

# Guide to Supporting the Iterative Design Process

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## Goals of this Guide

To build confidence and encourage student ownership of their work  
To build in re-evaluation, self-assessment, and discussion to the design process

## Recommendations

Layer design assignments in 4 steps so each step adds just one new element:

- Think – conceive of your design idea
- Describe – verbally describe your idea to others
- Draw – create a 2D drawing of your idea
- Model – make a 3D model of your idea

As an assignment progresses through these four steps, students are encouraged to reconsider and revise their responses to each step. I built three design projects into my course. Here is some of the text from my syllabus:

Much of what you will do in this class involves imagination and design – synthesizing words and concepts from written texts into 2D and 3D images/objects that use transparency/opacity, geometric shapes, light, shadow, color, and movement to visualize ideas and demonstrate your mastery of the written materials. Together, we will build rubrics for evaluating design and fabrication processes, so you will have clear guidelines for your work. There will be three iterations of this design and fabrication process: 1. A design representing a visualization of a dilemma (shared among classmates; no official grade); 2. A design and visualization of an imagined universe (shared among classmates; individual grade); and 3. Designs and visualizations for a collaborative exhibition (public; collaborative grade). Each of these iterations will be accompanied by a 1,000-word written text in which you explain your design choices and their significance.

## Things to Avoid

Do not combine steps in order to get through an assignment more quickly. The objective here is to take many small steps rather than fewer big steps.

Let go of your desire to dictate design. Even design ideas that are initially disappointing can evolve into something interesting!

## Modifications

My class was a First Year Seminar with 20 students, and this iterative process worked very well in that context. In larger classes, you'll want to break up the population into smaller working groups.

## Other Resources

REQUIRE students to purchase a large sketch pad and colored pencils. Many of my students wanted to draw on paper or card stock that was roughly the size of their mobile phones. They needed a lot of encouragement to give themselves the room to think big.

See Syllabus below for more information (Appendix A)

# Appendix A: Syllabus

Fall semester 2019

## **MUSC 65: FYS: Music on Stage & Screen**

Tuesdays/Thursdays 3:35-4:50pm

Hill Hall 212

Prof. Anne MacNeil

Office: Hill Hall 204 / [macneil@unc.edu](mailto:macneil@unc.edu)

Office hours: Thursday 1:00pm-3:00pm or by appointment

Web address: <http://music.unc.edu/people/musicfaculty/anne-macneil/>

This seminar is designed to offer students the tools and techniques for understanding multi-media, staged musical works like opera, musical theater, and film. The goal of the seminar is to develop students' analytical skills in verbal and non-verbal media and to encourage their visualization of the potential and implications of artistic forms and structures. No ability to read music is required. We will discuss musical, visual, and textual narratives, source materials, and the various means by which such multi-media artworks are transmitted to modern audiences (e.g., written scores, LPs/CDs, staged performances, movies, etc.).

Gen Ed: VP, NA

### **Honor Code**

Carolina students pledge to maintain the ideals of academic integrity, personal responsibility, and responsible citizenship – ideals embodied in the Honor Code as set forth in the [Instrument of Student Judicial Governance](#). Therefore, when a student applies to Carolina, he/she commits to the principles embodied in the Honor Code. For everything pertaining to this seminar, you are bound by UNC's Honor Code. Giving or receiving unauthorized assistance on assignments or exams is forbidden. In all your work, be sure to cite all your sources! This includes giving full citations of musicians & recordings for audio materials, and citing books, articles, and websites in your assignments. UNC Libraries provide a useful [tutorial regarding plagiarism](#).

### **Expectations**

Throughout this semester, this class will be working with both the UNC BeAM MakerSpace and UNC Opera. At BeAM, you will receive an orientation and Tool Trainings; you will also have access to the support staff at BeAM to assist you with learning how to use 3D printers, laser cutters, wood-working tools, sewing machines, computer design programs, etc. Together with UNC Opera, we will mount a production of Wolfgang Amadeus Mozart's music drama *Il sogno di Scipione*. The Opera students will do all the music-making and performing; we will study the history of the story, its concepts, and their relevance to our lives today to create an interactive exhibit for audience members to explore as they enter the performance hall, as well as a digital synthesis of the text of the music drama that will appear above the stage during the performance. At various times during the semester, our classes will meet in the same space to work together on common goals.

