Visualizing the Past/Peopling the Past
CIS 106 / ANTH 258

Fall Semester 2018

MWF 11am-noon
Room 401B, 3401 Walnut Street

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DESCRIPTION

CIS 106 / ANTH 258 is a highly interdisciplinary course that approaches fundamental issues in Anthropology and Computer Science. Using an anthropological perspective, this course focuses on the history, theory, and methods of how archaeology and visualizations of the past are created, presented and used in scholarly media (e.g., traditional publications, conference papers, and project databases), and popular culture (e.g., artist’s reconstructions, movies, TV documentaries, museum exhibits, games, the internet, and art), and contemporary computer technology (e.g., 3D modeling, animation, virtual reality, and simulation). From the computer science perspective, the challenge becomes how we [can best] transform known and often incomplete information into engaging digital models and plausible of a past culture and its people. They also learn to use modern 3D modeling tools (such as Audodesk Maya© and MotionBuilder©) and animation engines (such as Unreal Game Engine©). The course assignments include writing essays critiquing popular media depictions of the past, in-class oral presentations with visual aids, programming labs, 3D model development, and a final project that utilizes contemporary computational tools to explain and visualize culturally relevant questions, knowledge, or hypotheses. Presentations by the instructors include relevant anthropological background materials and tutorials on the computational tools to be used, and the thought processes needed to connect the two. The course material itself is broad and requires additional conceptual integration by the student. To facilitate this process, the instructors will use the Laboratory in Room 401B, 3401 Walnut Street for hands-on exercises and will utilize the Penn Museum to explore artifact collections through Object-Based Learning and evaluate public exhibits. The course materials therefore include extensive original visual materials and objects of the Penn Museum curated by Dr. Erickson and cutting-edge virtual reality, simulation, and computer software developed by Dr. Badler's ViDi Center for Digital Visualization.

OFFICE HOURS

Dr. Norm Badler Mondays 1:00-3:00 (or by appointment)
Dr. Clark Erickson Wednesdays 3:00-5:00 (or by appointment)
REQUIRED TEXTBOOKS
No textbook is assigned.

REQUIRED READINGS
Required and optional readings will be posted on the Canvas for CIS 106/ANTH 258 organized in folders by date of reading assignment. These include many articles, book chapters, and books about presenting the past (theory, methods, debates, methods, case studies, and other relevant material).

REQUIRED COMPUTER PROGRAMS
We will use at least two computer programs for the studio-seminar project. Make sure that you have space on your laptop or notebook drive for installing the programs (a mouse is essential for properly running Maya.) These programs can be downloaded for free from the following websites (select Mac or PC versions):

Google Earth©
http://earth.google.com/

Maya© Student Edition
http://students.autodesk.com/

Unreal© game engine [optional]
https://www.unrealengine.com

READING SYLLABUS
Weekly reading assignments will come from the textbooks and readings posted on Canvas. We expect students do the readings and come prepared to discuss them in class. A theme and reading syllabus is provided and may be periodically updated throughout the semester. A copy of the syllabus and any revisions will be available on Canvas in advance.

COURSE FORMAT
The course is a combination of lecture, seminar, studio, presentations, and practicum. Each week, in general, one class will focus on the presentation and discussion of a theme(s) of the readings, another class will introduce computer graphics concepts and software tools for visualization and presentation of archaeological evidence, and the third is a hands-on laboratory exercise.

Each week, a series of articles and book chapters will be read before class and discussed in class. Each student will write a series of short papers on a number of themes and exercises and prepare short presentations (to be announced). Each student will also create and maintain his/her own webpage containing all their coursework, reading notes, presentations, work in progress, images, and models. All 3D modeling exercises will be done in the laboratory setting during class times, though further development outside of class is strongly encouraged since the software needed is freely available. 3D models developed during the course are meant to be shared and will therefore be uploaded to the course project integration website. A Final Project involving individual or group research will be presented as a PowerPoint in class and submitted as a written paper (integrated text, references, and imagery) and digital files by the end of the semester.
Group projects will require additional meetings outside the regular course meeting.

