HU4625 Risk Communication

Room: 134 Walker
Time: 9:35-10:50 MTWR
Semester: Summer 2014
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(HU4625 Risk Communication is included on the HASS Distribution List.)

Policy on Multitasking

Extensive research has shown that multitasking simply doesn’t work and that the people who are most confident about their ability to multitask are, in general, the worst at multitasking successfully. The most dramatic evidence we have for this is with respect to using a cell phone (for either talking or texting) while driving. Hence, if you use an mp3 player, cell phone, laptop, tablet, or other electronic device in class, I will count you absent for that day. If you want to test your multitasking potential, visit http://www.youtube.com/watch?v=Ahg6qcgoay4 (This test is only valid if you haven’t seen this or a similar test previously.)

A. Required Texts


I will also provide you with 6-10 case studies.

B. General Course Description

As a profession and a subject of scholarly discussion, risk communication is a fairly new field. However, the practice of communicating hazards is ancient, diverse, and ubiquitous, including everything from fairy tales to road signs. (Please see the next section for the technical distinction between risk and hazard.) (Even pre-linguistic: e.g., the warning calls of Diana monkeys in West Africa.)
Historian James Souther claims that since World War II, the need to communicate technical information to the public has been dramatically increased by (1) environmental legislation, (2) the consumer movement, and (3) the advent of the personal computer. In all three of these contexts (although perhaps more obviously in the first two), risk communication plays a key role. In addition to communicating about the risks associated with environmental issues, consumer products, and computer use, both technical experts and professional communicators have become increasingly occupied with communicating risk messages about—among other things—health, safety, occupational hazards, natural hazards, and financial investments.

Almost everyone produces and/or consumes risk communication in three broad areas: (1) in our personal lives; (2) in our public lives (as citizens); and (3) in our professional lives. You’ve all been subjected to hazard communication from birth (e.g., “Don’t touch that stove!”); hence, you’re each already hazard-communication experts of a sort. This semester, we’ll (1) pool your expertise (through shared discourse); (2) conceptualize your expertise (that is, abstract from your experience principles of effective and ethical risk communication); (3) inform your expertise (through our readings); and (4) practice your expertise (through your projects).

### Six Contexts for Risk Communication

<table>
<thead>
<tr>
<th></th>
<th>Personal</th>
<th>Public</th>
<th>Professional</th>
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<tbody>
<tr>
<td>Create</td>
<td>Caution children about not running with scissors.</td>
<td>Letter to the editor about a proposed hazardous-waste incinerator in your community.</td>
<td>Provide a workshop for colleagues on the hazards involved in operating a piece of equipment recently acquired by your company.</td>
</tr>
<tr>
<td>Consume</td>
<td>Read the Patient Information Leaflet your pharmacist provides with your prescription.</td>
<td>Attend a community meeting on the proposed hazardous-waste incinerator in your community and listen to and assess expert testimony on various sides of the case.</td>
<td>Read Material Safety Data Sheets (MSDS) on hazardous chemicals stored at your workplace.</td>
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We’ll examine various models of risk communication, the diverse roles assumed by the public under each of these models, and means of ensuring that risks are communicated both effectively and ethically. We will consider a variety of case studies of health (personal and public), safety, and environmental risk communication. We’ll also explore the prospects for communicating risks in diverse cultures. Over the semester, you’ll develop individual or group projects on a risk-communication topic of your choice by—among other things—adapting what we learn about risk communication from the case studies and readings.

### C. A Few Key Definitions

The National Research Council defines *hazard* and *risk* as follows:

**Hazard:** An act or phenomenon posing potential harm to some person(s) or thing(s); the magnitude of the hazard is the amount of harm that might result, including the seriousness and the number of people exposed. (For example, living near a volcano.)
**Risk:** Adds to the hazard and its magnitude the probability that the potential harm or undesirable consequence will [occur]. (For example, the likelihood that the volcano will erupt.)

National Research Council. *Improving Risk Communication.* (Washington: National Academy Press, 1989.) p. 321. We’ll discuss implications of and variations on these definitions over the course of the term.

**D. Communication Ethics**

In the West, theories of public communication can be traced back at least to the conceptualization (that is, the development of teachable principles) of the art of rhetoric in fifth century BCE Greece. (483 BCE, silver at Laurium; Themistocles: from about 70 to about 200-300 triremes; Corax of Syracuse, ca. 467 BCE.) We’ll draw upon this ancient body of rhetorical theory as we study risk communication this term. Aristotle (384-322 BCE) defined rhetoric as “the faculty of observing in any given case the available means of persuasion.” A key concern in philosophical discussions of rhetoric has been the extent to which an emphasis on persuasion licenses deceit and manipulation. Plato (427-347 BCE) and (through him) Socrates (469-399 BCE) criticized rhetoric for “making the worse appear the better cause.” (See, for example, the opening scene of the 2005 film *Thank You for Smoking.*) Many rhetoricians, however, have been deeply concerned with the ethics of rhetoric. For example, in his *Institutio Oratoria*, Quintilian (35-99 CE) wrote

Too much insistence cannot be laid upon the point that no one can be said to speak appropriately who has not considered not merely what it is expedient, but also what it is becoming to say. . . . these two considerations generally go hand in hand. . . . Sometimes, however, the two are at variance. Now, whenever this occurs, expediency must yield to the demands of what is becoming. . . . the end which the orator must keep in view is not persuasion, but speaking well, since there are occasions when to persuade would be a blot upon his honour. (XI.1.8-11)

Good risk communication addresses both what is expedient (persuasive/ effective) and what is becoming (ethical). And—Harry Potter-like--good risk communication should also teach “Defense Against the Dark Arts.”