**Much of what you will do in this class involves imagination and design – synthesizing words and concepts from written texts into 2D and 3D images/objects that use transparency/opacity, geometric shapes, light, shadow, color, and movement to visualize ideas and demonstrate your mastery of the written materials.** Together, we will build rubrics for evaluating design and fabrication processes, so you will have clear guidelines for your work. There will be three iterations of this design and fabrication process: 1. A design representing a visualization of a dilemma (shared among classmates; no official grade); 2. A design and visualization of an imagined universe (shared among classmates; individual grade); and 3. Designs and visualizations for a collaborative exhibition (public; collaborative grade). Each of these iterations will be accompanied by a 1,000-word written text in which you explain your design choices and their significance. You

will also be asked to render the written English text of *Il sogno di Scipione* into timed soundbites/subtitles and pair them with images to demonstrate your critical engagement with the concepts, meaning, and language of the text. The writing component of this class is ten pages total, over the course of the semester.

### **Grade Calculation**

Preparation for & participation in class (individual) 20%  
Cicero/Gaffurio visualization (individual) 20%  
Harmony of the Spheres Exhibit (collaborative) 20%  
Critical engagement through subtitles (individual/collaborative) 20%  
Class attendance & citizenship (individual) 20%

### ***Required materials – bring to class everyday***

Artist's Drawing Pad (9x12)  
Colored pencils  
Laptop

### ***Schedule:***

Aug 20 – First 30 minutes: Introduction; course goals; partnership with UNC Opera and BeAM; *Scipio's Dream* MapJournal. Remainder of class time meet with UNC Opera. Complete the BeAM survey at [https://unc.az1.qualtrics.com/jfe/form/SV\\_1TUdWQb000BipMh](https://unc.az1.qualtrics.com/jfe/form/SV_1TUdWQb000BipMh) by Aug 27 (this link is also on the class Sakai site under Resources).

### Unit 1: Free Will & Individual Responsibility

Assignment: Read the MapJournal *Scipio's Dream* from “Our story begins” through “Do you see that city...?” Be sure to investigate all interactive features – watch the videos, read embedded blog posts, explore map markers, etc.

<https://www.arcgis.com/apps/MapJournal/index.html?appid=f710df868eb3406ca2a35f60e3a2d751> (this link is also on the class Sakai site under Resources)

Aug 22 – Evaluate readings; begin discussing narratives involving a dilemma. Read Wikipedia entry “Narrative Art.”

Aug 27 – In class, discuss and design/sketch a visualization of the concept of dilemma, using whichever method of narrative art you deem appropriate. Be prepared to share your designs and explain your choices with reference to the readings. Utilize concepts of transparency/opacity, 3D geometric shapes, light, shadow, color, movement. Submit on Sept 3.

Aug 29 – BeAM Orientation in Murray Hall. After orientation, students must take the initiative to make individual appointments for Tool Training.

Sept 3 – Submit your design sketch and 1,000-word explanation. In class discussion: What makes a good visualization and good design? Develop rubrics for evaluating BeAM work.

Sept 5 – No class – use this time for BeAM Tool Training. Try fabricating your dilemma design!

### Unit 2: Destiny & Caring for the Earth

Assignment: Read the StoryMap *Scipio's Dream* from “I see the course of your life wavering between two destinies” through “Cherish justice and your obligation to duty.” Be sure to investigate all interactive features – watch the videos, read embedded blog posts, explore map markers, etc.

Sept 10 – Discussion: How does caring for the earth integrate with conceptions of free will, individual responsibility, justice, and obligation to duty? Is there a philosophical tension between nature and artifice? How would you visualize it? Instructions for beginning to develop subtitles on Sept 12.  
Sept 12 – UNC Opera memorized sing-through. Class meets in Hill 107. Bring a copy of the libretto to mark up.

