

BILB 102: Project Guidelines

In this project we are going to be exploring different sources of scientific information. You likely encounter a wide variety of information sources every day, such as on TV or the radio, from various websites, or even newspaper or magazine articles. Your professors also communicate scientific information to you from books or the primary scientific literature (research articles).

Communicating the results of scientific research is therefore a very important skill for scientists! In the scientific community, researchers communicate their findings to each other primarily through publishing research articles in peer-reviewed journals that are specialized for particular fields of study, as well as through oral presentations or posters at scientific conferences. Scientists also need to be able to communicate their work to the broader public in order for scientific information to be available to non-scientists. In particular, reporters often consult scientists, so that scientific information can be more accurately communicated in mass media.

In most of your courses you will be expected to find, read, and cite **primary literature** (*i.e.* original research articles) as the major source of references. **Secondary literature** sources are sources of information that *interpret* the primary literature, including books, review articles, and mass media. Generally these sources will provide a summary of a particular topic, organizing, synthesizing, and critically evaluating the primary literature on the topic. Secondary literature can be very useful to get familiar with a topic, but it is important to refer back to the primary literature for a better understanding.

The Bahamas faces many current issues in environmental science, conservation, and sustainability. Many of these topics are often discussed in **mass media** (*i.e.* secondary literature source). These articles are very important to provide scientific information to non-scientists, however, the people who write these articles are often not experts in the field and are usually limited by the length of the article. This means that although these sources often spark interest about these important issues, they may sometimes leave out and/or misinterpret information during the reporting process. This is one reason why being able to critically evaluate information (through reasoning and logic) is so important for a young biologist such as yourself. This skill is what you will be practicing in this project.

Working **alone or in pairs**, you will find a mass media article about a current issue in environmental science, conservation, and sustainability relevant to The Bahamas, and use this as a starting point for a more detailed investigation. From your article, you will come up with a question pertaining to the topic that was **not answered** by the article. You will then research this topic in the **primary literature** to find the answer to your question. Finally, you will present your findings to the class in an oral presentation.

There are hundreds of possible issues in environmental science, conservation, and sustainability that you can choose from. Some broad examples to get you thinking include (but are not limited to):

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| • Air/water quality | • Climate change |
| • Food security | • Sustainable farming |
| • Declining numbers of various species | • Invasive species |
| • Erosion | • Urbanization |
| • Extreme weather events | • Overfishing |

This project will be broken up into several components so that I can provide you with feedback on your work (more details below). First, you will submit at least **two topic ideas**. Then you will choose one topic and complete a summary first of the **background** information (general information from secondary sources) and then of the **research** (information from primary sources). Next you will integrate the information from both of those sources into a **final report**. If you wish to improve your grade, you can submit a **revision** of your final report at the end of the semester. You will also need to submit your presentation slides for the final **presentation**. I expect you to have taken my feedback into account at each stage of the project. If you have not, you can expect the grading to be stricter for each component.

Your final report/presentation should include (see below for grading rubrics):

- 1) **Title:** A descriptive title that indicates something about your chosen topic and question
- 2) **Background Summary:** This section must provide background information on how your chosen topic is discussed and described in the media. It should indicate what prompted you to ask the question that will form the basis of your project. It should also include why you are interested in this topic and its relevance to The Bahamas. Make sure to cite at least **three secondary source (mass media) references**. These should be included in-text, as well as at the end.
- 3) **Research Summary:** This section should address your question by providing more information about the topic from the primary literature. Make sure to cite at least **three primary source (scientific journal article) references**. These should be included in-text, as well as at the end.
- 4) **Critical Analysis:** This section should include your **evaluation** of the information you gained on the topic from both the mass media articles as well as the primary literature. How did the two types of sources differ in the type and delivery of the information? Did the information from the research articles cause you to think about the topic in a different way? How did your research connect to topics from the course? Explain your reasoning.
- 5) **Conclusion:** This section should summarize the important points of your presentation. It should include your own “take-home message” about the topic. You can also indicate any unanswered or future questions that you have about the topic.
- 6) **References:** Make sure to insert references in the text of your presentation where required and list them alphabetically in a separate section at the end. Follow the standard APA format for your references. Consult the Biology Library Guide to help you with formatting your references properly (<https://cob-bs.libguides.com/c.php?g=477596&p=3265779>). You should have a minimum of 6 references with at least 3 primary source (research article) citations and 3 secondary source (media article) citations.

Timeline:

Jan 23rd – Question Ideas (2% = 20 pts): uploaded onto Moodle, you should specify at least **two ideas** for a current issue in environmental science, conservation, or sustainability that can form the basis for your project. For each topic idea you must include:

- 4 pt – a short description of the specific issue and a question you have about it
- 3 pts – why this topic is interesting and important to you, &
- 3 pts – summary of one media article (make sure to include the take-home message – what is the main point of the article? How did it lead to your question?)

