**Literature Review**

**Description**

The purpose of this exercise is for students to apply their integrated understanding of physical oceanography fundamental concepts to a new topic of interest and to engage in independent learning by: finding and interpreting peer-reviewed literature, synthesizing the literature, and communicating their findings to other students. The two key educational goals of this project are to give students the opportunity to: (i) experience the steps involved in assembling an educational lecture, and to (ii) demonstrate their scientific knowledge of the literature by answering questions from the audience.

Students will research a topic on physical - biological interactions, integrate their knowledge from the scientific literature, transfer that knowledge in an organized lecture to their peers, and demonstrate their mastery of the topic via a Q&A session. Working with the instructor, students will select a review topic not explicitly covered in the course. Literature review topics will be approved by the instructor, and formalized through a written proposal.

Students will give an educational **15 minute lecture** to the class using MS Powerpoint on an overhead projector. The presentation will be followed by **5 minutes of Q&A** and discussion. A minimum of 10 sources should be reviewed for the literature review presentation. A **reading assignment** will be distributed prior to the lecture. The students in the audience will complete a **short (5 minute)** **quiz** based on the reading and lecture.

Each student in the audience will be required to do the following:

* Complete the reading assignment prior to the guest lecture.
* Ask at least one thought provoking question (e.g., how or why something happens) that probes the speaker’s knowledge of the topic within the predefined scope of the topic.
* Complete an evaluation form that will be kept anonymous to the speaker. Summary results will be shared with the speaker.
* Complete a 10 minute quiz (5 points total) provided by the speaker which will be graded. These homework questions will count towards your final participation course grade

Presentations will be graded on content, organization, oral delivery, presentation quality, and mastery of subject matter. Please refer to Boote and Beile (2005) for structural guidance on literature reviews. Please note that the quality of the references and the ability to synthesize multiple pieces of information into a coherent message are critical to a good literature review, and far more important than the number of references included in the review.

Students will also complete a write-up, involving an **extended abstract (500 words, 1 figure, and 1 table)** and will provide written responses to questions posed by the audience after their presentation. Extended abstracts will be graded on content, organization, delivery, and mastery of subject matter.

**Deliverables:** As part of the literature review project, students will turn in:

* + A proposal detailing the proposed topic and a list of references (2.5 points)
  + A 15-minute presentation, outlining the project’s goals, approach, and findings (10 points)
  + An extended abstract, summarizing the review of the literature and the findings (5 points)
  + PDFs of the reviewed articles (2.5 points)
  + A quiz (including the rubric) for the audience to take after the presentation (2.5 points)
  + Written answers to questions posed by the audience (2.5 points)