### Unit 3: The Harmony of the Spheres

Assignment: Read the MapJournal *Scipio's Dream* from "Come! How long will your thoughts continue to dwell upon the earth?" through "Look closely! See how small is the portion allotted to you." Be sure to investigate all interactive features – watch the videos, read embedded blog posts, explore map markers, etc. Research the different representations of the universe in the MapJournal and think about how you would visualize Cicero's description of the universe together with Gaffurio's association of the planets and the Muses.

Sept 17 – This year is the 50<sup>th</sup> anniversary of the Apollo moon landing. Discuss ancient & modern conceptions of the universe. In class, begin designing/sketching a 3D version of Cicero's description of the universe together with Gaffurio's association of the planets and the Muses. Finish your sketches by Sept 19.

Sept 19 – Share design sketches in class – students peer-evaluate according to the rubrics developed on Sept 3.

Sept 24 – Continue development of design sketches. Fabricate your design at a BeAM MakerSpace, using whichever tools and materials you deem appropriate. Submit your design, its fabrication, and your 1,000-word explanation on Oct 8.

Sept 26 – Begin development of subtitles for Mozart's music drama from mark-ups made on Sept 12.

Oct 1 – Continue development of subtitles.

Oct 3 – Finish development of subtitles.

Oct 8 – In class, share 3D visualizations of Cicero's/Gaffurio's universe. Be prepared to explain your choices. Submit your design, 1,000-word written explanation and 3D visualization.

Oct 10 – Visit Moeser Auditorium, the Rotunda, and the entrance to Hill Hall. Brainstorm visualization designs for a Harmony of the Spheres Exhibit to accompany the UNC Opera performances. Work on designs/sketches independently until Oct 24.

Oct 15 – UNC Opera first run-through. Class meets in Hill 107. Test subtitles.

Oct 17 – No class (Fall break)

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### Unit 4: Fame & Virtue

Assignment: Read the StoryMap *Scipio's Dream* from "What difference does it make whether you will be remembered?" through "In contemplation of what is beyond." Be sure to investigate all interactive features – watch the videos, read embedded blog posts, explore map markers, etc.

Oct 22 – Throughout Cicero's text, the author asks his reader to conceive of the universe and her/his place in it from both very large and very small perspectives, and from different locations. Begin discussing how perspective alters the meaning and significance of visual objects.

Oct 24 – In class, share preliminary designs/sketches of exhibition visualizations.

Oct 29 – In class, share revised designs/sketches of exhibition visualizations; students peer-evaluate according to the rubrics developed on Sept 3.

Oct 31 – No class – use this time to begin fabricating components of exhibition visualizations and to write your 1,000-word explanation of your design.

Nov 5 – Continue development of exhibition visualizations.

Nov 7 – Continue development of exhibition visualizations. Fabrication must be finished by Nov 12. Exhibition must be ready for installation on Nov 14.

Nov 12 – Discuss, assess, and modify exhibition pieces. Discuss installation.

Nov 14 – Install the Harmony of the Spheres Exhibition.

**Nov 16 (Saturday): UNC Opera: Scipio's Dream. 8:00pm, Moeser Auditorium**

**Nov 17 (Sunday): UNC Opera: Scipio's Dream. 3:00pm, Moeser Auditorium**

At both performances, listen in and analyze audience reactions to the Harmony of the Spheres Exhibition and to the subtitles; evaluate the overall design of the experience and take note of design echoes across media. Do elements of the Exhibition help you understand and appreciate the opera? Do elements of the opera's staging reflect elements of the Exhibition? What did we do well? What might we have done better – and how?

Nov 19 – Take down the Harmony of the Spheres Exhibition.

Nov 21 – Discussion evaluating the experience.

Nov 26 – Submit your written analysis of the performances, exhibit, and audience reactions to the experience. Class party.

Nov 28 – No class (Thanksgiving)

Dec 3 – No class (exchange for opera)