

The Intersection of Biology, Art and Technology

IBAT

SCI1260-01/AHSE2160-01 Spring 2019

Homework #5 Distributed: Feb. 20

Due: Feb. 27 (#2, #4), March 4th (#1, #2 (poster), #3), March 8th (#5 Material and Methods, figures and tables), March 11th (#2 -final reflection on board game and team process)

SEM/ART Project

1. Keep working on this project. Prior to the check in on March 4th you will need to print out ~4 – 5 images for class discussion. Evan or me will show you how to print the images on 8.5 x 11” Epson matte paper which will be loaded in the printer in AC313. Please do not wait until just before class on March 4th to print. The printer is very slow and from time to time there are technical issues that require that either Evan or me to get the printer working again so trying to print at the last minute will be a frustration for all of us and you may not be ready for class. We will put the prints up on the board and you will describe what the objects are, what manipulations you have made to the original SEM file and what you intend to do to complete the image. It is expected that there will be helpful comments that will inspire your creativity as you work to complete the project. The prints will be turned in to me for grading. The final project is due on March 27th.

Board Game Design

2. Very seriously consider the feedback forms from 2/13, communicate with the peer reviewers if appropriate and determine your final design and complete the fabrication. The final version of the board game and a draft of a poster is due next Wednesday, Feb 27th. I expect this to be a fully realized, high quality game that has been tested by your team and has none of the flaws uncovered in the first play-test. The poster will be a draft that we will review in class and suggest modifications. It is essential that you have a printed version that is well considered. Have a look at the play-test 2 form, rubric and reflection guidelines to see what is expected for the poster. You can print out the poster draft in the computer room of Milas Hall. After our round of review on 2/27 I expect that you will make a new version of the poster for review that is again printed using the IT printer. This final version is due printed on March 4th for review. After the final version has been approved or corrections made Evan and I will print out a final version using the big printer in AC313 and really nice archival paper. The poster will be displayed along with your game at some point later in the semester and it will possibly be an activity at the last Candidate Weekend. Your final reflection on the board game and the process is due on March 11th, uploaded to the course website. Please be sure to follow the guidelines that are in the board game folder and consider the rubric that Evan and I will be using when grading the project.

How Art Works Reading

3. Bill Seeley will be covering Part I of Winner’s reading to some extent during his talk on Monday, Feb 25th. Please read Part III, Art and Judgement Introduction, Chapter 8, Is it Good? Or Just Familiar? (21 pgs), Chapter 9, Too Easy to be Good? The Effort Bias (9 pgs), Chapter 10, Identical! What’s Wrong with a Perfect Fake? (14 pgs) and finally Chapter 11, “But My Kid Could Have Done That!” (13 pgs). We will discuss these chapters on Monday March 4th.

Questions we will consider for discussion include:

1. What is the experimental evidence that people with some art experience are not influenced to choose one work of art over another based on familiarity? i.e. is there objective quality when evaluating art? We will discuss the details of a number of the experiments that seek to explore this question.
2. Do you agree with Ellen Winner that works of art that are considered great and stand the test of time are objectively higher in quality than those who fail the test of time?
3. Why do you think that art historians were up in arms regarding David Hockney's claims that Renaissance artists used assistive technologies in their painting process?
4. Does the use of optical devices to construct a painting make the artwork less of an achievement?
5. When art forgeries are discovered their value plummets. Is the need for uniqueness true for other objects? Does it matter what style of art is forged or is the loss of value of forgeries true for all art?
6. What is the underlying basis of discrimination when people are able to distinguish an abstract work by a great artist from a superficially similar one by a child or animal?
7. Do you agree with Ellen Winner that works of art that are considered great and stand the test of time are objectively higher in quality than those who fail the test of time?

PTC-3 Experiment and Understanding the PTC gene and its protein product

4. Be sure to read over the protocol for the PTC-3 experiment so that you will know what we are doing in the lab on February 27th. You will be testing the PCR product you produced on February 20th via gel electrophoresis. If you have obtained product of the right size and in sufficient amount you will be purifying the PCR product and sending it out for sequencing. The subsequent PTC-4 lab will consist of sequence analysis and assignment of alleles. In the off chance that you did not produce product there might be an opportunity to repeat the experiment. It is always fun to get the sequence of your own DNA and figure out what alleles you have so we will do as much as we can to make that possible.
5. Writing up your PTC lab report. Please carefully study the guidelines for writing a lab report that is in the biolab folder. We will discuss the elements of a report and you will have examples to look at with the papers that have been uploaded. You will write up the Material and Methods section and prepare the figures and tables that you will be using in your report to turn in on March 8th by 5PM. Sadie will review your submission and return comments that will guide the preparation of the final report. The final report will now be due on March 15th by 5PM. It is essential that you use a formal writing style and professional language as the guidelines and published papers demonstrate. Conversational style that is used for homework assignments is not acceptable for this project so please do your best to follow the guidelines as written.

RECAP on Upcoming Deadlines for Work to be Submitted for Grading:

Final Version of Climate Change Board Game: February 27th

Draft Version of Climate Change Board Game Poster: February 27th

Final Version of Climate Change Board Game Poster: March 4th

SEM Images Printed for Class Discussion: March 4th

BioLab Report Materials and Methods Section and Figures and Tables: March 8th

Individual Reflection on Board Game: March 11th

BioLab PTC Lab Report Completed: March 15th