**GRADING**

The course grade will be based on a series of 5 short writing/oral presentation assignments (40%), completion of the computer modeling and animation projects (10%), and a longer written and oral presentation of a final project (40%). In addition, Each student will also create and maintain his/her own webpage containing all their coursework, reading notes, presentations, work in progress, images, and models. The instructors will periodically review these websites for content, progress, and completeness. The remaining 10% of the grade addresses overall class participation (attendance, discussion, leadership, teamwork, and personal website documenting progress). 3D modeling projects will generally be due by the end of the laboratory session in which they are assigned. A course webpage will be created for public documents, reports, useful web links, and visual materials generated in class. Part of class time will be devoted to periodic student presentation of exercises, discussion of readings, and project progress for group and instructor feedback.

Assignment #1: Evaluation of a popular movie about archaeology.
**Due 9/17/2018**

Assignment #2: Presentation of an artist(s) whose work focuses on reconstructions of the past.
**Due 9/24/2018, 9/26/2018, or 10/1/2018** (depending on your assigned artist).

Assignment #3: Evaluation of archaeology and the Past in *National Geographic Magazine*.
**Due 10/22/2018**

Assignment #4: Individual or Group Final Project Summary Proposal (text)
**Due 11/5/2016**

Assignment #5: Presentation: Archaeology and Games
**Due 11/12/2018, 11/14/2018, or 11/19/2018** (depending on your assigned game or reading)

Assignment #6a: Final Project Presentation: In-class PowerPoint presentation of Final Project.
**Due 12/5/2018, 12/7/2018, or 12/10/2018** depending on your assignment on the presentation list)

Assignment #6b: Final Project Paper: Submission of 1) revised PowerPoint presentation and 2) complete draft of paper summarizing the Final Project (integrated text, references, and imagery) and relevant digital files; student websites should be up to date.
**Due 12/16/2018**

Assignment #6c Final Project Paper: Submission of final version of paper about the Final Project (integrated text, references, and imagery), models, and digital files.
**Due 12/19/2018**

**ATTENDANCE**

Students are expected to show up for all class meetings (except religious holidays). Please let us know if you will be absent. Missing a class or two could negatively affect your grade. Please get the notes from other students if you have to miss a class meeting. Dr. Erickson does not provide copies of lecture notes.
to students. Dr. Badler will upload all his PowerPoint slides prior to his lectures so that they can be viewed in advance and used for questions and note-taking.

Laptops may be used to take notes and refer to readings under discussion during class. Laptops, phones, and other electronic devices are NOT to be used for email, texting, social media, or web browsing during class. Turn off all cell phones during class.

**ACADEMIC INTEGRITY**

Students should be familiar with and respect the Academic Code of Integrity of the University of Pennsylvania. Any cheating or plagiarism in this course will be dealt with severely. We use Turnitin LTI© software to detect plagiarism. Please see the Penn websites below for definitions of what constitutes plagiarism and cheating and how to avoid them:

*Academic Code of Integrity:*
http://www.vpul.upenn.edu/osl/acadint.html

*Plagiarism - What it is and how to avoid it:*
http://gethelp.library.upenn.edu/guides/engineering/ee/plagiarize.html

**USEFUL REFERENCES** Canvas and/or at the Museum Library (Penn Museum 3rd Floor).


Bonde, Sheila and Stephen Houston (editors) 2013 *Re-Presenting the Past: Archaeology through Text and Image.* Joukowsky Institute Publication 2, Providence.

Schabitsk, Julie M. (editor) 2006 *Box Office Archaeology: Refining Hollywood's Portrayals of the Past.* Left Coast Press, Walnut Creek, CA.

Zimmerman, Larry J. 2003 *Presenting the Past.* AltaMira Press, Walnut Creek, CA.
Holtorf, Cornelius 2009 *Archaeology Is a Brand!: The Meaning of Archaeology in Contemporary Popular Culture*. Left Coast Press, Walnut Creek, CA.

Holtorf, Cornelius 2005 *From Stonehenge to Las Vegas: Archaeology as Popular Culture*. AltaMira Press, Walnut Creek CA.


Ambrus, Victor 2006 *Unearthing History: Bringing Archaeology to Life*. Tempus, Stroud.


de Boer, Trent 2004 *Shovelbum: Comix of archaeological field life*, Alta Mira Press, Walnut Creek, CA.


Two volumes have been published so far, *A Thousand Ships* and *Sacrifice*, the third volume, *Betrayal*, is in progress.


Fagan, Brian 2005 *Writing Archaeology: Telling Stories about the Past*. Left Coast Press, Walnut Creek, CA.

