

**Instructions for Written Papers**  
**Bios 202 ♦ Spring 2005 First half: Dr. Gomer**

**PAPER 1**

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**Due date:** Wednesday, Feb 16, 10 a.m.

**Length:** 400-500 words (not including references) (use your word processor to count words and include word count at the top of your paper)

**References and Format:** see requirements below

**Source:** Go to Fondren library or to Pubmed (<http://www.ncbi.nlm.nih.gov/entrez/>) and find a current research article (not a review\*) on a cellular or molecular aspect of a human disease that interests you. Acquire the article by downloading it from the web (Fondren's electronic journals are available at <http://antioch.rice.edu/fondren/collections/electr/ejournals.php>). Alternatively, you may photocopy the paper (note that current journals are kept in the current journals stacks).

The article you choose must have a **publication date on or after January 1, 2005** and come from one of the following journals:

- Proceedings of the National Academy of Sciences USA
- Cell
- Molecular Cell
- Developmental Cell
- Neuron
- Immunity
- Journal of Immunology
- Current Biology
- Nature Biotechnology
- Nature Cell Biology
- Nature Neuroscience
- Journal of Cell Biology
- Journal of Biological Chemistry
- Journal of Clinical Investigation
- Journal of Experimental Medicine

**Assignment:** For this assignment, imagine you are an author on the article that you have chosen. Read the methods section of your article carefully, and identify a biotechnology company acknowledged as the source of chemicals/materials, equipment, or service (e.g., DNA sequencing) used in at least one of the experiments.

A research and development (R&D) scientist from that company has asked you to report on current research using the company's product. The R&D scientist would like to report this research to his/her colleagues. This scientist (the audience for your report) has a Ph.D. in the biological sciences but is not aware of your research area.

Write a 400-500 word report describing your article to this scientist. Be sure to include the following:

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\* A review does *not* include a Methods section and does not present previously unpublished research. Instead, a review summarizes multiple articles about a current research topic. Reviews are typically labeled "minireview" or "review" at the top of the article. If you are unsure whether your article is a review, contact your writing mentor.

- A description of the purpose and specific aims of the article. What did you and your coauthors intend to do? Why did you do it? How did you do it? (You don't need to elaborate on methods, but you need to communicate the purpose of the experiments).
- An identification of how the company's product was used (e.g., to a Clontech scientist, you might say, "We used Clontech TALON resin to purify the His-tagged protein used in these experiments").
- A well organized explanation of how the study's results leads to its conclusion, *i.e.*, the main line of argument in the paper.

## **PAPER 2**

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**Due date:** Wednesday, March 16, 10 a.m.

**Length:** 800-1000 words (not including references)

**References and Format:** see requirements below

**Source:** Use the requirements for Paper 1 to select an article for this assignment. You must choose a different article for this assignment, but the paper may focus on the biology of the same disease if you wish.

**Assignment:** Imagine you are an author on the article that you selected. Over the summer, a new high school graduate will be working in your lab before enrolling at Rice this fall as a biology major. The student has no research experience and has been mailed a stack of articles that your lab has published to read. You would like to ease the student's transition into your lab by familiarizing the student with the article you selected, as it will pertain the most to the student's upcoming work.

Write a paper summarizing and explaining to that student the article you selected. Pay particular attention to the definitions and background your audience will need as you include the following:

- A description of the purpose and specific aims of the article. What did you and your coauthors intend to do? Why did you do it? How did you do it? (You don't need to elaborate on methods, but you need to communicate the purpose of the experiments).
- A well organized explanation of how the study's results leads to its conclusion, *i.e.*, the main line of argument in the paper.

## **REQUIREMENTS FOR BOTH PAPERS**

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**Plagiarism:** Do not copy any portion of a paper into your essays. Plagiarism interferes with the main purpose of having you prepare these papers, which is to get you to synthesize what you have read and then explain it and analyze it **IN YOUR OWN WORDS**.

**References:** The first time you refer to your research article, be sure to parenthetically reference it using the author(s)' name(s) and publication date, as shown below:

“A recent study found that doing things rather than memorizing trivia helps educate students (Gomer and Meffert, 2002).”

