



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

***PRODUCT AND SMART PRODUCT DESIGN***

**COURSES:** ID 263 and ID 364 – Industrial Design Studio (4 credits/ID 263; 5 credits/ID 364)  
**PROGRAM:** Industrial Design/School of Art + Design  
**LOCATION:** second and third year design studios (undergraduate)  
**INSTRUCTORS:** José Alcalá and Ran Lerner

**DESCRIPTION:** Design studio for product design program. Products designed vary in focus from term to term and include household products, tabletop and cutlery products, office supplies, building/architectural products, furniture, “smart” sensor-based and adaptive products, transportation, jewelry and timepieces, and more.

**PROJECT:** In one instance (ID 263) sophomore students were asked to hack apart and redesign a typical object (sharpeners are shown) and provide options (e.g. different colors or styles) for marketing and production. In the third year studio sensors were required to be integrated into common household objects (clock calendar is shown).

**REQUIREMENTS:** Students must produce a physical prototype of whatever product is being designed and proposed. The process is defined and must be documented as part of the project. This process includes (1) study of precedents and investigation of current products; (2) ideation sketching for alternative proposals; (3) exploration of form and alternatives with digital modeling (SolidWorks); (4) digital visualization (renderings) of proposed products; (5) physical prototype (generally a combination of 3D printed objects with hand-finishing); (6) package design and product booklet justifying production.

**OBJECTIVES:** (1) Hone research, critical thinking, and presentation skills. (2) Be able to identify the parts, materials, and production methods of a product. (3) Be able to use a comprehensive design process that integrates multiple media from freehand sketching to virtual models to 3D printed prototypes.