Champion, Erik 2011 *Playing with the Past*. Springer, London. [available as PDF in Penn Library website]


Champion, Erik 2012 (editor) *Game Mods: Design, Theory and Criticism*, Entertainment Technology Center Press, Pittsburgh. ISBN 9781300540618. Free download pdf [http://www.etc.cmu.edu/etcpress/content/game-mods](http://www.etc.cmu.edu/etcpress/content/game-mods)


Green, Jack, Emily Teeter, and John A. Larson (editors) 2012 *Picturing the Past: Imaging and Imagining the Ancient Middle East*. Oriental Institute Museum Publications, vol. 34. The Oriental Institute of the University of Chicago, Chicago.


Atalay, Sonia, Jen Shannon, and John Swogger 2018 *Journeys to Complete the Work* (NAGPRA Repatriation Comic). Creative Commons.

Hunt, Alice and John Swogger 2018 *Unlocking the Past! Radiocarbon Dating*. Center for Applied Isotope Studies. Athens, GA.


Journal: *Digital Applications in Archaeology and Cultural Heritage*.

**ARCHAEOLOGICAL FILMS AND DOCUMENTARIES**

The Museum Library has many excellent films (Penn Museum 3rd Floor). Search Penn Library for titles and availability.

YouTube & Vimeo
SUMMARY SYLLABUS

August 29: Visualizing the Past/Peopling the Past: Introduction, Overview, Philosophy, Assignments, and Expectations
August 31: The Archaeologist in Popular Culture
September 3: Labor Day Holiday
September 5: Computers and Representation: Google Map Deconstruction
September 7: Introduction to Computer Graphics: 3D, Perception, Color, and Transformations
September 10: Archaeology and the Public(s)
September 12: Introduction to Computer Graphics: Viewing, Cameras, 3D Modeling
September 14: Laboratory: Making narrated, timed PowerPoint presentations; download Maya software
September 17: Reconstructions of the Past Human Body
September 21: Laboratory: Maya Basics: Making a textured “rug”
September 24: Artists and Archaeologists I: Traditional Media
September 26: Artists and Archaeologists II: Non-Traditional Media
September 28: Laboratory: Maya: making a symmetric pottery vessel
October 1: Artists and Archaeologists III: Non-Traditional Media
October 3: Laboratory: Computer Graphics Topics: Physics-based Materials
October 5: Fall Break, no class
October 8: Laboratory: Maya modeling, making an asymmetrical archaeological pottery vessel
October 10: Introduction to Computer Graphics: Illumination Studies (Cordoba)
October 12: Clothing the Past; Gender and the Past I: The Aqlla of Pachacamac (Collections Study Room, Mainwaring Wing, first floor Penn Museum), Guest lecture Anne Tiballi
October 15: Clothing the Past; Gender and the Past II
October 17: Modeling of Pre-Columbian Water Management and Hydrologic Engineering in the Bolivian Amazon
October 19: Laboratory: Maya: Making a canoe
October 22: Animation and Motion Capture I (SIG Laboratory)
October 24: Animation and Motion Capture II (SIG Laboratory)
October 26: Laboratory: Maya: Additional features, lighting, and model export
October 29: Use of Digital Modeling of Architecture, Sites, and Landscapes to Query the Past
October 31: Indigeneity, Indigenous Self-Representation, and other People’s Pasts: Native American Voices Exhibit Tour, 2nd Floor, Penn Museum with Dr. Lucy Fowler-Williams
November 2: Laboratory: Unreal: Introduction, model import, and navigation
November 5: Virtual Humans in Cultural Contexts
November 7: Games: Virtual and Augmented Reality
November 9: Laboratory: Maya Modeling, Unreal, Individualized Project
November 12: Archaeology and Games I
November 14: Archaeology and Games II
November 16: Laboratory: Maya Modeling, Unreal, Individualized Project
November 19: Archaeology and Games III
November 21: Final Project Consultations
November 23: Thanksgiving Holiday; no class
November 26: Role of the Archaeology Museum and Exhibits about the Past
November 28: Archaeology, Tourism, and Interpretation
November 30: Laboratory: Maya Modeling, Unreal, Individualized Project
December 3: Computer Graphics: Illumination Studies (Godin site) Guest Lecture by Virginia Badler
December 5: Final Project Presentations I
December 7:  Final Project Presentations II
December 10: Final Project Presentations III [Last Class]
December 16: Draft of Final Project Paper due
December 19: Final version of Final Project Paper due
READING AND ASSIGNMENT SYLLABUS

Short readings about general themes and case studies for lecture and discussion are assigned each week. The required readings for the course are available as PDF files on Canvas. Readings are placed in dated folders and should be read before that class meeting. The list of readings will be updated as needed.