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1 According to Pomeroy et al. (2008, p. 217), a trireme required about 170 oarsmen/rowers: 200 triremes x 170 oarsmen = 34,000 oarsmen. In *The Population of Athens in the Fifth and Fourth Centuries B.C.* (Basil Blackwell, 1933), A.W. Gomme estimates that in 480 BCE, Athens had only about 35,000 male citizens between the ages of 18 and 59 (p. 26). Even if Gomme’s numbers are off, a fleet of 200 triremes would have required a significant portion of Athens’ adult male citizens (metics [foreign residents] and slaves may also have been employed in this effort).
E. Public Participation in a Democratic Culture

A central concern in discussions about risk communication has been the role of the public in shaping policies designed to respond to various risks (environmental risks, health risks, etc.). James Petersen contends that “citizen participation [in policy formation] is nearly synonymous with democracy.” To work effectively with the public, risk communicators must understand the various ways in which public participation in risk disputes influences risk policy.

In an 1820 letter to William Jarvis, Thomas Jefferson said “I know of no safe depository of the ultimate powers of the society but the people themselves; and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them, but to inform their discretion by education.” In a technologically advanced democracy, the people risk becoming disenfranchised on an increasing number of issues that entail complex technical information. As Frederick Antczak says in *Thought and Character: The Rhetoric of Democratic Education*:

> In democracy, the people rule—that is, they rule insofar as they make their own decisions. But those decisions grow more complex, more intellectually demanding every day. The average citizen . . . is called to deliberate on an increasingly formidable variety of issues, each demanding a different way of knowing. Decisions must be made on, among other things, problems of toxic waste disposal, . . . the reliability of nuclear power plant construction and operation, . . . the proper limits and accountability of recombinant DNA research. . . .

> Life in an increasingly technologized society imposes increasing intellectual demands on society’s decision makers. . . . If in such an era democracy’s decisions are to be made intelligently and effectively, the public must somehow be reconstituted intellectually.

Public participation in public policy formation is not only a fundamental principal of democracy, it is also an essential means to better-informed policy decisions since—among other things—it encompasses a wide variety of perspectives that might not otherwise be considered.

This course examines public participation in public-policy deliberations in a scientifically and technologically advanced democracy and in the developing world. Through some—but not all—of the case studies described below, we will examine means by which non-experts do and can become informed participants in such deliberations, and we will discuss warrants, models, and strategies for such participation. As Jefferson suggests, if decisions about such issues are to be made wisely and yet are not to become the province of technical experts, we must find more and better ways to inform public deliberative processes.

In his *Rhetoric*, Aristotle says that a speaker’s character (or ethos) “may almost be called the most effective means of persuasion he possesses” (1356a.12). A key issue in our discussions will be trust in the expert testimony that informs much of our decision-making.
F. The Underdetermination Thesis

An underlying assumption of this course is an extension to the realm of policy formation of what Mary Hesse and others have called the “underdetermination” thesis. Hess argues that scientific theories are “underdetermined” (that is, only partly determined) by scientific data in that they are also partly determined by the assumptions, biases, and presuppositions that one holds when evaluating that data: “Theories are logically constrained by facts, but are underdetermined by them: that is, while, to be acceptable, theories should be more or less plausibly coherent with facts, they can be neither conclusively refuted nor uniquely derived from statements of fact alone.” Hence, theory formation (for example, about the causes of global warming) is not a strictly inductive process, and different scientists can derive different conclusions or theories from the same data.

This perspective places scientific theories closer to the realm of deliberative rhetoric than to that of objectively revealed truths. It also suggests that we need to closely examine the assumptions, biases, and presuppositions that shape not only our perception of the data, but also our very construction of data (for example, our construction of what data is needed for informed decision making and our construction of what counts as valid data). We need to make such biases explicit and question their social, political, and ethical implications. And we need to acknowledge that experts as well as nonexperts are subject to such biases.

G. General Models for Public Participation

One of many possibilities for taxonomizing various models of public-policy formation is by grouping models in terms of the diverse roles played by experts and the (presumably) nonexpert general public.

1. The Technocratic Model: This model assumes that technical decisions should be left to “experts” in science, engineering, industry, and government and allows no role for public participation or oversight.

2. The One-Way Jeffersonian Model: In 1820, Thomas Jefferson wrote “I know of no safe depository of the ultimate powers of the society but the people themselves; and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them, but to inform their discretion by education.” One implication of this Jeffersonian vision of democracy is that the public has a right to participate in decisions that affect its wellbeing, but that it should be empowered to do so, simply and unproblematically, through a one-way transfer of expert knowledge.

3. The Interactive Jeffersonian Model: This model might be considered a more charitable interpretation of the Jeffersonian vision of democracy. Under this model, technical experts communicate their expertise to the public, and the public communicates its values, beliefs, and emotions to technical experts. Thus, while the public adjusts to expert knowledge, experts adjust to public sentiments.
4. The Social Constructionist Model: This model expands upon the Interactive Jeffersonian Model by acknowledging that the values, beliefs, and emotions of experts also play a role in risk communication and environmental-policy formation. Furthermore, technical information also flows in both directions; thus, the distinction between “expert” and “public” begins to blur. The Social Constructionist Model views risk communication as an interactive exchange of information during which all participants also communicate, appeal to, and engage values, beliefs, and emotions.
Models derived from:


H. Basic Discussion Questions

The course addresses questions such as the following:

1. Why should the non-expert public have a voice in policy decisions that involve complex scientific and technological issues and evidence?

2. If the public is to participate in such deliberations and decisions, how might it do so effectively and ethically?

3. What factors shape the public reception of complex scientific arguments? and how might awareness of these factors be used to construct more effective appeals?

4. When it is unfeasible to include the full public in the deliberative process, how might representative segments of that public be involved in such deliberations?

5. In a diverse culture, how might one present arguments so as to respect diversity, win adherents based on diverse warrants, and challenge members of the community to consider the issue in new ways?

6. Does public testimony—sometimes required by law—merely provide a means of catharsis? or does it genuinely influence the decision-making process?

7. What are the problems with and what are the alternatives to the old technocratic model of decision-making?

8. Is the prevailing model of communicating risks to the public primarily a means of understating those risks? If so, can this model be modified such that it might be used to heighten public awareness of and concerns about genuine risks?

