Three-Dimensional Design Courses (Art and Art History) (TDSN)

This is a list of all 3-D design courses. For more information, see Art and Art History.

TDSN:2205 Art and Engineering 3 s.h.
Collaborative, interdisciplinary, cutting-edge opportunity to gain real world engineering experience while learning to think creatively and analytically to create engaging works of art; interdisciplinary collaboration and creative methodologies that enhance life-long creative practice of artists and engineers; basic electronics and Arduino prototyping platform to create programmable, sensor-driven, responsive circuits. Prerequisites: MTLS:2910 or CERM:2010 or SCLP:2810 or TDSN:2210. Same as CEE:2210.

TDSN:2210 Problems in 3-D Design 3 s.h.
Materials, their formal and structural possibilities. Prerequisites: ARTS:1510 and ARTS:1520.

TDSN:2240 3-D Computer-Aided Design arr.
Three-dimensional computer-aided drafting; use of AutoCAD software. Prerequisites: MTLS:2910 or SCLP:2810 or CERM:2010 or TDSN:2210. GE: Engineering Be Creative.

TDSN:2250 Bicycle Design 4 s.h.
Drafting software, bicycle design, and history of bicycle from velocipede to mountain bikes; development of bicycle design as new materials, fabrication techniques, and ergonomics were applied; use of BikeCad, a parametric software, to design bicycles and bicycle components. Prerequisites: ARTS:1510 and ARTS:1520. GE: Engineering Be Creative.

TDSN:2255 Hand-Built Bicycles in the Rockies 1 s.h.
Building a titanium hand-built bike; use of hand-built fabrication techniques and tools; translation of CAD design into first full-suspension titanium fat bike; aspects of metal technology, concept development, fabrication geometry and design, metal properties and selection, tool selection, brazing and TIG welding, jig setup and use, and mitering; travel to Fort Collins, Colorado to work for one week at Black Sheep Bikes (two-time winner of the North American Hand-Built Bike Show). Prerequisites: ARTS:1510 and ARTS:1520.

TDSN:2270 Digital Forming 3 s.h.
Introduction to process of design; work with 3-D virtual digital tools to create objects and forms printed with rapid prototyping technology; use of Leonar3Do software, 3-D glasses, and a bird device that functions as a mouse to create forms in space; virtual modeling techniques that allow creation and manipulation of shapes in the air; design development on Leonar3Do, improved with 3ds Max, and saved for 3-D printing. Prerequisites: CERM:2010 or SCLP:2810 or MTLS:2910 or TDSN:2210.

TDSN:3200 Product Design 4 s.h.
How objects are designed and structured; modeling, graphic skills necessary for basic project development. Prerequisites: TDSN:2250.

TDSN:3201 Advanced Computer Modeling with 3ds Max 3 s.h.
Creation of rendered and animated environments using advanced modeling techniques. Prerequisites: TDSN:2250.

TDSN:3205 Advanced Robotics 3 s.h.
Advanced peripheral integration and control, including stepper motors, solar power, audio playback, and live data manipulation through physical sensors; advanced fabrication (e.g., printed circuit boards and wiring harness design); for students with previous experience in robotics and electronics. Prerequisites: SCLP:3840.
TDSN:4270 Problems in 3-D Design: Locative Art Practice 4 s.h.
How our relationship to Earth has changed with new forms of locating place in it; new forms of representation used to express exploration of that relationship; designing a locative research project; exploration of four major course concepts (geo-annotation, locative inscription, GPS drawing, alternative cartography) using portable, networked, and location-aware computing for mapping relationships. Prerequisites: ARTS:1520 and ARTS:1510.

TDSN:4299 Undergraduate Individual Instruction arr.
Individual instruction in 3-D design for advanced students.

TDSN:6295 Design for Production and Business 4 s.h.
Special issues and topics in design. Prerequisites: TDSN:3200.

TDSN:6299 Individual Instruction in 3-D Design arr.
Individual instruction in 3-D design for advanced students.