Feb 13th – Background Summary (3% = 35 pts): uploaded onto Moodle, your summary should include:

- 3 pts – a description of the specific issue
- 4 pts – an explanation of the relevance of the issue to The Bahamas
- 15 pts – a summary of how this issue is addressed in the media
- 3 pts – your refined question
- 4 pts – an explanation of how the media articles led to your question
- 6 pts – at least three media articles that discuss the issue, cited in text and in a reference list at the end

Mar 6th – Research Summary (4% = 45 pts): uploaded onto Moodle, your summary should include:

- 10 pts – your revised background summary
- 15 pts – a summary of the primary literature that addresses your question
- 5 pts – the key message of the research (the answer to your question)
- 6 pts – a short description of what you learned from the secondary and primary sources
- 9 pts – at least three primary source articles that discuss your question, cited in text and in a reference list at the end

Apr 3rd – Final Report (5% = 100 pts; see below): uploaded onto Moodle, your final report should be *no longer* than 8 pages, typed, double-spaced, INCLUDING the reference list.

The Revision (10% = 100 pts) will follow the same grading rubric as the Final Report and will be due at the end of the semester on Apr 17th. If you are satisfied with your Final Report grade, you do not need to submit a Revision. You will receive the same grade on the Revision as the Final Report.

FINAL REPORT GRADING SCHEME (100 PTS)

1. INTRODUCTION/BACKGROUND INFORMATION (10 PTS)

- i. Does the title accurately reflect the topic and question?
- ii. Does the report indicate how this issue is depicted in the media?
- iii. Does the report explain how the question arose?
- iv. Is the question clearly stated?
- v. Does the report indicate why the question is interesting/relevant to The Bahamas?

2. RESEARCH SUMMARY (15 PTS)

- i. Does this section provide additional information on the topic?
- ii. Is the information relevant to the question?
- iii. Does the research answer the question?

3. CRITICAL ANALYSIS (30 PTS)

- i. Is the information evaluated in a critical way?
- ii. Does the report discuss differences in the information sources?
- iii. Does the report discuss any changes in the author's opinion about the topic?
- iv. Does the report indicate how this issue is connected to topics discussed in class?

4. CONCLUSION (10 PTS)

- i. Does the report summarize the critical points of the research?
- ii. Does the report indicate the answer to the question?

5. REFERENCES (18 PTS)

- i. Are there enough references (6) with at least 3 media articles and at least 3 primary research articles?
- ii. Are the references properly cited within the report?
- iii. Are the references applicable and relevant to the issue?
- iv. Are the references properly formatted in APA format at the end?

6. ORGANIZATION (6 PTS)

- i. Is the report logically organized?
- ii. Are there smooth transitions between ideas?

7. CLARITY (6 PTS)

- i. Is the report clearly worded?
- ii. Are there any spelling/grammar errors?
- iii. Is proper sentence structure used?

8. FORMAT (5 PTS)

- i. Are all the guidelines followed?

Apr 7th – Final Presentation (6% = 100 pts, see below): slides uploaded onto Moodle

FINAL PRESENTATION GRADING SCHEME (100 PTS)

1. INTRODUCTION/BACKGROUND INFORMATION (20 PTS)

- i. Does the title accurately reflect the topic and question?
- ii. Does the presentation indicate how this issue is depicted in the media?
- iii. Does the presentation explain how the question arose?
- iv. Is the question clearly stated?
- v. Do the presenters indicate why the question is interesting/relevant to The Bahamas?
- vi. Do the presenters indicate why they are interested in the topic?

2. RESEARCH SUMMARY (20 PTS)

- i. Does this section provide additional information on the topic?
- ii. Is the information relevant to the question?
- iii. Is it clear where this information was obtained?
- iv. Does the research answer the question?

3. CRITICAL ANALYSIS (20 PTS)

- i. Is the information evaluated in a critical way?
- ii. Do the presenters discuss differences in the information sources?
- iii. Do the presenters discuss any changes in their opinions?
- iv. Do the presenters indicate how this issue is connected to topics discussed in class?

4. CONCLUSION (5 PTS)

- i. Do the presenters summarize the critical points of the presentation?
- ii. Do the presenters indicate the answer to the question?

5. REFERENCES (10 PTS)

- i. Are there enough references (6) with at least 3 media articles and at least 3 primary research articles?
- ii. Are the references properly cited within the presentation?
- iii. Are the references applicable and relevant to the issue?
- iv. Are the references properly formatted in APA format at the end?

6. VISUAL APPEAL (5 PTS)

- i. Is the presentation visually appealing?
- ii. Was any creativity employed?

7. ORGANIZATION (5 PTS)

- i. Is the presentation logically organized?
- ii. Are there smooth transitions between ideas?

8. GRAMMAR/SPELLING (5 PTS)

- i. Is the written portion clearly worded?
- ii. Are there any spelling errors?
- iii. Is proper sentence structure used?

9. DELIVERY (5 PTS)

- i. Do the presenters speak at a reasonable pace and volume?
- ii. Do the presenters make eye contact with the audience?

- iii. Do the presenters appear confident?

10. TIME LIMIT (5 PTS)

- i. Are the presenters done on time?

11. BONUS – QUESTIONS (5 PTS)

- i. Do the presenters make a reasonable response to questions?

You have **six grace days** to use between the question ideas, the background summary, the research summary, the final report and the revision. Each component can be submitted up to a maximum of three days late. Otherwise the standard course late penalties apply.