9. Ultimately, what changes will be needed in formal education, the media, and public advocacy in order to ensure that the people both remain the “depository of the ultimate powers of the society” and are “enlightened enough to exercise their control with a wholesome discretion”? 
I. Reading and Class Discussion

“We don’t understand anything until we’ve discussed it.”
-Russian Proverb

This course is based on common readings, on class discussion of those readings, and on the research projects described below. Hence, you should keep up with the reading and participate in class discussion on a regular basis; such discussion provides practice in public deliberation that is fundamental to the goals of this course.

As outlined in the below schedule of assignments and class activities, rather than requiring additional texts, we’ll view and discuss a number of videos and case studies. For example, we’ll view a video based on Peter Sandman’s book Responding to Community Outrage: Strategies for Effective Risk Communication. Sandman provides a perspective on risk communication reflective of industrial priorities. He claims that there are two different genres of risk communication: (1) arousing people whom one believes to be inadequately concerned about risks; and (2) calming down people whom one believes to be overly concerned about risks. He says that his book is relevant only to the second genre of risk communication; we’ll examine and challenge that claim.

J. Case-Study Approach I (compare the story of Corax in Section D above)

1. Sandman’s Model of Risk Communication

In his 1993 book Responding to Community Outrage: Strategies for Effective Risk Communication, Peter M. Sandman is described as “the preeminent risk communication speaker and consultant in the United States today.” In fact, Dr. Sandman is much cited, much sought after (the consulting list in his c.v. reads like a list of the Fortune 500), and his model is arguably the dominant model of risk communication. However, his approach has been criticized as manipulative (see, for example, chapter 5 of Trust Us, We’re Experts! by Sheldon Rampton and John Stauber). The entire book is now available free as a PDF file on Sandman’s website at http://www.psandman.com/media/RespondingtoCommunityOutrage.pdf

We will examine how Sandman defines risk (risk = hazard + outrage), break this definition down into six components, and examine which of these six components Sandman’s approach addressed and which it does not address and why. We will then consider how, by this definition and method, Sandman can claim to have reduced the risk when he has only reduced outrage.

Finally, we will examine how Sandman’s method—which he suggests is applicable only to reducing public outrage (“the critical question of how to pierce public apathy is not discussed here,” p. iv)—might be adapted to increasing public outrage; thereby making this model of risk communication equally accessible to both sides in any given case.

For online videos of one of Sandman’s consulting workshops, visit http://vimeo.com/18611416 and http://vimeo.com/18365815
2. Great Lakes Water Quality

Some studies of public participation have suggested that at times it may appear that the public has considerable influence on policy recommendations when, in fact, it has little; this chapter suggests that at other times it may appear that the public has little influence on policy recommendations when, in fact, it has considerable.

This case study of the International Joint Commission’s Biennial Meetings on Great Lakes Water Quality suggests that at least some of the IJC’s recommendations emerge from an interactive process that includes the five following stages:

1. Folk epidemiology—possibly in conjunction with some preliminary scientific findings—alarms the public about a potential problem.

2. Public testimony on this problem is offered before the IJC.

3. The commissioners refer compelling issues to their various scientific advisory boards for investigation.

4. The scientific advisory boards confirm some of the public’s concerns, leading the commissioners to be convinced (prepared to accept an idea intellectually), but not necessarily persuaded (committed to act on the basis of that idea).

5. On hearing further emotional appeals from the public on this issue, the commissioners become persuaded, but contend that public testimony only confirms what they already believe based on scientific evidence.

In at least some cases, the commissioners pursued an issue on the basis of public testimony, sought the support of their scientific advisory boards before committing themselves, and then, having received such support, genuinely perceived subsequent comments on this issue from the public as simply confirming their scientifically based beliefs. Thus, although the commissioners have found it politically expedient to cite public support when presenting their recommendations to legislators, they have found it politically inexpedient to suggest that their recommendations derive from public (as opposed to scientific) testimony. These conclusions are based on participant observation at three IJC Biennial Meetings, on in-depth interviews with five of the six IJC commissioners, on interviews with public participants at the meetings, and on analysis of related texts.

3. Recombinant DNA Experimentation

For at least 2,500 years, philosophers and rhetoricians have argued over the role of logic and emotion in deliberative processes. However, this case suggests that key to a successful appeal is not whether it is logical or emotional, but whether it is judged to be appropriate by the audience. An appropriate appeal is one that balances appeals to reason (logos), to emotion (pathos), and the character of the speaker or writer (ethos).
It is in part, at least, our ability to incorporate emotional and ethical appeals into a reasonable decision that separates human decision making from artificial intelligence. Hence, in order to further understand and enhance human decision making, we must determine what makes some emotional and ethical appeals appropriate and others inappropriate in a given context. This case describes how one audience—the Cambridge Experimentation Review Board (CERB)—made such determinations when considering arguments for and against conducting recombinant DNA research in Cambridge, Massachusetts in 1976-77. These conclusions are based on research in the MIT Archives collection on this case and on extensive interviews with the principal participants, including all of the CERB members.

This case also suggests that when public policy decisions or recommendations must be delegated to a subset of the population at risk (such as to the Cambridge Experimentation Review Board), that subset should be

1. Representative of the community at risk.
2. Disinterested in the exclusive benefits in question (i.e., benefits not shared by the general population, such as immediate financial rewards and prestige).
3. Willing and able to inform themselves adequately about the relevant issues.
4. Accountable to the community.

4. Population Pressures

To speak or write effectively, one must develop a good sense of one’s audience. Speakers in our complex society often address diverse audiences and are sometimes tempted to appeal to a lower rather than a higher common denominator. For example, in The Population Bomb, Paul Ehrlich indicates that he will not appeal to altruistic motives to persuade his audience because most Americans clearly don’t give a damn. They’ve never heard of the California condor and would shed no tears if it became extinct. Indeed, many Americans would compete for the privilege of shooting the last one. Our population consists of two groups; a comparatively small one dedicated to the preservation of beauty and wildlife, and a vastly larger one dedicated to the destruction of both (or at least apathetic toward it). I am assuming that the first group is with me and that the second cannot be moved to action by an appeal to beauty, or a plea for mercy for what may well be our only living companions in a vast universe.

