Introduction to Computation

IDISC-1571

ARCH-1571

A studio course open to all majors that explores coding, algorithms, and computational ideas. Projects include rule-based drawing, parametric animation, improper-tool-making, and human-agent-computation.

Fall 2016 Fridays 1:10-6:10, taught by Carl Lostritto (clostrit@risd.edu, office hours M/Th 10:30-12:00, appointments work best) Qi Guo is the TA (office hours M/Th 7:00-8:00 PM in BEB)

Description: This course introduces computational techniques, methods, and ideas in the context of art and design. Studio projects first focus on the design of algorithms then shift to involve computer programming and scripting. Critical attention will be given to code as a body of crafted text, as well as the tension, conflict, and potential possible when computation generates, informs or interacts with drawings, materials, forms, and spaces. Canonical computational works of art and design and will be presented and assigned for analysis. This course is open to students of all majors and is designed for those with little or no computation experience.

This is one of two required courses required for the undergraduate concentration in computation technology and culture.

Required equipment: In order to conduct work in this course, students will need a laptop computer running a recent Mac, Windows or Linux OS. Students should bring their laptop to class every session.

Programming languages and required software:This course will use Python as the primary programming language. We will begin in the Processing environment and then shift to visual programming environments: Grasshopper for Rhinoceros and NodeBox 3. Of all these, only Rhinoceros is a commercial product. Students are not required to purchase Rhinoceros, nor will it’s use be required. Students should be aware that Rhinoceros is available to all RISD students in the BEB computer lab.

Assignments and Tentative Calendar: The course will be organized by a series of projects. Assignments will be couple with readings and precedent analysis. Class time will be spent on a combination of collaborative working, critique, lecture and discussion.

Weeks 1-4: Make a software drawing tool based on an “improper” interpretation of an existing tool. Critique on 9/30

Weeks 5-6: Simulate and represent a natural phenomenon. Critique on 10/14

Week 7-10: Generate a collection of items. Critique on 11/4

Week 11-12: Final project: students choose which earlier project to build upon to produce a three-second music video. Final critique and exhibit on 12/2

Submission of Assignments: Assignments will be submitted via Google Drive. Students are also required to post content from their assignment on Instagram, which will feed the course website. Students may use a personal Instagram account or use a custom (and, if they choose, anonymous) account just for this class. Students should use the hashtag #risdIntroToComputation for photos taken during crit, while working, etc. Each assignment will also have a specific hashtag associated with it which will place the image or video at the correct page on the site.

Course website: The URL of the course website is: http://lostritto.com/risd2016intro. The site will primarily serve as a portfolio of ongoing and final student work. The “info log” page contains notes, links and resources for students including digital versions of all handouts.

Grading : Process and product will both be evaluated together. Iteration and other strategies for asserting methodological rigor will be essential for student success. Students will be evaluated for their participation (through their work and their verbal engagement) in every studio session. Students are expected to respond to prompts provided in each assignment brief as well as those offered through in class discussion and critique. RISD defines final letter grades as follows: A Excellence; B Above Average; C Average (successfully fulfilled all course requirements); D Below Average (course requirements minimally met); F Failing Grade (course requirements not met)

Attendance: This is a fast paced studio with little opportunity for redundancy. Absences, excused or otherwise, will set a student back and will be difficult to make up.

Disability Support Services: The office of Disability Support Services (DSS) assists RISD students who have cognitive (learning), psychological and physical disabilities. In order to receive accommodations, students must be registered with the Office of Disability Support Services. Keep in mind that accommodations may take time to arrange, some up to 2-4 weeks. Please make your formal accommodation requests as early as possible.