You will write three short papers this semester in addition to the research paper. This handout explains the nature of each short-paper assignment, as well as general requirements common to all three assignments.

1. **Paper on DNA: Pandora’s Box**

You will write a 4 to 5 page (1000 to 1250 word) response to the PBS documentary, *DNA: Pandora’s Box*, produced in 2003. We will watch the film in class on January 8th.

You have wide latitude in deciding how to address the film. Nonetheless, you must present a definite argument in a coherently organized essay. Some questions to consider when developing your argument:

- Did this film change your perception of the technological possibilities and ethical challenges of human genetic engineering?
- Do you think that there is a useful analogy between 20th-century eugenics and 21st-century genetic technology?
- Does James Watson make a compelling case for human genetic engineering?
- Watson said: “Some people think it would be terrible if we made all girls pretty. I think it would be great.” What do you think?
- Watson said: “There are people who say, well, we’re playing god. And, you know, I have a straightforward answer: if we don’t play god, who will?” How would you respond?
- The narrator of the documentary wondered: “in Watson’s eyes, who is an asset to the world and who isn’t?” What do you think the answer to this question is? Who is an asset to the world in your eyes? Does your view accord with Watson’s?
- Watson and Francis Crick made one of the most important breakthroughs in the history of science when they uncovered the molecular structure of DNA. Both men also actively and invaluably advanced molecular biology during the half century after the double helix. How much weight should we give Watson’s undeniable brilliance as a scientist when assessing his opinions on the future of genetic technology?
The paper is due in class on January 24th. The final deadline is February 7th. (See below for more information on deadlines).

**2. Paper on Jekyll & Mr. Hyde and Triffids**

Robert Louis Stevenson originally published *The Strange Case of Dr. Jekyll and Mr. Hyde* in 1886 as an inexpensive thriller—a “shilling shocker” in the lingo of Victorian Britain. But it quickly transcended its origins as a cheap and fun read to become a cultural sensation. John Wyndham published *The Day of the Triffids* in 1951, at the dawn of the Cold War and the beginning of the nuclear standoff between the West and the Soviet bloc.

Both stories retain their cultural significance because they raise fundamental questions about the meaning of human identity, the nature of the scientific enterprise, the organization of society and the inevitability of unintended consequences.

In this 5 to 7 page (1250 to 1750 word) paper, you will analyze *The Strange Case of Dr. Jekyll and Mr. Hyde* and *The Day of the Triffids* in light of current developments in science as reported in *New Scientist*. How you do so is up to you. This assignment deliberately avoids asking you to answer a straightforward, fill-in-the-blanks type of question. Rather, the assignment encourages you to draw upon diverse material in order to devise an original argument.

Feel free to draw upon additional sources.

This paper is due on March 25th; the final deadline is April 8th.

**3. Research Paper**

You will write an original 11- to 16-page (2750 to 4000 word) research paper on a theme you chose in the history, philosophy or sociology of science. The paper must include properly formatted notes and bibliography. The bibliography does not count towards the page total.

**The Requirements**

In order to fulfill the requirements for this assignment, you must do all of the following:

- Submit a research proposal (February 28th)
- Exchange a draft of your paper with your peer-group colleagues (April 22nd)
- Provide a critique of your colleagues’ papers (April 24th)
- Hand in a final draft (May 1st, 3:00pm in C-101)
Research Proposal

You will do several things, at least briefly, in this proposal:

- Set out your topic
- Explain why it deserves attention
- Suggest a tentative thesis
- List the sources you’ve seen and intend to see, noting any current gaps in your research
- Mention any challenges you foresee in your research, analysis or writing.

The proposal should run at least three pages (750 words), and more if necessary. It is due on February 28th.

Peer Groups

While your research paper is an individual project, you will consult other students in a three- or four-person peer group. Peer-group members will share advice on research and writing. You will also read and critique each others’ drafts as an obligatory course requirement.