This case suggests that rather than appealing to only one segment of a diverse audience, a more appropriate approach is the orchestration of appeals. That is, presenting a diverse audience with diverse warrants for pursuing a particular course of action, thereby allowing diverse elements of the audience to select from among those warrants those that are most compelling to them. Some, for example, might find most compelling appeals to economic benefits (“ego-centric”); others,
appeals to human health benefits ("homocentric"); and yet others, appeals to environmental benefits ("ecocentric").

Arguably, the most compelling aspect of an enthymeme is its ability to enlist the audience in completing the argument. Likewise, the orchestration of appeals allows the audience to complete the argument by selecting the appeal that they find most compelling. It thereby recognizes and respects diverse values while still taking advantage of the opportunity to present people with new ways of thinking about the issue.

5. The Public Reception of Rachel Carson’s Silent Spring

“Man’s world is manifold, and his attitudes are manifold. What is manifold is often frightening because it is not neat and simple. Men prefer to forget how many possibilities are open to them.”

Walter Kaufmann, Prologue to Martin Buber’s I and Thou

It would be convenient to believe that one factor—such as appeal to Cold War apocalyptic concerns—explains the strong public response to Rachel Carson’s 1962 classic Silent Spring. However—as with most other complex issues—the public response to Silent Spring was overdetermined, a process that Raymond Williams defines as “determination by multiple factors.” Some of these factors, however, are more easily emulated than others. One such factor is Carson’s ability to ally her concerns with the prevailing spirit of the times, which happened to be apocalyptic. Hence, those who would learn from Carson’s success are well advised to ally their concerns with the contemporary spirit of the times rather than (as has often been done) to simply generate additional apocalyptic appeals. These conclusions are based on my research with the Rachel Carson Papers at the Beinecke Rare Book and Manuscript Library, Yale University.

K. Contemporary Examples of Risk Communication

As I noted in section B, risk communication is ubiquitous. The parable about the man who goes to a lecture about crows and then starts seeing crows everywhere suggests that once you start thinking in terms of risk communication, you’ll begin to notice how prevalent it is all around you.

In part to illustrate this point, I’ve brought a number of contemporary examples of risk communication in to class (bee colony collapse disorder, Monsanto’s genetically modified wheat, addictive power of menthol cigarettes, etc.). Please collect several contemporary examples of risk communication, bring them to class, and be prepared to discuss one or several of them briefly (3-5 minutes). Dates for presentations are indicated in the below Schedule of Assignments and Class Activities and are indexed to the number to the left of your name on the sign-in sheet.

Please consider the below excerpt from William Blake’s Auguries of Innocence (ca. 1803) as a
potential metaphor for finding in any given case many fundamental insights into risk communication:

   To see a world in a grain of sand,
   And a heaven in a wild flower,
   Hold infinity in the palm of your hand,
   And eternity in an hour.

You can use the document projector, YouTube videos, or whatever else you need to facilitate your presentation. Please consider (and discuss) what principles of risk communication your case(es) might be used to illustrate.

You can save a YouTube video to your desktop as follows: (1) type ss after www. in the YouTube address for your video; (2) press Return; and (3) when your browser is redirected to Savefrom.net, select the format in which you want to save the video [e.g., MP4 720p]. You can also go directly to Savefrom.net at http://en.savefrom.net

L. Discussion Questions

Our educational system usually does pretty well at helping to prepare people to answer questions and to solve problems, but perhaps not as well at helping people to frame questions and to identify what the problems are or might be to begin with. Given this, given the emphasis in the class on public deliberation, and given a desire to encourage more class discussion, three sets of discussion questions are required, with three questions in each set.

For 25 points each, bring to class for each of three Tuesdays (as indicated in the below schedule of assignments) a list of three discussion questions about the case (or cases) under discussion that week (An Enemy of the People; the Cambridge recombinant DNA case; Rachel Carson’s Silent Spring; etc.). Dates for discussion questions are indicated in the below Schedule of Assignments and Class Activities and are indexed to the first letter(s) of your last name (either A-M or Mi-Z).

Please word-process these lists. Since the purpose of these lists is to help stimulate class discussion, please be sure to have your lists ready on the days they are due. Also, please do not include more than one factual question on any given list. Instead, please focus on questions of interpretation. Ideally, these would be questions (a) that you yourself find interesting and (b) to which you don’t yet have a clear answer and, hence, (c) which you are genuinely interested in discussing/exploring with the class.

Please double-space your questions, and when questions are drawn from the reading, please cite the relevant page number(s).

In class, we’ll begin discussing your questions in small groups (2-3 people) and will then move on to further discussion with the class as a whole.
Credit for lists of discussion questions and for the consequent class discussions is, by the very nature of these assignments, awarded on the basis of your having prepared your lists in advance of class and your subsequent participation in in-class discussions. If you’re not there to participate, it will be very difficult to earn these points. The same would be true, for example, for an in-class quiz. An exception can be made for an excused absence.

M. Case-Study Approach II: Research Projects: Learning by Doing

“Tell me, and I forget. Show me, and I remember. Involve me, and I understand.”

In addition to our common readings, you’ll work on an individual or a collaborative research project on risk communication, employing one of the following four options:

Option 1: Communicate Risks to an Audience

Communicate risks to an audience through a single product (brochure, Web page, videotape, etc.) or through a more ambitious campaign/combination of products—with the goal of reducing those risks and provide a brief (2-3 page) analysis of your work (see the Final Analysis section below for details). One way to do this would be by finding a client who needs such work done.