August 29: Visualizing the Past/Peopling the Past: Introduction, Overview, Philosophy, Assignments, and Expectations

August 31: The Archaeologist in Popular Culture

Assignment #1: Evaluation of a popular movie about archaeology Due 9/17/2018


Choose two of the readings below and be prepared to discuss them.


OPTIONAL:


Holtorf, Cornelius 2007 An archaeological fashion show: how archaeologists dress and how they are portrayed in the media. In *Archaeology and the Media*, edited by Timothy Clack and Brittain, Marcus pp. 69-88. Left Coast Press, Walnut Creek, CA.

**September 3: Labor Day Holiday**

**September 5: Computers and Representation: Google Map Deconstruction**

**Assignment #2:** Artists and Archaeologists: Each student will be assigned one artist to summarize and evaluate as an in-class Presentation (a 4-5 minute timed slide and audio PowerPoint presentation). **Due 9/24/2018, 9/26/2018, or 10/1/2018** (depending on your assigned artist).

**Exercise (complete before class):** “Visit” and explore a famous archaeological site using Google Earth (be sure to try vertical, oblique, and ground views with Terrain turned on) 1) save some Google Earth views as jpg photographs (File > Save > Save Image on menu bar), 2) open linked terrestrial photographs by clicking on the symbols, and 3) measure a few buildings or other features at the site using the Ruler Tool on the main menu bar. Use “N” key to re-orient to North and use “U” key to bring scene back to vertical view.

**September 7: Introduction to Computer Graphics: 3D, Perception, Color, and Transformations**

**September 10: Archaeology and the Public(s)**


**OPTIONAL**


Society for American Archaeology 2015 Archaeological Practice on Reality TV (Theme Issue). *SAA Archaeological Record* 15(2).


September 12: Introduction to Computer Graphics: Viewing, Cameras, 3D Modeling

September 14: Laboratory: Making narrated, timed PowerPoint presentations; download Maya software

September 17: Reconstructions of the Past Human Body

**Assignment #1 Due Today:** Evaluation of a popular movie about archaeology.

Choose four articles from list below and be prepared to discuss them in class.


September 21: Laboratory: Maya Basics: Making a textured “rug”

September 24: Artists and Archaeologists I: Traditional Media

**Assignment #2 Due Today:** Artists and Archaeologists (1/3 of the student presentations today, 1/3 present on following days). Each student designated to present today will be assigned one artist to summarize and evaluate as an in class Presentation (a 5 minute timed slide and audio PowerPoint presentation).

In addition, everyone should read at least two other readings and be prepared to discuss them in class.


Schober, Theresa M. (editor) 2013 *ArtCalusa: Reflections on Representation* [exhibit catalog] Lee Trust for Historic Preservation, Naples, FL.


**September 26: Artists and Archaeologists II: Non-Traditional Media**

*Assignment #2 Due Today*: Artists and Archaeologists (1/3 of the student presentations today). Each student designated to present today will be assigned one artist to summarize and evaluate as an in class Presentation (a 5 minute timed slide and audio PowerPoint presentation).
In addition, everyone should read at least two other readings and report on and discuss them in class.

Atalay, Sonia, Jen Shannon, and John Swogger 2018 *Journeys to Complete the Work* (NAGPRA Repatriation Comic). Creative Commons.

Hunt, Alice and John Swogger 2018 *Unlocking the Past! Radiocarbon Dating* (Radiocarbon Dating Comic). Center for Applied Isotope Studies. Athens, GA.


Lovata, Troy 2007 Chapter 5 Three Artists on Archaeology: Interview Number Two: Visualizing the Bronze Age (Eric Shanower). In *Inauthentic Archaeologies: Public Uses and Abuses of the Past*. Left Coast Press, Walnut Creek, pp. 112-122.


Brinkmeier, Dan 2003 *Art in the service of science: Using art to explain archaeology and field research.* Unpublished document.

de Boer, Trent 2004 *Shovelbum: Comix of Archaeological Field Life*, Alta Mira Press, Walnut Creek, CA. Penn Museum Library

de Boer, Trent 2004 Afterword. In *Shovelbum: Comix of archaeological field life*, Alta Mira Press, Walnut Creek, CA.


