

Assignment Guidelines

Please write a **15 to 20-page** literature review (**single-spaced; ~50 references**), including figures if appropriate, about a microbiology-related topic that interests you. Additional pages can be used for references. Note: figures are encouraged but there need to be 15 pages of text. In other words, don't fill the paper with images.

Due Date: (typically deadline is one month before end of the semester)

Submit: Use Canvas to submit as **Word** document

Contact: Jamie Foster jfoster@ufl.edu if there are questions about this final assessment.

What is a literature review?

A literature review may be published as an independent report or as part of a larger report. The purpose of both is to provide information on current publications about a particular topic. Literature reviews are highly condensed and heavily documented. *This literature review will serve as your final assessment for the online Master of Science degree program in Microbiology and Cell Science.*

A literature review is a report that describes the “literature” (i.e., the important source material) on a particular topic. A literature review also helps you synthesize the literature on your topic because, in the process of writing a literature review, the writer learns to (1) identify various important issues/questions raised in the literature, and (2) sort and categorize experts’ views according to the issues/questions identified in the literature.

The primary **purpose** of the report is to provide your target audience with an overview of what the experts are saying about the problem under investigation. Your report will update your target audience on recent research in the field.

Completion of this assignment will build your skills in the following areas: critical reading, evaluation, analysis, synthesis, report organization, use and integration of sources, and reference documentation. Developing these skills will demonstrate great progress toward achieving our programmatic goals.

Here is a link to an example of a basic literature review.

https://writingcenter.ashford.edu/sites/default/files/inline-files/Sample%20Literature%20Review_0.pdf

Who is the intended audience?

A literature review is often written for another researcher who is interested in gaining a general understanding of the important literature on a particular topic. Therefore, the review should go into depth regarding the topic of interest.

Tips on synthesize multiple sources

Literature reviews synthesize large amounts of information and present it in a coherent, organized fashion. Synthesis comes from the Greek word *suntithenai* -- to put together, and occurs when two or more things are combined to create something new -- whether it is a new idea, a new fabric, a new sound, or a new piece of writing. Therefore, for this assessment, you will be combining material from several texts to create a new text – your literature review.

One tip to help organize your multiple sources is to generate a spreadsheet or outline of common points among the articles is critical to helping you synthesize the material. This tool will ensure that your review is organized by subtopic, not by source. Therefore, each paragraph of the literature review will mention several different authors. In drafting the review of the literature, some students make the mistake of structuring it like an annotated bibliography without the citations. They list the sources one after another but don't make connections between them or show how the authors' views compare or contrast. Those connections should weave the elements of the lit review together, but the connections can't be made if the sources are simply listed. *Creating and using a spreadsheet or outline will almost guarantee that you won't make this mistake!*

How do you gather information?

Using the UF library resources as well as various online search engines (e.g. Google Scholar, Pubmed) include only authoritative, reliable, recently published articles from credible journals, which address your topic of interest.

You have to decide what pieces of information from which articles to include in your literature review. To fulfill the purpose of the assignment, you will probably be most interested in the causes and effects of a particular problem or environment and the strategies the authors suggest, or which other organizations have used, to address the issue. Evaluate the articles and narrow the collection to the best articles. It is expected that you will have read these top articles that are referenced in your literature review.

How do you decide which articles to use?

Carefully evaluate the information presented in each of your articles by asking the same questions that a skeptical reader would ask:

- Is it accurate?
- Is it complete?
- Is it up-to-date?
- Is it unbiased?
- Is it supported by evidence my readers will find compelling?
- Does it conflict with other evidence?
- Is it clearly relevant to my readers' situation?

As I write, how do I maintain the focus on the literature?

You must remain objective and unbiased as you review the literature. Remember, your purpose is only to report on what has been written recently about your topic. *You should not discuss the issues involved or take a position.* The readers of the literature review do not wish to learn what *you* think; they want to learn what the *authors* think. Therefore, you must be careful not to

go beyond describing the authors' views. Don't say which views are "right" or "better"; instead, show how they are related.

A good literature review sticks to its purpose by "addressing the literature." Addressing the literature means that as you write you make it clear that the subject of the paper is the **literature**. You should identify the topic of each section or paragraph with **topic statements** like *Although the literature suggests that elucidating microbiome interactions are not easily solved, several strategies are mentioned which* Since the literature itself is the subject of your paper, you must be careful to introduce and identify sources consistently.

