the students from the various disciplines work on common ventures, simulating a professional environment in which each student brings her or his discipline-specific knowledge to a team working on a complex project. The projects and faculty change each year with three to four studios offered annually from which teams of students may choose. Projects in past collaborative design studios have included an interactive circus, adaptive re-use of the abandoned Newark Prison into a Museum of Industry, Lifestyle Studio in which students developed a product and/or service for marketing to a chosen demographic, and more. Each project has individual components and contributions from each discipline participating, that add up to a complete effort.

PROJECT: Exploring the idea of the Internet of Things, teams of students worked together to develop, create proof-of-concept, and market proposed connected products. In this particular studio, products included 3D-printed apparel (sandals) that were custom created and facilitated with an online application; augmented-reality interactive 3D-printed musical instruments that respond to hand gestures and touch patterns in order to mix, layer, and activate sounds that have been captured using a recording app for smart devices; adaptive/reactive installed lighting products, and more.

REQUIREMENTS: Deliverables vary by project. In all cases students utilize laser cutting and 3D printing to build physical proof-of-concept elements and work with instructor to write code. Documentation of the design process, 3D virtual models used for pre-visualization, mobile app development, and the design and production of marketing materials are all, to varying degrees, part of the project.

OBJECTIVES: (1) Provide design students from different disciplines an opportunity to collaborate in a manner that allows each student to contribute his or her own expertise towards a common goal and work in a manner that is reflective of the professional design process. (2) Provide an opportunity to increase proficiency in an information-technology enabled/facilitated design process. (3) Provide additional opportunities to integrate physical and virtual elements within design processes and products. (4) Allow students a measure of choice (within an admittedly limit set of constraints) to personalize and focus their design efforts in their final year of undergraduate study. (5) Provide opportunity to innovate through the design of speculative products and environments.