Tip: If you need to incorporate a long URL into a document, use Google’s URL Shortener at http://goo.gl to create a shorter URL.

Caution on three-fold brochures.

Option 2: Analyze Existing Risk Communication

Analyze existing risk communication (either a single product or a whole campaign) with the goal of improving that communication, submitting where possible copies of what you’ve analyzed.

Option 3: Examine and Analyze an Issue

Examine and analyze an issue (pedestrian safety, STD’s, winter driving) instead of a risk communication product. In this case, you’ll create a report (which might itself be considered an example of risk communication) rather than a brochure, Web page, videotape, etc. What risks are involved with this issue? How might they be communicated effectively and ethically to target audiences? This may or may not include analysis of existing risk communication.

Option 4. Analyze a Risk-Communication Process

Analyze a risk-communication process (such as risk communication preceding the launch decision for the Space Shuttle Challenger) rather than a risk communication product.
Learning from Journeyworks Publishing

For a wide range of examples of health risk communication, see Journeyworks: Health Promotion and Health Education Publishing at http://www.journeyworks.com including the following resources:

- To facilitate brainstorming for topics, see the Journeyworks “All Subject List” at http://www.journeyworks.com/sitemap.asp
- For ideas on project development, see “How We Develop Materials” at http://www.journeyworks.com/Aboutus.asp#WhoWeAre
- For examples of brochure design, see individual Journeyworks brochures
- For examples of diverse media that might be used for risk communication, in the left-hand menu on the Journeyworks homepage, click on “DVDs Posters & More!”

Disclaimers in Risk Communication

If your project includes medical advice, you need to be especially careful to indicate that you are not a medical professional (unless you are one) and to only report (accurately and objectively) advice from qualified medical professionals. The same might be true for safety disclaimers, for example, with instructions on the safe use of a chain saw. See, for example, Wikipedia’s Medical Disclaimer at https://en.wikipedia.org/wiki/Wikipedia:Medical_disclaimer

Examples of Recent Projects

Recent projects have addressed topics as diverse as cardiovascular disease, volcanic hazards, pharmaceutical waste, anti-smoking campaigns, carbon nanotubes, tsunamis, Ford Pinto production decision, cell phones, woodworking machinery, the Space Shuttle Challenger launch decision, biomedical laboratory safety, sexually transmitted diseases, the U.S. military anthrax vaccine program, human papilloma virus, genetic testing, communication between health-care providers and their clients, and viral diseases. You might want to examine a case that is of regional interest; or you might examine a case—current or historical—that has gained the attention of the national media.

Undergraduate and Graduate Work

Given that 4000-level courses can be taken by both graduate and undergraduate students, I’ve tried to keep diverse audiences in mind when selecting texts and designing the project assignment. If you’re a graduate student, you might want to consider selecting option 2, 3, or 4 (above) and using this project as a draft of a master’s project, a pilot study for or draft chapter of your dissertation, or a draft conference or journal paper.
Collaborative Projects

The ability to work collaboratively is becoming increasingly important in academic, industrial, political, and other contexts. People in all of these contexts need to pool both their time and their diverse skills in order to solve complex problems and to complete complex tasks effectively. Hence, I encourage you to use this opportunity to work in a collaborative group (consisting of 2-4 people), and I strongly encourage you to form interdisciplinary groups in order to take maximum advantage of one another’s strengths. If you do join a collaborative group, remember that the others in your group will be depending on you, and your grade (as well as theirs) will in part be determined by your ability to work effectively with them.

Stages in Project Development

Your project will include at least the following six stages or components:

1. **Brainstorming:** Meet with me to discuss project ideas.

2. **Proposal:** Your proposal should be approximately 500-1000 words (two to four double-spaced pages) and should identify [possible template] (1) the members of your group (if you’re working collaboratively), (2) what each of you will contribute to your study, (3) the issue or case you plan to study (topic), (4) how you plan to study it (methods), (5) why you’ve chosen this particular issue or case, (6) what your final product(s) will be, (7) how you plan to user-test your product or process (if appropriate), (8) what you hope to learn from this study, (9) what problems you anticipate, and (10) how you plan to resolve those problems.

Note that it will be nearly impossible to employ methods that would require approval of Michigan Tech’s Institutional Review Board (IRB) for the Protection of Human Subjects because there will almost certainly not be time to secure such approval during the academic term. See the IRB Web page at [http://www.mtu.edu/research/administration/integrity-compliance/review-boards/human-subjects/](http://www.mtu.edu/research/administration/integrity-compliance/review-boards/human-subjects/)

3. **Progress Report:** Your progress report should be approximately 750 words (three double-spaced pages) and should describe [possible template] (1) progress to date, (2) work left to be done, (3) problems encountered, (4) how you’re resolved or attempted to resolve those problems, (5) if you’ve chosen option 1 (producing a product), what software and hardware you are using (and why), and (6) results (or preliminary results) of user-testing. Your report must include a double-spaced draft of all or of a substantial part of your final project.

4. **Oral Presentation:** An 18-20-minute oral presentation (including Q&A) on your project. Three formats have worked well in the past: (1) present your project as if the class is the intended audience for your risk communication; (2) describe your project in a way similar to the method defined in the “Final Analysis” section below; (3) some combination of 1 & 2. Remember that the oral presentation is about your project; it is not your project itself.
That is, everyone will be delivering an oral presentation on his or her project; the final product is something else (see below).

5. **Final Product:** Your final brochure, videotape, etc.

6. **Final Analysis:** In either providing a brief analysis of your own work or producing a scholarly analysis of someone else’s work, you might consider, among other things, (1) the intended audience(s) of the communication; (2) the purpose(s) of the communication; (3) the effectiveness of the communication; and (4) the ethics of the communication.

