CSCI 199 002   Visual and Computational Thinking   Fall 2007

Syllabus

ARTH 190 001

CSCI 199 002 Instructor:
> Dr. Jim Bowring: http://www.cs.cofc.edu/~bowring/
> *Office*: J.C. Long (LONG) 207
> *Tel*: 843.953.0805
> *Email*: Please use bowringj@cofc.edu with Subject = "**Thinking**" for a response
>   within 24 hours. I will ignore other Emails.
> *Office hours*: MW: Noon – 1:00 PM; TR: 11:00 AM- Noon, or by appointment

ARTH 190 001 Instructor:
> Dr. Marian Mazzone:
> *Office*: 301 Simons Center for the Arts
> *Tel*: 843.953.7165
> *Email*: Please use mazzonem@cofc.edu
> *Office hours*: M: 3:00 PM – 5:00 PM

Peer Facilitator:
> Alex Endert
> *Office*: New Student Programs (Lightsey Annex)
> *Tel*: 843.953.2017
> *Email*: Please use alex.endert@gmail.com
> *Office hours*: W: 2:00 PM – 3:00 PM; 4:00 PM – 5:00 PM

Class and seminar places and times:
> Class: Classroom: J.C. Long Building (LONG) 220
>   Time: TTh: 3:05 - 4:20 AND 4:30 – 5:45 PM
> Seminar: Classroom: Education Center (ECTR) 113
>   Time: W: 3:00 - 4:00

Course description:
CSCI 199 linked-to ARTH 190 – Visual and Computational Thinking – This pair of courses, taught by a faculty member from computer science and one from art history, will guide students to analyze and present information visually using computers as the medium. This course pair will emphasize imagination, creativity, and problem solving. You will work hands-on with computer programs, data structures, and virtual environments.

Learning Objectives:
The principal goal of the course is that students learn to effectively analyze, understand, and present information visually using computers as the general medium. Specific concentrations include data visualization and comprehension, the study of the complex data environments produced in gaming, virtual reality, and the media arts. The course will emphasize collaboration among students as well as hands-on experience with new technology. Students will begin by analyzing the computational and visual features of data environments (two-dimensional and beyond), develop and practice skills in manipulating data and its structures, and create new visual representations of data environments via imagination and problem solving.

Study Units:

Unit One: 2-D and Mapping
This unit will focus on the historical roots for the design and interpretation of complex
ideas through two-dimensional (flat) images, from maps to displays on the computer
screen
We will study:
> Tools for the design and understanding of 2-D images from art
> Types of maps as 2-D representations (such as geographic maps, sky maps,
> mathematical maps, programming maps, etc.)
> The vogue for conceptual maps and how they work

Unit Two: Art & Computer Science—the conceptual connections
This unit will address the means by which the disciplines of science and art both make
material visual in order to better understand the world, and to better create and
explore new ideas
We will study:
> The intertwining of art/computer science disciplines from the 1940s forward
> Computers as both a means and a generator of creativity and intelligence,
> such as Artificial Intelligence
> The use of digital information and computers by artists to create new forms

Unit Three: From 2-D to spatial complexity
This unit will explore reasons to stretch beyond the strictures of 2-D representation to
visual and conceptual spaces in multiple dimensions
We will study:
> New media art's move into space through data, sound and time
> Hypertext
> Gaming environments
> Google Maps and mashups

Required Texts:
> Rudolf Arnheim. Art and Visual Perception: A Psychology of the Creative Eye
> Joseph Weizenbaum: Computer Power and Human Reason: From Judgment to
> Computation

Co-located conference: http://www.cofc.edu/~thinking

Electronic Resources:
1) Class Group;
2) College of Charleston Libraries;
3) Center for Student Learning;
4) Career Planning Guide provided by the Career Center;
5) Google Labs;
6) Scratch;
7) CMap

Attendance and class participation:
We expect you to attend and participate in every class session. Your active participation will lead to your success and to the success of the class. We expect you in class on time and prepared by having read the assigned readings. Class participation includes the weekly breakout session with the peer facilitator. Class participation counts as 20% of your grade and more than three absences will adversely affect your participation grade.

Homework and assignment policy:
All assignments are due at the beginning of class on the due date with no exceptions.

Classroom disruption:
Please read the College of Charleston's Student Code of Conduct. When you come to class, please turn off your cell phones and all other electronic communication devices.

Disabilities:
If you have a documented disability and SNAP Services approves you to receive accommodations, please contact us during office hours or by appointment.

Student Honor Code:
We expect you to abide by the Honor Code and the Student Handbook: A Guide to Civil and Honorable Conduct. If you have a question about how to interpret the Honor Code, ask before acting! We encourage collaboration, but you must document it. Thus, each student and team will submit their own work and, when collaborating, provide a reference to those people and documents consulted.

Grading scale:
100-96 (A); 95-92 (A-); 91-88 (B+); 87-84 (B); 83-80 (B-); 79-77 (C+); 76-73 (C); 72-70 (C-); 69-67 (D+); 66-63 (D); 62-60 (D-); else (F)

Evaluation schedule:
- 20%   Class and Seminar preparation and participation including quizzes
- 40%   5 Projects
- 20%   Term Project
- 20%   Final