The draft is due on April 22nd. *Bring enough copies to share with everyone in your peer group.* This is not a “rough draft”. It should be complete and polished enough that you would be willing to submit it for a final grade, rather than a rough approximation of a final paper. Your peers will not be able to provide useful feedback otherwise. You will read and thoroughly critique your peers’ drafts for class the following Thursday, April 24th.

I will evaluate your peer-review critiques based on the amount of thought and preparation that went into them.

Final Draft

The final draft is due on May 1st at 3:00pm in C-101 (our finals-week meeting). You can hand in the paper early, but this will not change your obligation to attend this final class meeting.

Grades

The research project is worth 35% of the course grade. Individual components of the research count towards that total as follows:

<table>
<thead>
<tr>
<th>Component</th>
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<tbody>
<tr>
<td>Research Proposal</td>
<td>15%</td>
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<tr>
<td>Peer Draft</td>
<td>8%</td>
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<tr>
<td>Peer Draft critique</td>
<td>7%</td>
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<tr>
<td>Final Draft</td>
<td>70%</td>
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General Information

Criteria

The “essay criteria” handout sets out the criteria I will use in evaluating each paper. Review it carefully. In addition, you will be expected to complete substantial original research for the research project.

Frederick Crew’s Random House Handbook

Consult this resource extensively and carefully for advice on all aspects of the writing process.

Turnitin.com

You have the option to submit the DNA: Pandora’s Box paper, the Jekyll & Hyde-Triffids paper, the research proposal, the peer-group draft and final draft of the research paper to turnitin.com, a plagiarism-prevention service. If you do not wish to use turnitin.com, you must send your paper to me in Word or other accessible electronic format as an email attachment, in addition to handing in a physical copy.

Turnitin.com produces an “originality report” on submitted papers by comparing them against an enormous database of online, published and unpublished sources.

The report will assign a colored index, based on the amount of matching text found: blue (no matching text), green (1%-24%), yellow (25-49%), orange (50-74%), and red (75-100%). You should carefully evaluate your use of sources with a yellow report. An orange or red report suggests a definite problem.

Remember that turnitin.com cannot accuse anyone of plagiarism. All it can do is highlight text that appears in substantially the same form in other sources in its database. Obviously direct quotations are likely to be flagged; anything you quote from The Strange Case of Dr. Jekyll and Mr. Hyde has likely been quoted many, many times before. As long as you use quotation marks and cite the passage correctly, ignore the fact that the “originality report” highlights it—except, perhaps, if “originality report” shows that you draw too high a proportion of your essay’s words from Stevenson, Wyndham or other authors. In that case, you need to ask yourself if the paper would not be more effective if you relied more on your voice and less on the voice of others. As Frederick Crews advises in The Random House Handbook: “quote only where that language makes a difference” (p. 98). Remember, however, that over-reliance on quotation is a stylistic issue, not an intellectual dishonesty problem.

A dishonesty problem arises only if you appropriate the words and substantial ideas of others without proper quotation or acknowledgment in citation. If you cut-and-paste from the Wikipedia entry on John Wyndham, pass it off as your own prose and fail to acknowledge the source, then this represents punishable intellectual dishonesty. A machine cannot determine where a passage falls on the spectrum between honest
quotation and dishonest plagiarism. This requires human judgment. The “originality report” can alert you to possible issues and give the opportunity to address them before making your final submission.

You are not in trouble if the “originality report” reveals that an unacceptably large portion of your paper appeared elsewhere without adequate attribution. You can rewrite it and resubmit it to the service for a new report. You will only be held accountable for plagiarism in the draft you physically hand in to me in class.

Assignment deadlines will not be extended, however; you will have to accept the late penalty if you do not have time to finish a rewrite before the assignment is due in class. Keep in mind that the late penalty is 15 points and the penalty for plagiarism is course failure.