**Required Content for Self-Analysis with Option 1**

If you chose Option 1 in Section M (producing a product), your final self-analysis (2-3 pages) must address the seven questions listed below. *This might suggest a template for your analysis.*

For questions 1-3, describe what *you have actually done* with your product. For questions 4-7, describe, hypothetically what would apply if you were to actually mass produce and distribute your product (consider class discussion of each of these items):

1. How will you persuade people in your intended audience to pick up and read or otherwise use what you have produced?

2. How will you simultaneously address *multiple* audiences (e.g., children and adults; patients and their families)?

3. How will you persuade people to act (change behavior) based on what you have provided them?

4. How will you produce your product(s)?

5. How will you distribute them?

6. How will what you’ve produced (or analyzed) fit into a larger, more comprehensive risk-communication campaign?

7. How will you evaluate/assess the effectiveness of what you have produced, with an eye toward future revision?

If you’ve chosen option 1 above, your final analysis should be a brief (2-3 page) analysis of your own risk-communication product or campaign.
Required Content for Options 2, 3, and 4

If you chose Option 2, 3, or 4 in Section M, your final project should be approximately 2500-3000 words (10-12 double-spaced pages) and must address the seven points listed below. **This might suggest a template for your analysis:**

1. Describe what you studied and why (topic and purpose).
2. Describe how this topic relates to other reading you’ve done (literature review).
3. Describe how you studied this topic (methods).
4. Describe the case (narrative).
5. Describe what you found (results/thesis and evidence to support your thesis).
6. Describe what insights you draw from your results (conclusions); for example, what is the cause of what you’ve found? What is its significance? What should we do about it? What further studies might be warranted?
7. Include a list of works cited and, if appropriate, appendices.

Be sure to support your claims with evidence and to document your sources using either MLA or APA style.

**Required for All Options (1, 2, 3, and 4)**

Both in your project and in your analysis (whether you chose option 1, 2, 3, or 4 in Section M), you must apply concepts introduced in the course, such as the following. This could describe either concepts you consciously employed during the process of developing your product or concepts that, in retrospect, you realize might help to describe the success of your project:

1. Appropriate adaptation of Sandman’s 20 components of outrage.
2. Three basic forms of risk communication (consensus, care, and crisis).
4. Causes of uncertainty (such as lack of data, data mining/data drudging, failure of invariance, expert disagreement, underdetermination, complexity/chaos).
5. Principles for making reasonable decisions under conditions of uncertainty (such as weight of evidence, burden of proof, Pascal’s Wager).
6. Rhetorical Principles (such as ethos, logos, and pathos; kairos; stasis, topoi; enthyememe; and the rhetorical situation).

7. Orchestration of Appeals.

8. Egocentric, homocentric, and ecocentric appeals.


10. Vividness effect, but not too graphic.

N. Evaluation

Your final grade will be determined *approximately* as follows:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
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<tbody>
<tr>
<td>Attendance (28 classes at 7 points each + 4 to round to)</td>
<td>200</td>
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<tr>
<td>Reading and discussion quizzes (100 points for each of 2 quizzes)</td>
<td>200</td>
</tr>
<tr>
<td>Brief presentation on current issue in risk communication</td>
<td>25</td>
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<tr>
<td>Three sets of discussion questions (3 questions each set); 25 each</td>
<td>75</td>
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<tr>
<td>Brainstorming conference</td>
<td>50</td>
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<tr>
<td>Research proposal</td>
<td>50</td>
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<td>Progress conference</td>
<td>25</td>
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<tr>
<td>Draft of project</td>
<td>25</td>
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<tr>
<td>Written progress report</td>
<td>25</td>
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<tr>
<td>Oral presentation</td>
<td>125</td>
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<tr>
<td>Final research project/project analysis</td>
<td>200</td>
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<tr>
<td><strong>Total</strong></td>
<td>1000</td>
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**Extra credit:**
Bring to class and show me during the first three weeks of the semester the required textbooks with your name permanently marked on the inside front cover 25 points

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<thead>
<tr>
<th>Grade</th>
<th>Points</th>
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<td>930-1000</td>
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<tr>
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<td>880-929</td>
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<tr>
<td>B</td>
<td>830-879</td>
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<td>BC</td>
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<td>C</td>
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<td>599 or fewer</td>
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<th>ProgCon</th>
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<th>Prgt Rpt</th>
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</table>
O. Policy on Late Assignments

If you do not submit your assignment on time, you will lose 10 points for every day that it is late. I will not accept any assignment that is more than one week late.

P. Policy on Missed Conferences

Class policy on missed conferences is similar to the policies on absences and late assignments:

1. If you must miss a conference for a reason that would be covered by Michigan Tech’s policy on excused absences (illness, death in the family, etc.), that will count as an excused absence from your conference. Please try to notify me in advance, and make arrangements to make up this conference; initiating this rescheduling is your responsibility. On the first such incident, I will take your word for the reason for missing the conference. On subsequent absences, I may require verification from the Dean of Students Office or from a medical professional.

2. If you miss a conference for a reason not covered by Michigan Tech’s policy on excused absences, on the first such occurrence, I will penalize you 10 percent if you submit notification in advance of the conference and 20 percent if you do not submit notification in advance of the conference. You should then attempt to reschedule the conference; initiating this attempt is your responsibility. On subsequent unexcused absences, there will be no rescheduled conference.

Q. The Michigan Tech Multiliteracies Center

Michigan Tech has an excellent Multiliteracies Center, which is located in Walker 107. I encourage you to schedule, regular weekly appointments with a writing coach. Establish a schedule early in the semester, because appointed times (as opposed to drop-in times) tend to get booked quickly. For more information, call 487-2007 or check the Center’s webpage at http://www.mtu.edu/humanities/resources/mtmc/

R. Attendance Policy

“Eighty percent of success is just showing up.” Woody Allen

According to the Michigan Tech Attendance policy, an absence is excused under the following conditions:

- A student is participating in off-campus, University-sponsored activities, such as field trips, fine arts performances, intercollegiate athletics, judging teams, job fairs, etc. The faculty or staff members supervising the off-campus activity will send a notice to all academic departments and the Office of Student Affairs before the activity takes place.
The notice will include the name and date of the activity, the name of the supervising person, a list of all participating students, and their classes.