Establish your focus on the literature, beginning with the introduction, and maintain it through to the conclusion. Use transitional words and phrases, which show the connection between the sources. Using effective transitions will help you sustain the focus on the literature. End each section with a **closing sentence** that wraps up the section and/or serves as a transition to the next section: what can be concluded about the literature on that specific subtopic?

Overview of Compiled Literature Review Format – 15 – 20 pages total (single-spaced, single column). Figures are encouraged but the paper has to be 15 pages text minimum (in other words don't fill the literature review with images)

Introduction: First, you will add a brief introduction to the literature review: simply introduce the **purpose and scope** of the literature review, including the **key issues** the review will address.

Body: Using relevant **headings**, the body should be composed of sections. If these sections were done effectively by individual team members, they take up each issue one at a time and discuss how the authors of the articles respond to that issue.

Don't forget to introduce and close each section with a sentence **focused on the literature** (topic sentence and a concluding sentence.)

Length of body: 15-20 pages or more, single-spaced, single column. (Length of each section will vary, but each typically contains several paragraphs. Estimate about 50 citations to thoroughly cover the subject matter)

Conclusion: Summarize what the literature says about your topic. Approximate length 1 page

Additional Formatting Guidelines

The document needs to be single-spaced (no spaces between paragraphs except headers, indent paragraphs) use Times New Roman font of 12 pt and margins of 1". It is acceptable to include figures as long as they are properly cited in the text and references. The length of the manuscript should be no less than 15 pages and no more than 20 pages excluding references. **The formatting of the citations (e.g. Foster et al., 2019) and references (estimated n = 50) can following any mainstream science peer-review journal formats** (e.g. Environmental Microbiology, PLOS One, Frontiers in Microbiology ect...).

The page limit is firm. We will check for compliance. If the document is less than 15 single-spaced text pages your paper will be deemed non-compliant and returned without review.

Also, I will be running the essay through Turn-it-In to look for any evidence of plagiarism and patch writing. For example, it is important to put things in your own words and **not directly quote from sources** in literature reviews, as this is a test of your ability to synthesize the material. I also recommend running the review through the free Grammarly program (<https://www.grammarly.com>) to screen for punctuation and grammar.

More tips are available here: [Ways to improve your scientific writing skills Edlmann Maupin-Furlow_document.docx](#)

If you have questions you can contact your faculty mentor, which will be assigned at the beginning of the semester you intend to graduate.

Evaluation Rubric

The Rubric used by the faculty to evaluate your literature review is listed below.

Online MS Program Final Exam Literature review rubric												Notes:	
		Excellent	E/G	Good	G/F	Fair	Poor			Score			
Timeliness and Length Compliance: The review was turned in on time and met the 15 page (excluding figures) minimum length		10	9	8	7	6	5	4	3	2	1	0	If paper is not compliant the reviewer can offer the student the opportunity to revise paper before final review deadline
Introduction: Clear overview of paper, demonstrates the importance of the topic		10	9	8	7	6	5	4	3	2	1	0	
Body	Balanced View Point: Objective, balanced view from various perspectives	10	9	8	7	6	5	4	3	2	1	0	
	Coherent theme: Each cited study relates to the topic and to other studies	10	9	8	7	6	5	4	3	2	1	0	
	Depth and breadth of research: Variety of studies and attention to detail about the topic	10	9	8	7	6	5	4	3	2	1	0	
	Analysis: Collection of studies analysed for differences and/or commonalities about the topic	10	9	8	7	6	5	4	3	2	1	0	
Conclusion and Synthesis: Information synthesized and brought to a logical conclusion		10	9	8	7	6	5	4	3	2	1	0	
Organization and Alignment: Information logically organized with good flow. Issues threaded throughout the review		10	9	8	7	6	5	4	3	2	1	0	
Mechanics: Correct spelling, punctuation, sentence structure, scientific names in italics, word usage		10	9	8	7	6	5	4	3	2	1	0	
References and Citations: References correctly cited, appropriate number and quality		10	9	8	7	6	5	4	3	2	1	0	
Total Score												0	If the student's score is borderline the reviewer can ask student to rework the literature review before the final evaluation deadline
Score > 60 considered compliant and passing													