

**1.016: Communicating Complex Environmental Issues:
Designing and Building Interactive Museum Exhibits**

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Meeting times:

Class: Monday and Wednesday, 3:00-4:30 PM; Recitation: Friday, 3:00-4:00 PM. Except as noted, class and recitation are in 16-168 until construction begins. Then we move, first to 1-050 and 1-090 and later to Lobby 13. [Note: These are not traditional recitations—they are primarily time set aside for teams to meet and develop plans, build prototypes or exhibit components, etc.]

Description:

Students will form teams of about five members each; each team will draw on knowledge gained during the Fall Terrascope subject (12.000), as well as additional research, to produce an interactive, museum-style exhibit about subjects related to water in western North America and other related topics. The project will involve research, design, engineering, construction and writing. As in other Terrascope subjects, most of what we do will be in teams and will be guided strongly by the students' own interest and enthusiasm. In addition to this team work, there will be lectures, discussions and readings designed to help raise awareness of the issues that arise when designing exhibits, and of the benefits and pitfalls of this unique form of communication.

Objectives:

This class gives Terrascopers an opportunity to exercise and strengthen the teamwork skills they have developed in 12.000. In this subject, students will also gain:

- Experience in design, engineering and prototyping.
- Experience working on a physical project in a group setting.
- A greater awareness of how people learn scientific ideas and how information can be communicated outside the formal educational context.
- A deeper knowledge of the scientific, economic and political issues involving water in western North America.

Grading policy:

This class will be graded as: A/B/C/No Record, based on the following formula:

- 30% Attendance, class participation and assessment (by UTFs and instructors) of individual effort.
- 20% Personal "Developer's Journal," written in weekly installments over the course of the semester.
- 20% Team assignments: preliminary proposal, prototype, final proposal, etc.
- 5% Condition of the team's work area during construction.
- 25% Final exhibit.

Class Schedule:**February:**

4(W) Introduction; overview of class. Review of work done by IAP class (1.991); overview of potential exhibit topics.

Assignment: Visit two interactive museums; compare them in a Developer's Journal entry (due 2/11, 9:00 PM).

6(F) Recitation: Students and UTFs only (no instructors present); Creativity and communication.

9(M) Guest lecture: Linda Ziemba, exhibit designer. Students list exhibit-topic preferences.

11(W) First half of class: Exhibits and learning in museums. Second half of class: Principles and practices of engineering/design. **Due:** Developer's journal, 9:00 PM.

13(F) Recitation: Tour of workshops and shop-safety presentation. **Meet in Room 1-050.**

17(T==M) Meet in 1-090 for construction project. Exhibit teams published. **Assignments:** (1) Teams each identify one member who will coordinate team finances. (2) Class as a whole: develop brief survey to be distributed to high-school students who are the target audience of the exhibits; due 2/20 at end of recitation. (3) Preliminary proposals; due 3/2.

18(W) Team brainstorming session. Meet in 16-168. **Due:** Developer's journal, 9:00 PM.

20(F) Recitation. Individual teams meet for brainstorming; teams coordinate on development of survey questions. **Due:** Survey questions, due at end of recitation.

23(M) Meet in 1-090 to complete construction project.

25(W) Meet in 16-168 for team brainstorming session. **Returned:** Survey results. **Due:** Developer's journal, 9:00 PM.

27(F) Recitation—work on preliminary proposals.

March:

2(M) **Preliminary proposals due, presented in class.** Reading on prototyping and formative evaluation assigned.

4(W) Class moves to 1-050. First half: class discussion on prototyping and formative evaluation. Second half: teams meet to plan prototype development. **Due:** Developer's journal, 9:00 PM.

6(F) Recitation—work on prototypes.

9(M) Team meetings—work on prototypes.

11(W) Team meetings—work on prototypes. **Due:** Developer's journal, 9:00 PM.

13(F) **Meeting to prepare for trip. Attendance required for those traveling.** (This takes the place of recitation.)

16(M) Team meetings—finish prototypes.

18(W) **Prototype of at least one interactive due at beginning of class.** During class: try out prototypes, observe and interview classmates and high-school students trying out prototypes. **Due:** Developer's journal, 9:00 PM.

20(F) Recitation, but with instructors present. Team meetings to discuss results of prototyping, prepare for trip and discuss final proposal. **Due at beginning of recitation: list of team's specific objectives for trip.**

3/22-30 Field trip (optional).

30(M) First half of class: Visit from Mike Katz and Sara Brown, Theater Department specialists, to discuss lighting, scene-setting and model-building. Second half of class: Team meetings to revisit proposal after trip, prepare for final proposal. **Assigned:** Final Proposal (due 4/6).

April:

1(W) Introduce library specialists. Team meetings, library specialists present. **Due:** Developer's journal, 9:00 PM.

3(F) Recitation: Prepare final proposal.

6(M) **Final proposals (including rough scale model) due, presented in class.** Presentation on using large-format printer. **Assigned:** Exhibit text (due, with citations, 4/25) and Pre-Opening (5/6).

8(W) Team meetings. Adapt final proposal based on feedback from class and instructors, plan for rest of semester. **Due:** Developer's journal, 9:00 PM.

10(F) Recitation: **Begin full-scale construction.**

13(M) **Lobby 13 becomes available for exhibit installation on this date. Move primary construction activities to Lobby 13.**

15(W) Construction continues. **Due:** Developer's journal, 9:00 PM.

17(F) Recitation—construction continues.

20(M) No class—Patriots' day.

22(W) Team work, with focus on construction and exhibit text. Library specialists present to assist with development of text/citations. **Due:** Developer's journal, 4/23, 9:00 PM.

25(F) Recitation. Library specialists present to assist with development of text/citations. **Draft of final text due, with citations, at end of class.** Library specialists present to review and assist.

27(M) Team work.

29(W) Team work. **Due:** Developer's journal, 9:00 PM.

May:

1(F) Team work.

4(M) Team work; prepare for pre-opening.

6(W) **Pre-opening: Exhibits up for classmates, instructors to review and critique (informally).** **Due:** Developer's journal, 9:00 PM.

8(F) Team work; resolve issues discovered during pre-opening.

11(M) **Opening: exhibits due, open for viewing by outside visitors.**

13(W) Final class—panel of museum experts and high-school students evaluates exhibits. Review accomplishments and lessons learned. Celebrate!