- The instructor is assured that a student’s absence from class was due to circumstances beyond the student’s control. The student must provide verification of the special circumstance if the instructor requests it. Excuses are usually given in the following circumstances: illness, funeral of any relative or close friend, military duty, court appearance, and personal emergencies.

- The instructor deems it excusable. Some examples might include professional and graduate school interviews, plant trips, job interviews requiring travel, and professional society meetings.

A full description of the University’s attendance policy is available at http://www.mtu.edu/dean/conduct/policy/attendance/

I keep a record of attendance for two reasons:

1. Because if you’re doing poorly in class, these records can help me to determine if poor attendance is part of the problem.

2. Every professor at Michigan Tech is required to submit attendance-verification rosters. These rosters are used for two purposes:

a. To identify before it’s too late to make the appropriate corrections students who

   - think they are registered for a course, attend all semester and complete the work, but receive no grade at the end of the semester because they were never registered;

   - have never attended a class because they mistakenly think they have dropped the course and, hence, wind up receiving a failing grade at the end of the semester;

   - attend an incorrect section of a course and receive a failing grade at the end of the semester from the section for which they are registered but which they never attended.

b. To comply with federal law that stipulates that universities must verify that students who receive Title IV financial aid are attending the classes in which they are enrolled. (Title IV of the Higher Education Act of 1965 as amended in 1998 establishes general rules that apply to student financial assistance programs, including Pell Grants, Academic Competitive Grants, National SMART Grants, Federal Supplemental Educational Opportunity Grants, Federal Direct Loans, Federal Perkins Loans, and Federal PLUS Loans. Approximately 85 percent of Michigan Tech students receive some form of financial aid.)
Policy on Accountability for Excused Absences

I can allow up to two excused absences without documentation. However, if you want credit for more than two such absences, you must provide the appropriate documentation from the Dean of Students Office, from a medical professional, or from some other appropriate source.

S. Policy on Religious Observance (also from attendance policy at http://www.mtu.edu/dean/conduct/policy/attendance/):

“Michigan Tech permits students to be excused from class on holidays observed by their religious faith. Students who wish to be absent for a religious holiday are responsible for making arrangements in advance with their instructors to make up class work and exams. Instructors may expect a reasonable limit to the number of absences requested.”

T. Michigan Tech’s Academic Integrity Policy

See http://www.sa.mtu.edu/dean/judicial/policies/academic_integrity_policy_2006.pdf

“Academic integrity and honesty are central components of a student’s education, and the ethical conduct maintained in an academic context will be taken eventually into a student’s professional career. Academic honesty is essential in a community of scholars searching and learning to search for truth. Anything less than total commitment to honesty undermines the efforts of the entire academic community. Both students and faculty are responsible for insuring the academic integrity of the university.

This policy applies to the academic conduct of all persons at Michigan Technological University who have ever matriculated at the University, whether or not the person is enrolled at the time an allegation of academic dishonesty is made.

This policy addresses academic dishonesty in course work. Allegations of dishonesty in research or publication are addressed under the Scientific Misconduct Policy.

Procedures to ensure fairness and due process for all parties involved in any apparent violation of the Academic Integrity Policy will be developed, and periodically reviewed, by the Dean of Students Office in consultation with the members of the Academic Integrity Committee appointed by the University Senate.”

Academic Integrity Policy—Definition of Academic Misconduct
http://www.mtu.edu/dean/conduct/policy/academic-integrity/definition.html

“Plagiarism

Knowingly copying another’s work or ideas and calling them one’s own or not giving proper credit or citation. This includes but is not limited to reading or hearing another’s work or ideas and using them as one’s own; quoting, paraphrasing, or condensing another’s work without
giving proper credit; purchasing or receiving another’s work and using, handling, or submitting it as one’s own work.

**Cheating**
Intentional, unauthorized use of any study aids, equipment, or another’s work during an academic exercise. This includes but is not limited to unauthorized use of notes, study aids, electronic or other equipment during an examination; copying or looking at another individual’s examination; taking or passing information to another individual during an examination; taking an examination for another individual; allowing another individual to take one’s examination; stealing examinations. Cheating also includes unauthorized collaboration. All graded academic exercises are expected to be performed on an individual basis unless otherwise stated by the instructor. An academic exercise may not be submitted by a student for course credit in more than one course without the permission of all instructors. [Note: this is also known as self-plagiarism.]

**Fabrication**
Intentional and/or unauthorized falsification or invention of any information or citation during an academic exercise. This includes but is not limited to changing or adding an answer on an examination and resubmitting it to change the grade; inventing data for a laboratory exercise or report.

**Facilitating Academic Misconduct**
Knowingly or recklessly allowing or helping another individual to plagiarize, cheat, or fabricate information.”

**Sanctions for academic dishonesty range from warnings to expulsion from Michigan Tech.**
**For more information, visit** [http://www.mtu.edu/dean/conduct/policy/academic-integrity/sanctions.html](http://www.mtu.edu/dean/conduct/policy/academic-integrity/sanctions.html)

**U. The Americans with Disabilities Act**
MTU complies with all federal and state laws and regulations regarding discrimination, including the Americans with Disabilities Act of 1990 (ADA). If you have a disability and need a reasonable accommodation for equal access to education or services at MTU, please call the Dean of Students (487-2212). For other concerns about discrimination, you may contact your advisor, your department head, or the Affirmative Programs Office (487-3310).
**V. DRAFT Schedule of Assignments and Class Activities**

Dates indicate when reading and writing assignments are due, not when they are given. I’ve used the following abbreviations for our texts: AG = *Against the Gods*; MOD = *Merchants of Doubt*.

