

# Class Descriptions

## ART Digital Design I

(Winter 2023)

The class begins with still life drawing using pencil and charcoal. Students will develop strategies for drawing accurate proportions and experiment with light and shading techniques. As the class progresses, students will begin drawing on a digital drawing pad. Students will use the GIMP (GNU Image Manipulation Program) software program to manipulate their images. They will develop familiarity with this software including the use of layers and digital color representations.

### Methods of Evaluation

- Homework assignments (100%)

## SC Drift Boat Modeling

(Winter 2023)

This is a project based learning class that focuses on solving a real world problem for a client. In this case the challenge was to take an aluminum drift boat and create an accurate three dimensional model of the boat in CADD (computer-aided drafting and design). The student created his own timeline and process. He began by inventing his own mathematical method that transformed a set of boat measurements into points in a three dimensional space. He then took detailed measurements of the boat and applied his model. Small errors in the measurements were then smoothed out using polynomial curve fitting models. The mathematical modeling was done in Desmos and the final model was rendered in CADD for the client. The client was then able to manipulate the CADD model to design a new boat that would be made from the old boat.

### Evaluation based on

- Student's ability to work and problem solve independently
- Student's ability to work closely with client to achieve the client's goals
- Timely production of project subgoals which included: initial proposal, model prototype, initial measurements, model refactoring, final measurements and final CADD model.
- The accuracy of the final drift boat CADD model.

# PE Beginning Slackline

(Spring 2023)

Beginning Slackline introduces students to walking on a slackline. Students will learn how to set up and take down a slackline and construct slackline anchors. Students must be able assess the safety of a slackline set up. Students will develop beginning slackline skills such as balancing on a single foot, walking along the slackline and changing directions on the slackline.

## Methods of Evaluation

- Class is taught as a PASS / FAIL class
- Grade is determined 100% by participation.

# ART Digital Design II

(Spring 2023)

This class is a continuation of Digital Design I, but uses a project based learning approach. The student worked with two clients to create digital avatar images for their online accounts. Initial designs were based on client specifications. There were multiple cycles between student and clients where the student would share design prototypes and solicit feedback from the client for ways to improve the design. Finished designs were delivered to clients.

## Methods of Evaluation

- Homework assignments (100%)
- Final avatar designs

# PE Beginning Weight Lifting

(Winter 2024)

This class will teach introductory weight lifting concepts. We will cover four main compound lifts: squats, deadlift, bench press and pull ups. Students will learn to recognize the difference between endurance, hypertrophy or maximum strength training strategies. The class will cover the idea of progressive overload and the importance of consistency in training. The student will define their own training goals and construct an appropriate training plan. This class also covers

nutrition for weight training. The student will learn what dietary choices are needed to support muscle gain and strength progression. We will briefly cover the use of supplements and which ones are supported by scientific research.

### Methods of Evaluation

- Class is taught as a PASS / FAIL class
- Grade is determined 100% by participation.

## HE Health and Life Skills

(Summer 2024)

This class teaches essential life skills for executive function, emotional resilience, and life management strategies. The student will identify personal goals and build a tiered plan for moving towards them. The class will provide a supportive environment to discuss goals and progress, and troubleshoot problems and setbacks. The student will learn and apply perspective taking skills to cultivate balanced and thoughtful responses to life situations. Class taught by Dusty Destler.

### Methods of Evaluation

- Class is taught as a PASS / FAIL class
- Grade is determined 100% by participation.

## SC Microscope Work and Microbiology

(Summer 2024)

This class explores the microscopic world of water samples. The course will cover the collection and preparation of samples. The student will learn to use the microscope. They will understand the use of different lenses and light to illuminate a sample. The bulk of the class will focus on learning and identifying different classes of microorganisms and understanding the environments where they can be found. To document their work, the student will draw pictures of samples and will learn to photograph microorganisms through the microscope. The class will watch videos from the Youtube channel [Journey to the Microcosmos](#), hosted by Hank Green.

## Methods of Evaluation

- Participation
- The student will keep a notebook of photos and drawings with notes on samples taken.

## SC 3D Printing

(Summer 2024)

In this class the student learned to design 3D parts in CADD and how to successfully print parts using a 3D printer. After successfully printing a number of small projects, the student worked with his brother to design and print a set of 4 Mecanum (omnidirectional) wheels for his brother's robot. Mecanum wheels are intricate and precise constructions that have multiple interconnected parts. Using an iterative design process, the design was refined until successful wheels were produced.

## Evaluation based on

- Student's ability to work and problem solve independently
- Student's ability to work closely with client to achieve the client's goals
- Timely production of project subgoals which included: initial proposal, model prototype, model refactoring
- The accuracy and function of final set of wheels

## PE Rock Climbing

(Summer 2024)

This class focuses on bouldering, a form of rock climbing that doesn't require ropes or equipment. The class will take place at Elevation Bouldering Gym. The class will emphasize climbing techniques such as footwork, body positioning, heel hooking, toe hooking and dynamic movement. The class will cover mental strategies needed for rock climbing such as problem solving skills and managing fear. Students will work to improve both their strength and endurance for climbing.

## Methods of Evaluation

- Class is taught as a PASS / FAIL class
- Grade is determined 100% by participation.