[Two volumes have been published so far, *A Thousand Ships* and *Sacrifice*, the third volume, *Betrayal*, is in progress]
Museum Library and PDF file excerpt “ShanowerAgeOfBronzeComic2003Excerpt”


OPTIONAL

Erickson, Clark and Daniel Brinkmeier 2007 *Pre-Columbian Fishermen of the Bolivian Amazon: Indigenous Technology and the Transformation of the South American Landscape*. Harris Loan Department, Field Museum of Natural History, Chicago.

Brinkmeier, Daniel, Clark Erickson, and Ignacio Garaycochea 1986 *Como construir waru waru*. Consejo Nacional de Ciencia y Tecnología, Lima.

Brinkmeier, Daniel, Clark Erickson, and Kay Candler 1986 *Antonio and the Waru Waru*. (bilingual manual about raised fields in English and Quechua), Consejo Nacional de Ciencia y Tecnología, Lima.

**September 28: Laboratory: Maya: making a symmetric pottery vessel**

**Assignment #3:** Evaluation of archaeology and the Past in *National Geographic*. **Due 10/22**

**October 1:** Artists and Archaeologists III: Non-Traditional Media
Assignment #2 Due Today: Artists and Archaeologists (1/3 of the student presentations today). Each student designated to present today will be assigned one artist to summarize and evaluate as an in class Presentation (a 5 minute timed slide and audio PowerPoint presentation).

October 5:  Fall Break (no class)

October 8:  Laboratory: Maya modeling, making an asymmetrical archaeological pottery vessel.
October 10: Introduction to Computer Graphics: Illumination Studies (Cordoba)

October 12:  Clothing the Past; Gender and the Past I: The Aqlla of Pachacamac (Collections Study Room, Mainwaring Wing, first floor Penn Museum) Guest Lecture Anne Tiballi.


October 15:  Clothing the Past; Gender and the Past II

Clados, Christiane


October 17:  Modeling of Pre-Columbian Water Management and Hydrologic Engineering in the Bolivian Amazon.


October 19:  Laboratory: Maya: Making a canoe

Assignment #4: Individual or Group Final Project Summary Proposal. Students may work individually or in small groups. The professors will provide detailed feedback on these projects. The quality and completeness of these project proposals and descriptions will be considered in the final grade. Due 11/5/2018

October 22:  Animation and Motion Capture I (SIG Laboratory)

Assignment #3 Due Today: Evaluation of archaeology and the Past in National Geographic Magazine.
October 24:  Animation and Motion Capture II (SIG Laboratory)

October 29:  Use of Digital Modelling of Architecture, Sites, and Landscapes to Query the Past


Choose one of the two articles below:


OPTIONAL


October 31:  Indigeneity, Indigenous Self-Representation, and other People’s Pasts: *Native American Voices* (Exhibit Tour 2nd floor, Penn Museum)


OPTIONAL

Atalay, Sonya 2006 No sense of the struggle: creating a context for survivance at the NMAI. *American Indian Quarterly* 30(3–4):597–618.


November 2:  Laboratory: Unreal: Introduction, model import, and navigation

Assignment #5:  Presentation: Archaeology and Games Due 11/12/2018, 11/14/2018, or 11/19/2018 (depending on your assigned game or reading)

November 5:  Virtual Humans in Cultural Contexts

Assignment #4 Due Today: Assignment #4: Individual or Group Final Project Summary Proposal. Students may work individually or in small groups. The professors will provide detailed feedback on these projects. The quality and completeness of these project proposals and descriptions will be considered in the final grade.
Choose 3 articles from list below to read and be prepared to discuss them in class.


**November 7: Games: Virtual and Augmented Reality**


Choose three of the following articles and be prepared to discuss them in class:


Chen, Shengnan, Zhigeng Pan, Mingmin Zhang, and Huaqing Shen 2011 A Case Study of User Immersion-based Systematic Design for Serious Heritage Games. *Multimedia Tools and Applications manuscript No.?*


**November 9:** Laboratory: Maya Modeling, Unreal, Individualized Project

**November 12:** Archaeology and Games I

*Assignment #5 Due Today:* Presentation: Archaeology and Games *Due 11/12/2018, 11/14/2018, or 11/19/2018* (depending on your assigned game or reading)

Mol, Angus A.A., Csilla E. Ariese-Vandemeulebroucke, Krijn H.J. Boom and Aris Politopoulos (editors) 2017 *The Interactive Past: Archaeology, Heritage & Video Games.* Sidestone, Leiden.[various individual chapters]


Gutierrez, Diego and Bernard Frischer 2006 AI and Virtual Crowds: Populating the Colosseum


Society for American Archaeology 2016 Special Section: Video Games and Archaeology Part 1. SAA *Archaeological Record* 16(5).

