BIO 206: Cell Biology
Research Paper Assignment – Cell Specialization

Overview:
You will be randomly paired up with another student in the class and assigned a specialized cell type. Your assignment is to write a research paper and to prepare an oral presentation for the class.

Instructions for Research Paper:

• While you will have the same topic as another student in the class, the research papers must be written independently.

• Your research paper should include the following information about your assigned cell type:
  
  o Describe any unique structures and/or molecules found in your cell type.
  
  o Explain the unique functions of your assigned cell type. Explain how (at the molecular level) your cell type carries out these specialized functions.
  
  o Describe any diseases or disorders that result from abnormal functioning of your cell type.
  
  o Give at least one example of current research discoveries (within the last six months) related to your cell type.
  
  o Discuss the implications of these findings to the scientific/medical community and/or to society as a whole. Discuss potential future directions for further research related to your cell type.

• Your paper must be written using 12 point Times New Roman font, double spaced with 1 inch margins.

• The paper should not exceed 5 pages (not including the bibliography).

• In writing your paper, you must use and properly cite at least 3 reliable sources (Wikipedia is NOT a valid source for scientific research papers). You may use books, scientific literature, scientific articles, and credible websites that are written by experts (they must be correctly cited).

• At least one of your sources must be a peer-reviewed journal article.

• MLA is the preferred documentation style for citations and bibliography.

• An annotated bibliography is required with the final research paper.
• Before writing your paper, you should first prepare an outline with an Annotated Bibliography. This will help you organize your thoughts and ideas and put them into a logical order. **Outlines are due on Thursday, October 26th.**

• Your final paper is due on **Tuesday, November 29th**. You are welcome to submit a rough draft to me for feedback prior to submitting your final paper. Rough drafts must be submitted no later than **Tuesday, November 22nd**.

**A few notes about plagiarism:**

• *Copying and pasting from any source, a website or otherwise, and then citing it, is not original work and is plagiarizing. This is never acceptable.*

• *Small amounts of text, a single quote from a person for example, may be put in quotation marks and then cited properly.*

• *All of your work is going to be checked against websites, databases, and other submissions of papers via Safe Assign, a program in Blackboard. All matching text with sources will show up so please synthesize your information and ideas from your research and don’t just paraphrase a few things or copy them and think it’s good, it’s not.*

**Grading:**

On time submission of the outline and annotated bibliography is worth 10 points.

The overall written research paper assignment is worth 100 points and will be graded based on the rubric provided on the next page. The research paper and oral presentation are worth 10% of your overall grade.
## BIO 206 Research Paper Rubric

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
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<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td>Introduction is engaging, states the main topic and previews the structure of the paper (10 points)</td>
<td>States the main topic and previews the structure of the paper (8-9 points)</td>
<td>States the main topic but does not adequately preview the structure of the paper (6-7 points)</td>
<td>No clear introduction or main topic and the structure of the paper is missing (0-5 points)</td>
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<tr>
<td><strong>Content</strong></td>
<td>All required components of the paper are included. Information is thorough, detailed, and accurate. (36-40 points)</td>
<td>All required components of the paper are included, with some minor omissions. Information is mostly accurate and fairly detailed. (30-35 points)</td>
<td>Some required components of the paper are missing. Information presented is with several inaccuracies and/or at a superficial level. (25-29 points)</td>
<td>Many required components of the paper are missing. Information is highly inaccurate with few details. (0-24 points)</td>
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<td><strong>Discussion</strong></td>
<td>Implications of the results and future directions of the field are thought-provoking and engaging (10 points)</td>
<td>Implications of the results and future directions of the field are discussed (8-9 points)</td>
<td>Analysis of results and discussion of future directions is incomplete (6-7 points)</td>
<td>Analysis of results and future directions are inaccurate and/or missing (0-5 points)</td>
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<tr>
<td><strong>Organization</strong></td>
<td>Writer demonstrates logical and subtle sequencing of ideas through well-developed paragraphs, transitions enhance organization (10 points)</td>
<td>Paragraph development present but not perfected (8-9 points)</td>
<td>Somewhat logical organization, organization of ideas not fully developed (6-7 points)</td>
<td>No evidence of structure or organization (0-5 points)</td>
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<td><strong>Mechanics and Usage</strong></td>
<td>No errors in punctuation, capitalization, spelling, sentence structure, or word usage (10 points)</td>
<td>Almost no errors in punctuation, capitalization, spelling, sentence structure, or word usage (8-9 points)</td>
<td>Many errors in punctuation, capitalization, spelling, sentence structure, or word usage (6-7 points)</td>
<td>Numerous and distracting errors in punctuation, capitalization, spelling, sentence structure, or word usage (0-5 points)</td>
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<td><strong>Citation</strong></td>
<td>All cited works are done in correct format with no errors (5 points)</td>
<td>Most cited works are done in correct format, with only minor errors (4 points)</td>
<td>Few cited works are done in correct format, many errors (3 points)</td>
<td>No citations (0 points)</td>
</tr>
<tr>
<td><strong>Bibliography</strong></td>
<td>Done in the correct format with no errors. Includes at least 3 reliable sources and at least 1 peer-reviewed article (5 points)</td>
<td>Done in the correct format with few errors. Includes 2 reliable sources (4 points)</td>
<td>Done in the correct format with some errors. Does not include 3 reliable sources and at least 1 peer reviewed article (3 points)</td>
<td>Done in the incorrect format with many errors. Includes fewer than 3 reliable sources (0 points)</td>
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**Final Grade:** _____ points (max. 90) + _____ points (outline submitted on time, max. 5 pts.) = __________