**SPECIAL PLACE PORTFOLIO REQUIREMENTS & EVALUATIVE RUBRIC (10% of your grade)**

purpose and Learning objectives

The overarching learning objective in this course is for you to be able to describe and explain how abiotic and biotic environmental factors interact to contribute to the ecological properties (structure) and processes (function) that are observed from the scale of an individual organism up to a biome. Humans are inherently connected to the environment, and the purpose of this assignment is for you to have opportunities throughout the semester to make linkages between course topics and a physical place that has unique value for you. These opportunities will culminate in creation of a final portfolio document that applies the ecological concepts that you have learned to interactions within your special place. My goal is that by anchoring concepts and ideas to your special place, this assignment will then open the door to new ecological ideas and questions that will further your learning when you are outside interacting with the environment regardless of geographic location.

**Instructions (one submission per INDIVIDUAL)**

This assignment is scaffolded with a series of smaller assignments across the semester. At the end of Topic 1 you will be asked to identify a place of special significance to you. This is at the scale of an individual ecosystem – so you should picture yourself sitting/standing in the physical space and envisioning what you could observe from your position within the ecosystem (hint: make sure your special place is at the ecosystem scale – for example you don’t want to pick a particular city – but more specifically a location within that city). At the end of each topic that we cover, you will be given a series of questions related to that topic to apply to your special place. They will always be due a week after they are provided in-class (unless otherwise indicated). Be sure to include both the question and your response in your submissions (imagine using this as a study tool at the end of the semester – how useful will it be if you only your answers but don’t remember the questions?). I will provide you with feedback on your individual topic submissions (expect these to be returned within a week of submission). Your final portfolio, which should incorporate recommended changes based on my feedback) will be submitted at the end of the semester (April 11th). Detailed instructions for the final portfolio submission are provided below.

Final Complete Portfolio Requirements/Criteria:

* Your special place portfolio final submission should consist of a single MS Word document that includes an entry for each of the eight topic assignments, with each topic clearly delineated within the portfolio with its own individual header.
* Include a Table of Contents. Be sure to insert page numbers too!
* Include all references (CSE format not required). You can include references at the end of individual submissions or alternatively include a complete list of references at the end of the portfolio (they are likely to be more useful as a study resource if they are included with each topic that they were used for).
* You should update your final submissions to incorporate feedback that I provided to you (make sure you have tracked changes view all set up). Your grade will be based on quality and completeness of corrected versions, as well as the timeliness of your initial submissions (see Table 2 criteria below). Be sure to have removed any tracked changes in your final submission (professionalism).
* At the end of your portfolio you should provide two additional paragraphs as part of the final submission:

1. Provide a ‘response to reviewer’ paragraph (or list of bullets) that highlights the main changes that you made in your final version of your portfolio compared with your original versions of topic submissions. If you elected not to make changes for some sections – explain what your rationale was for this.
2. Provide a final reflective paragraph where you share what you have learned from the portfolio beyond the actual content within it. You should consider the following questions in your response: How did the portfolio increase your knowledge about ecology? What topics did you learn the most from? Were there any topic questions that you really struggled with in your portfolio? What made some topic questions easy and others more difficult for you to answer?

Table 1. Grading requirements for portfolio, evaluated using Table 2.

|  |  |  |
| --- | --- | --- |
| Requirement | Description | Score |
| Professionalism | Titles for each topic, Table of Contents, Page numbers, Grammar, typos, appears that thought went into preparation of portfolio, references organized (CSE format not required), etc. | \_\_\_/2 |
| Topic 1. | Ecology (and evolution) | \_\_\_/1 |
| Topic 2. | Cycles and patterns of life | \_\_\_/1 |
| Topic 3. | Water | \_\_\_/1 |
| Topic 4. | Temperature | \_\_\_/1 |
| Topic 5. | Life histories and the niche | \_\_\_/1 |
| Topic 6. | Energy and nutrient relations | \_\_\_/1 |
| Topic 7a. | Populations – distribution and abundance | \_\_\_/1 |
| Topic 7b. | Populations – structure, dynamics, & growth | \_\_\_/1 |
| Reviewer Response | Written response on how you incorporated feedback | \_\_\_/1 |
| Reflection | Written reflection on the higher-level learnings from your portfolio | \_\_\_/1 |
|  | TOTAL | \_\_\_\_\_/12 |

Table 2. Criteria assessed to evaluated score for individual topics and reflection