<table>
<thead>
<tr>
<th>Week 1</th>
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<tbody>
<tr>
<td><strong>M</strong></td>
<td>5/12</td>
<td>Overview of course and syllabus; examples of risk communication; multitasking video</td>
</tr>
<tr>
<td><strong>R</strong></td>
<td>5/15</td>
<td>AG chapter 4 “The French Connection”; Part of video: Peter Sandman’s “Risk = Hazard + Outrage”; <strong>Case Study 1:</strong> Critique of Peter Sandman’s model of risk communication; Sandman’s four strategies for dealing with diverse publics</td>
</tr>
</tbody>
</table>

**Week 2**

| **M**  | 5/19                        | AG chapter 5 “The Remarkable Notions of the Remarkable Notions Man”; Class discussion topics: care, consensus, and crisis communication; the dilemma of democracy and technology; the underdetermination thesis and lightning strikes; Pascal’s Wager; video: *Toxic Sludge Is Good for You: The Public Relations Industry Unspun* (Prod. Margo Robb. Media Education Foundation, 2002.) (45 min.); **Risk examples 1 & 2** |
| **T**  | 5/20                        | AG chapter 6 “Considering the Nature of Man; AG chapter 7 “The Search for Moral Certainty”; Class discussion topics: risk comparisons; data mining/dredging (cherry picking); **Discussion questions 1 for A-Ma** |
| **W**  | 5/21                        | AG chapter 8 “The Supreme Law of Unreason”; AG chapter 9 “The Man with the Sprained Brain”; Class discussion topics: seven approached to risk, risk and chaos, ethical communication, cost-benefit analysis (Ford Pinto, tipping ranges); video: Forensic Engineering: “Stove and Stepstool Instability” (Roger Boisjoly, Boisjoly Engineering, Ltd., 2001; 6 min.); **Discussion questions 1 for Mi-Z** |
| **R**  | 5/22                        | AG chapters 10 & 11 “Peapods and Perils” and “The Fabric of Felicity”; Class discussion topics: eight stages to forgiveness |

**Week 3: Meet this week to brainstorm for projects**

| **M**  | 5/26                        | **Memorial Day Recess: No class** |
| **T**  | 5/27                        | AG chapter and 12 “The Measure of Our Ignorance”; AG Ch. 13 “The Radically Distant Notion”; **Risk examples 3 & 4** |
| **W**  | 5/28                        | Read Craig Waddell, “Saving the Great Lakes: Public Participation in Environmental Policy.” In *Green Culture: Environmental Rhetoric in* |
Week 4: Read MOD Introduction & Chapters 1-3

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<tr>
<th>Day</th>
<th>Date</th>
<th>Assignment</th>
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<tbody>
<tr>
<td>M</td>
<td>6/2</td>
<td>Project proposal due</td>
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<tr>
<td>R</td>
<td>6/5</td>
<td>Video: <em>An Enemy of the People</em>; class discussion of <em>An Enemy of the People</em></td>
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Week 5: Read MOD Chapter 4 & 5

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<th>Day</th>
<th>Date</th>
<th>Assignment</th>
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<tbody>
<tr>
<td>T</td>
<td>6/10</td>
<td>Discussion of <strong>Case Study 3</strong>: Recombinant DNA Experimentation; <strong>Risk examples 7 &amp; 8</strong></td>
</tr>
<tr>
<td>W</td>
<td>6/11</td>
<td>Communicating risks across cultures; video excerpts on culture and health-risk communication; <strong>Discussion questions 3 for A-Ma</strong></td>
</tr>
<tr>
<td>R</td>
<td>6/12</td>
<td>Communicating risks across cultures; video excerpts on culture and health-risk communication</td>
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Week 6: Read MOD Ch. 6 & 7; **meet this week to discuss progress reports**

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<th>Day</th>
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<th>Assignment</th>
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<tr>
<td>M</td>
<td>6/16</td>
<td><strong>Progress reports due; sign up to discuss progress reports; sign up for oral presentation times</strong>; Video: “Paul Ehrlich and the Population Bomb” (Prod. Sam Hurst. Narr. David Suzuki. PBS/KQED, San Francisco, 1996.) (60 min.)</td>
</tr>
<tr>
<td>T</td>
<td>6/17</td>
<td>Read Waddell, “Perils of a Modern Cassandra: Rhetorical Aspects of Public Indifference to the Population Explosion.” <em>Social Epistemology</em> 8 (1994): 221-237; discuss <strong>Case Study 4</strong>: Paul Ehrlich on Population Pressures; <strong>Risk examples 9, 10, &amp; 11</strong></td>
</tr>
<tr>
<td>W</td>
<td>6/18</td>
<td>Read Waddell, “The Reception of Silent Spring.” Chapter 1 in <em>And No Birds Sing: Rhetorical Analyses of Rachel Carson’s Silent Spring</em>. (Carbondale: Southern Illinois University Press, 2000. 1-16); Video: <em>CBS Reports</em>: “The Silent Spring of Rachel Carson” (Prod. Jay McMullen; Reported by Eric Sevareid; CBS, 1963.) (54 min.); Discuss <strong>Case Study 5</strong>: The Public Reception of Rachel</td>
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Carson’s *Silent Spring*; **Discussion questions 3 for Mi-Z**

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<th>Day</th>
<th>Date</th>
<th>Activity</th>
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<tbody>
<tr>
<td>R</td>
<td>6/19</td>
<td>Discuss <strong>Case Study 5</strong>: The Public Reception of Rachel Carson’s <em>Silent Spring</em>;</td>
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<td><strong>Week 7</strong>: Read MOD Conclusion and Epilogue</td>
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<tr>
<td>M</td>
<td>6/23</td>
<td>Oral presentations on projects (not more than 3 per 75-minute class)</td>
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<tr>
<td>T</td>
<td>6/24</td>
<td>Oral presentations on projects; <strong>Quiz 2</strong></td>
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<tr>
<td>W</td>
<td>6/25</td>
<td>Oral presentations on projects</td>
</tr>
<tr>
<td>R</td>
<td>6/26</td>
<td>Oral presentations on projects; <strong>projects due</strong></td>
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