If you have any questions or concerns about the “originality report”, and whether or not something in your paper might pose a plagiarism issue, ask me about it.

Your paper will be docked 5 points if you forget to submit it to turnitin.com (if you’re using that service) or email it to me as an attachment (if you’re not) before the class period in which it is due. I will not record a grade for a paper until it has been submitted to turnitin.com or submitted to me electronically.

Parenthetical References, Bibliography and Title Page

You are required to follow the assigned format for references, bibliography and title page. See the “Format Guidelines” handout for instructions and examples.

The bibliography does not count towards the assigned page total.

Assigned paper lengths

The assigned page lengths are more general guidelines than strict requirements. In each assignment I’m looking was a certain scope of analysis and density of supporting detail that is appropriate to the set length. When grading I rarely notice the length of a paper—unless it is factually thin or analytically underdeveloped. But the problem is its thinness and lack of development, not the fact that it fell short of the assigned length. Your overriding goal is to write the best paper you can; inevitably the length will take care of itself. The last thing you want to do is pad a paper with verbiage or irrelevancy to drag it to the assigned length.

Deadlines and Late Penalties

Your grade for the DNA: Pandora’s Box paper, the Jekyll and Hyde paper, the research proposal and the research paper will be docked 15 points if it is not handed in on time.

Additionally, you must meet the final deadline for each or you will fail the course automatically.
<table>
<thead>
<tr>
<th>Assignment</th>
<th>Deadline</th>
<th>Final deadline</th>
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<tbody>
<tr>
<td>Paper on DNA: Pandora’s Box</td>
<td>January 24th</td>
<td>February 7th</td>
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<tr>
<td>Research proposal</td>
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<td>March 13th</td>
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<tr>
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<td>March 25th</td>
<td>April 8th</td>
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<tr>
<td>Research paper</td>
<td>May 1st</td>
<td>May 2nd (5:00pm)</td>
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Because of the nature of the assignments, if you do not hand in the peer draft or return the peer-draft critiques on time, you will receive a zero on these components.

Sometimes emergencies make it impossible to meet a deadline. If such a situation develops, contact me immediately. Documentation (of serious illness, family crisis, etc.) will be required for any extension.

**Sources**

You are not required to use sources other than those part of the normal class assignments for the DNA: Pandora’s Box and the Jekyll & Hyde-Triffids papers. Keep in mind, however, that you are free to use as many outside sources as you feel appropriate—and that earning a high grade involves exceeding rather than simply meeting the requirements of an assignment.

Substantial original research is required for the research paper, of course. No formula exists for what counts as adequate research—it depends on your topic and your approach. Your goal should be to find and use the best available sources to prove what you want to prove.

This means that sources like Wikipedia are almost never appropriate as a final source in a college-level research project.

Sandra Ordonez, a Wikipedia spokesperson, explains: “Wikipedia is the ideal place to start your research and get a global picture of a topic; however, it is not an authoritative source. In fact, we recommend that students check the facts they find in Wikipedia against other sources. Additionally, it is generally good research practice to cite an original source when writing a paper, or completing an exam. It’s usually not advisable, particularly at the university level, to cite an encyclopedia.”

I do not discourage you from turning to Wikipedia—it’s wonderful for a quick-and-dirty overview of a topic and its entries routinely point to useful sources. But you should use it for preliminary background research and not as a final source of information. If something appears in a Wikipedia entry, it almost certainly appears in a more authoritative source.
Always think twice before you use *any* source—not just Wikipedia—in your paper. The better the sources, the better the paper. Research papers are never truly successful if they’re written based on sources that happen to be handy. We’ll talk further in class about what constitutes a good source for a given purpose. I’m also eager to address personally any questions you have about research.

**Successfully Completing the Assignments**

These writing projects are designed to help you think about both contemporary and historical issues in the sciences. They also will help you hone your writing and research skills in preparation for your research paper. If you have any problems or questions, you are encouraged to discuss them individually with me.