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **0-0.5** | **0.5-0.65** | **0.7-0.85** | **0.9-1.0** |
| **Individual Topic Content Criteria** | Weak grasp of topic. Poor connection to topic questions posed. Appears no thoughtful reflection or research was done. Topic assignment was not submitted for initial review when due but was eventually submitted. | Adequate grasp of the topic. Some connection to the topic questions. Some evidence of thoughtful reflection and contributions to incorporating feedback when completing the assignment. | Good grasp of topic. Demonstrates solid connection to assignment. Answered questions with strong evidence of thoughtful research and reflection on content and incorporation of feedback. | Grasp of topic exceeds expectations – went above and beyond with the level of information provided. Demonstrates outstanding connections to the topic questions. Superior evidence of thoughtful research and reflection on content. |

Sample questions for each Topic

Topic 1: INTRODUCTION TO ECOLOGY

1. Select your favorite place (could be where you grew up, place you visited, etc.): Be SPECIFIC (e.g., don’t just pick a city!) – think of it as a place where you could sit down and observe your surroundings…
2. Find a photo of this location (cite the source if it’s not your own photo!)
3. Provide a map (e.g., google maps, google earth) that shows your place.
4. In 1-2 sentences describe why it is your favourite place.
5. Briefly describe an example of an ecological question that could be asked and studied at each of the lowest three levels of ecology: i) autoecology, ii) population, and iii) community.

TOPIC 2: Cycles and Patterns of Life

1. What biome is your special place in? Be sure to cite the source for what biome classification system you are using (A URL link will suffice rather than formal peer-reviewed source)?
2. DRAW a climate diagram for your special place (the weather data will likely have to come from somewhere nearby rather than exact location!). Be sure to cite (URL link will suffice) the source for your weather data! Do not just hand in a climate diagram that you find on the web.
   * Note: from prior experience – it is recommended to draw this by hand (but use a ruler!) b/c of the lining up of the 10 C and 20 mm lines and that there is a lot of info in one diagram.

TOPICS 3-7B:

Select an i) animal and 2) plant species that you would expect to find in your special place. provide both their common and scientific names. Remember that you don’t have to have seen that organism there – just that you would expect that you COULD find it in your special place.

Topic 3: WATER

1. Describe water adaptations of the plant and animal species for the EnviroNment where you find them - if you don’t think they have Adaptations, still list what their main sources of gain and loss of water are and provide rationale for why you don’t think they would have adaptations.

TOPIC 4: TEMPERATURE

* 1. List what types of thermoregulation both your plant and animal use (e.g., poikilothermic ectotherm, etc.). PROVIDE a reference to support your conclusion (URL LINK WILL SUFFICE)

TOPIC 5: LIFE HISTORIES AND THE NICHE

1. Describe three characteristics of their life history strategy (hint: think about r vs K for animals, Grime’s classification for plants)

bE SURE TO PROVIDE LINK TO ANY SOURCES/WEBSITES YOU USED websites to get information be sure to cite them (link will suffice)

Topic 6: Energy and nutrient relationships

1. For your plant species – what kind of photosynthesis does it use?
2. For your animal species:
   1. What trophic level would you find it located at?
   2. What kind of \_\_\_\_\_ troph is it?
   3. What is it feeding on?
   4. What is feeding on it?

bE SURE TO PROVIDE LINK TO ANY SOURCES/WEBSITES YOU USED websites to get information be sure to cite them (link will suffice)

topic 7

a: cOMPETITION

For both the plant and animal species that you identified in your special place:

* 1. what distribution pattern would you expect it to have at the local scale – provide rationale for your choice.
  2. briefly describe which category of Rabinowitz (1981) rarity classification you think each of them falls into. Be sure to describe what your rationale is for putting each species into the assigned category (i.e., describe each of three factors related to classifying rarity even if it’s not rare for that category).

B: PREDATION

1. Pick either your plant or animal species and draw a survivorship diagram for it (remember to use the correct axis scales!). Does it have a Type 1, 2, or 3 survivorship curve? provide your rationale for selecting that type of survivorship curve.

C: MUTUALISM

1. WITHIN YOUR SPECIAL PLACE DESCRIBE TWO DIFFERENT examplEs OF MUTUALISMS THAT YOU WOULD EXPECT TO OCCUR THERE OR THAT YOU HAVE OBSERVED THERE. bRIEFLY EXPLAIN WHAT TYPE OF BENEFITS EACH OF THE MUTUALIS PARTNERS ARE RECEIVING FROM THE MUTUALISTIC RELATIONSHIP.