

## LIFS UG Literature Review

### ***LIFS4960/4961/4963 Biological Science Capstone Project/ Biochemistry and Cell Biology Capstone Project/ Biotechnology Capstone Project***

**Descriptions:** Students undertaking independent in-depth literature review on a selected topic under the guidance of a faculty member leading to the submission of a written report. Optional oral or poster presentation may be organized by the supervising faculty, and the performance of such oral or poster presentation, if given, will be evaluated together with the written report towards the score of “Presentation and Scientific Writing Skills” in the table below.

Estimated contact hour with Supervisor: ~ 1 hour per week [Regular term]

#### **Outcomes:**

Upon completion of the Literature review, students are able to:

- *Search and retrieve* scientific literature to obtain background information relevant to the chosen facet of life Science.
- *Retrieve* relevant sources based on comprehensive searches of scientific databases and websites.
- *Perform* cited reference searches in the chosen area of interest(s) and *recognize* their significant role in basic scientific research.
- *Critically evaluate and identify* the appropriateness of the retrieved material through reading, analysis and synthesis of information.
- *Achieve* personal development to be an academic through commitment, time management and language proficiency.
- *Present effectively* both in oral and written language with rationale and logical organization.
- *Realize* the fundamental principles of academic integrity by following appropriate copyright and intellectual property issues related to scientific literature

## Rubric for UG Literature Review

Assessment Criteria	Exemplary (4-5)	Satisfactory (2-3)	Unacceptable (1)
<b>Progress reports (20%)</b>	Compulsory submission		
<b>Literature Searches (30%)</b> - Basic Literature Searches - Identification & Utilization of Scientific Media - Usage of Cited References	<ul style="list-style-type: none"> <li>Demonstrated in-depth &amp; effective searches of literature with all being specific and relevant to the background of the topic</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrated basic searches of literature with some being irrelevant to the background of the topic</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrated a lack of ability in basic searches of literature being largely inappropriate and irrelevant to the background of the topic</li> </ul>
	<ul style="list-style-type: none"> <li>Exhibited effective use of a wide range of scientific media including scientific databases, broad-based websites &amp; published articles in scientific journals</li> </ul>	<ul style="list-style-type: none"> <li>Exhibited use of a range of scientific media including textbooks, specific websites &amp; reviewed articles</li> </ul>	<ul style="list-style-type: none"> <li>Exhibited use of a limited range of scientific media such as textbooks, lecture notes and out-dated websites</li> </ul>
	<ul style="list-style-type: none"> <li>Used cited reference search effectively to support scientific arguments/assertions</li> </ul>	<ul style="list-style-type: none"> <li>Used cited reference search to support scientific evidence</li> </ul>	<ul style="list-style-type: none"> <li>Seldom used cited reference search or failed to use appropriately to support scientific evidence</li> </ul>
<b>Higher Order Thinking Skills (10%)</b> - Consistency - Relevance - Synthesis & Integration of Scientific Information	<ul style="list-style-type: none"> <li>All retrieval sources were consistent</li> </ul>	<ul style="list-style-type: none"> <li>Some retrieval sources were not consistent with the majority</li> </ul>	<ul style="list-style-type: none"> <li>No evidence of corroboration</li> </ul>
	<ul style="list-style-type: none"> <li>All sources were clearly related to the topic</li> </ul>	<ul style="list-style-type: none"> <li>Most sources were related to the topic, though a limited amount of irrelevant sources were found</li> </ul>	<ul style="list-style-type: none"> <li>Most or all sources were unrelated to the topic</li> </ul>
	<ul style="list-style-type: none"> <li>All quotes and paraphrases were integrated into the text appropriately and effectively</li> </ul>	<ul style="list-style-type: none"> <li>Integrated quotes and paraphrases into the text with some inappropriate use</li> </ul>	<ul style="list-style-type: none"> <li>Most or all quotes and paraphrases integrated into the text were inappropriate</li> </ul>
<b>Personal Development as an Academic (10%)</b> - Commitment - Time Management - Language Proficiency - Academic Integrity	<ul style="list-style-type: none"> <li>Demonstrated a strong commitment to this exercise, e.g. very frequent in submitting progress to the Supervisor</li> </ul>	<ul style="list-style-type: none"> <li>Accomplished the topic with some enthusiasm, e.g. less frequent in submitting progress to the Supervisor</li> </ul>	<ul style="list-style-type: none"> <li>Failed to accomplish the topic and indicated a lack of interest</li> </ul>
	<ul style="list-style-type: none"> <li>Managed time effectively, e.g. began immediately, connected work to assignment not to deadline and well-prepared over the whole project</li> </ul>	<ul style="list-style-type: none"> <li>Exhibited only occasional poor time management skills, e.g. began work early in process, but tended to increase effort toward deadline</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrated a total lack of time management skills, e.g. always postponed work until deadline</li> </ul>
	<ul style="list-style-type: none"> <li>Communicated effectively in fluent spoken and written English</li> </ul>	<ul style="list-style-type: none"> <li>Communicated effectively in spoken and written English, though fluency could be improved</li> </ul>	<ul style="list-style-type: none"> <li>Failed to communicate in spoken and written English, and most or all parts were difficult to be understood</li> </ul>
	<ul style="list-style-type: none"> <li>Demonstrated and respected ethical application of intellectual property and privacy</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrated an awareness of ethical application of intellectual property and privacy but references used were mostly excluded</li> </ul>	<ul style="list-style-type: none"> <li>Showed detectable signs of academic misconduct in plagiarism or/and data fabrication</li> </ul>
<b>Presentation and Scientific Writing Skills (30%)</b>	<ul style="list-style-type: none"> <li>Presented flawless report of details logically organized in accordance to the guidelines given</li> </ul>	<ul style="list-style-type: none"> <li>Presented report with insufficient evidence and synthesis of information but was coherent in general</li> </ul>	<ul style="list-style-type: none"> <li>Presented a poorly written report with very little information in all aspects of presentation</li> </ul>

## ***Progress Report and Final Report***

- Two progression reports (@10%), which will be submitted to the Division (via CANVAS), is required by the end of the fourth and eighth week of the semester.
- The student should at least provide the topic and outline of the article to indicate the initiation of the project in the first progress report and show some write up in the second.
- The failure to submit the progress report by due date will score 0% in this category.
- Final Report (80%), which is assessed based on the Rubrics shown in the course information. The submission due date is last day of the final examination (unless otherwise advised by your supervisor)