At the end of your essay, provide a complete citation, giving authors, year, article title, journal name, and journal volume and page numbers, as shown below:

Rosin-Bouffay, C., Jang, W., Caprette, D.R., and Gomer, R.H. (2000) A precise group size in *Dictyostelium* is generated by a cell-counting factor modulating cell-cell adhesion. *Molecular Cell* **6**, 953-959.

**Format:**

1. Hand in a stapled printed copy in class (see late policy below)
2. Include at the top of the page:
  - your name
  - Bios 202
  - date
  - word count (use your word processing program)
3. Provide a copy of the article stapled to the back of your paper.

**Late paper policy:** For each day the paper is late (submitted after 11 a.m. on the due date), you will lose 8 points.

**Grading criteria:** I include a grading sheet so that you can see what criteria will be used by the writing mentors in grading your papers.

**Writing mentors:** If you need help while writing your papers, peer writing mentors are available for individual meetings. Contact your mentor when you need assistance. Mentors will also staff a room in Fondren Library room 404 for last-minute help from 8-10 p.m. the evening before each paper is due.

**BIOS 202 ♦ Dr. Gomer Paper 1: R&D Audience ♦ Due 2/16/05**

**BIOS 202 Comments for** \_\_\_\_\_

Strengths:

	<b>EXCELLENT</b>	<b>GOOD</b>	<b>POOR</b>	
Purpose and aims of article	___/6	___/3	___/1	
Discusses how results lead to conclusions	___/6	___/3	___/1	
Organization and style	___/4	___/2	___/0	
Appropriate for audience	___/4	___/2	___/0	
Identifies contribution of biotech company's product	___/3	___/2	___/0	
Format requirements	___/2	___/1	___/0	
<b>TOTAL</b>				___/25

Suggestions for improvement:

**BIOS 202 ♦ Dr. Gomer Paper 2: Incoming Freshman Audience ♦ Due 3/16/05**

**BIOS 202 Comments for \_\_\_\_\_**

Strengths:

	<b>EXCELLENT</b>	<b>GOOD</b>	<b>POOR</b>	
Purpose and aims of article	___/7	___/4	___/1	
Discusses how results lead to conclusions	___/6	___/3	___/1	
Organization and style	___/5	___/3	___/1	
Appropriate for audience	___/5	___/3	___/1	
Format requirements	___/2	___/1	___/0	
<b>TOTAL</b>				___/25

Suggestions for improvement:

**Grading Criteria: Papers 1 and 2**

	<b>excellent (max pts)</b>	<b>good (mid pts)</b>	<b>poor (low pts)</b>
• Purpose and aims	Accurately and completely communicates purpose and aims of article.	Inaccurately or incompletely identifies either purpose or aims.	Fails to identify purpose or aims.
• Discusses how results lead to conclusions	Identifies main argument of paper and how authors used results obtained to argue for conclusions.	Incomplete description of argument or how authors used results to arrive at their conclusions.	Little or no accurate description of argument or authors' conclusions.
• Organization and style	Organizes discussion of aims and results logically to assist reader's understanding of article's conclusions. Paragraphs have topic sentences; easy for reader to access. Correct use of grammar.	Poor organization or poor style.	Poor organization and style.
• Appropriate for audience	Depth of discussion, use of terminology and definitions, and context of discussion are appropriate for audience.	Depth of discussion, use of terminology and definitions, and context of discussion are occasionally too sophisticated or too simple for audience.	Depth of discussion, use of terminology and definitions, and context of discussion are either too sophisticated or too simple for audience.
Identifies contribution of biotech company's product (PAPER 1 ONLY)	Accurately and clearly communicates the use of the company's product.	Communication of the use of the company's product is inaccurate or unclear.	Communication of the use of the company's product is inaccurate and unclear, or missing.
• Format	Stapled copy with: <ul style="list-style-type: none"> <li>• Your name</li> <li>• BIOS 202</li> <li>• Date</li> <li>• Word count</li> <li>• Full reference</li> <li>• Copy of article.</li> </ul>	Missing one required formatting criterion.	Missing two or more required formatting criteria.