- Colleen Morgan: “Video Games and Archaeology”
- Angus Mol, Csilla Ariese-Vandemeulebroucke, Krijn Boom, Aris Politopoulos, and
- Vincent Vandemeulebroucke: “Video Games in Archaeology: Enjoyable but Trivial?”
- Shawn Graham: “The Archaeologist Who Studied Video Games, and the Things He Learned There”
- Andrew Reinhard: “Toward Archaeological Tools and Methods for Excavating Virtual Spaces”
- Edward González-Tennant: “Archaeological Walking Simulators”
- L. Meghan Dennis: “Archaeogaming, Ethics, and Participatory Standards”
- Juan F. Hiriart: “Surviving the Middle Ages: Notes on Crafting Gameplay”

Society for American Archaeology 2017 Special Section: Video Games and Archaeology Part 2. SAA *Archaeological Record* 17(2).
• Erik Champion: “Bringing Your A-Game to Digital Archaeology: Issues with Serious Games and Virtual Heritage and What We Can Do About It”
• Colleen Morgan: “An Unexpected Archaeology: An Interventionist Strategy for Video Games and Archaeology”
• Tara Copplestone: “Adventures in Archaeological Game Creation”


November 14: Archaeology and Games II

Assignment #5 Due Today: Presentation: Archaeology and Games Due 11/12/2018, 11/14/2018, or 11/19/2018 (depending on your assigned game or reading)

November 16: Laboratory: Maya Modeling, Unreal, Individualized Project

November 19: Archaeology and Games III

Assignment #5 Due Today: Presentation: Archaeology and Games Due 11/12/2018, 11/14/2018, or 11/19/2018 (depending on your assigned game or reading)

November 21: Final Project Consultations

November 23: Thanksgiving Holiday

November 26: Role of the Archaeology Museum and Exhibits about the Past.

Two short readings to provide context for the lecture about designing an archaeological exhibit Beneath the Surface: Life, Death, and Gold in Ancient Panama on Friday (in a single pdf file in readings folder):


Choose 3 of the following articles to read and be prepared to discuss them in class:


November 28: Archaeology, Tourism, and Interpretation


Clarkson, Chris and Ceri Shipton 2015 Teaching Ancient Technology using “Hands-On” Learning and Experimental Archaeology. Ethnoarchaeology 7:2, 157-172.


OPTIONAL

November 30: Laboratory: Maya Modeling, Unreal, Individualized Project

Assignment #6a: In-class PowerPoint presentation of Final Project.
Due 12/5/2018, 12/7/2018, or 12/10/2018 depending on your assignment on the presentation list)

Assignment #6b: Submission of 1) revised PowerPoint presentation and 2) complete draft of paper summarizing the Final Project (integrated text, references, and imagery) and relevant digital files; student websites should be up to date.
Due 12/16/2018

Assignment #6c: Submission of final version of paper about the Final Project (integrated text, references, and imagery) and digital files.
Due 12/19/2018
December 3:  Computer Graphics: Illumination Studies (Godin site) Guest Lecture by Virginia Badler


December 5:  Final Project Presentations I

**Assignment #6a:** In-class PowerPoint presentation of Final Project.
**Due:** 12/5/2018, 12/7/2018, or 12/10/2018 depending on your assignment on the presentation list)

December 7:  Final Project Presentations II

**Assignment #6a:** In-class PowerPoint presentation of Final Project.
**Due:** 12/5/2018, 12/7/2018, or 12/10/2018 depending on your assignment on the presentation list)

December 10: Final Project Presentations III

**Assignment #6a:** In-class PowerPoint presentation of Final Project.
**Due:** 12/5/2018, 12/7/2018, or 12/10/2018 depending on your assignment on the presentation list)

December 16: Draft of Final Project Paper due

**Assignment #6b due today:** Submission of 1) revised PowerPoint presentation and 2) complete draft of paper summarizing the Final Project (integrated text, references, and imagery) and relevant digital files; student websites should be up to date.

December 19: Final version of Project Paper due

**Assignment #6c due today:** Submission of final version of paper about the Final Project (integrated text, references, and imagery) and digital files.