Field Trip Assignment: *American Museum of Natural History*

This is an optional, extra-credit assignment that will be applied to your *Coursework* grade. The trip is self-guided and you can go anytime before the assignment is due. To receive full credit for the assignment, you must submit your museum ticket to your instructor.

Museum Address: 79th Street and Central Park West (**B** or **C** train to 81st Street)
Information on hours of operation can be found at: http://www.amnh.org/

Admission: You need to pay something, but keep in mind that the museum admission is a suggested donation. You tell them what you want to pay. $1 is fine.

Location: Any relevant exhibit in the museum, but some of the most useful displays are in the *Entire Fourth Floor* (Fossil History of Vertebrates), *Spitzer Hall of Human Origins*, *Hall of Biodiversity*, *North American Mammals*, *North American Forests*, *Asian Mammals*, *Akeley Hall of African Mammals*, *Primates*, *Sanford Hall of North American Birds*, and *Reptiles and Amphibians*.

The Assignment:

This is an "ecology scavenger hunt". Your goal is to find displays at the museum that represent particular ecological concepts and to explain how each display is relevant to our understanding of ecology. For each "item" on the scavenger hunt that you find, you must:

- ☐ Record the location of the display in the museum (what hall?, where in the hall?).
- ☐ Depict and describe the display (what does the display look like? what is on display?).
- ☐ Answer the relevant question(s) listed below for this "item".

In order to get full credit for the assignment, you must find ***at least*** twelve (12) out of the twenty (20) items listed below. You can only use each display for one of the "items" below, so think carefully about how to maximize the value of each display you visit. If you "find" more than twelve "items", your best twelve finds will contribute to your grade (which means that including additional finds acts as a kind of insurance against inadvertent errors).

Items to find:

1. **Ecosystem Services:** Find a display that discusses ecosystem services. What service is described? How does the display depict the role that ecosystems play in providing this service?
2. **Ecological Niche:** Find a display that shows the ecological niche of a specific organism. What is that ecological niche? How is that niche portrayed in the display?
3. **Adaptation:** Find a display depicting an adaptation in a particular species. How might have natural selection produced this adaptation? What environmental condition(s) were the source of this selection?
4. **Population Growth:** Find a display that discusses the cause or consequences of population growth. What does this display tell us about the nature of population growth? What impacts of population growth are depicted in the display?
5. **Carrying Capacity:** Find a display that discusses (directly or indirectly) the concept of carrying capacity. Describe how carrying capacity is portrayed in this display.
6. **Predator-Prey Interaction:** Find a display that shows the interaction between a predator and its prey. How does the display portray the costs and benefits to each species?
7. **Symbiosis:** Find a display that shows a symbiotic relationship. What kind of symbiosis is being shown? How is the symbiosis depicted? What aspects of the display provide the viewer with an understanding of symbiosis?

8. **Parasite-Host Interaction:** Find a display that shows the interaction between a parasite and its host. How does the display portray the costs and benefits to each species?
9. **Commensal Interaction:** Find a display that shows the interaction between a host species and the commensal species it supports. How does the display portray the costs and benefits to each species?
10. **Mutualistic Interaction:** Find a display that shows the interaction between two mutualistic species. How does the display portray the costs and benefits to each species?
11. **Competitive Interaction:** Find a display that shows the interaction between two competing species. How does the display portray the costs and benefits to each species?
12. **Coevolution:** Find a display that shows the process of coevolution. Which species are depicted as coevolving? What sort of interaction occurs between these species? How has this interaction shaped the evolution of traits in each of the species?
13. **Food Chain or Web:** Find a display that depicts a food web or food chain. How complex is this chain/web? How are the interactions in this community depicted in this display? Does the display show how strong the interactions between species are?
14. **Ecological Cycling:** Find a display that shows the cycling of energy and/or matter through ecosystems. Describe the cycle portrayed in the display. How are these cycles explained to the viewer?
15. **Ecological Succession:** Find a display that depicts the process of ecological succession. How does this display explain succession? What important processes are shown in this display?
16. **Biome:** Find a display that shows a biome. What biome is this, and how is this biome matched to the climate where it is found? What are some of the anthropogenic (i.e. “made by humans”) threats faced by this biome?
17. **Biodiversity:** Find a display that discusses the concept of biodiversity. How is biodiversity defined? How does this display portray the importance of this concept?
18. **Climate Change:** Find a display that depicts the effect(s) of climate change (for instance, global warming) on ecosystems. What effect is shown, and how does the display explain this effect?
19. **Extinction Risk:** Find a display that portrays an extant (i.e. “still living”) species at risk of extinction. What are the causes of this extinction risk? What makes this species particularly vulnerable to extinction?
20. **Ecological Threat:** Find a display that portrays a threat to ecological systems. Where does this threat come from? What impact does this threat have on ecosystems or their components?

Composition of the assignment:

Please compose (and organize!!) your assignment in a word processing or page layout program. Although you have a good deal of freedom to present your work as you like, make sure to indicate clearly how each of the displays you discuss matches up to one of the “items” above (please list the item number!). To receive full credit, you need to provide complete information for each of the displays you describe.

Helpful hints in completing the assignment:

- ☐ Although you are welcome to use words and/or drawings to depict and describe each display, a digital camera is a wonderful tool for capturing an image of the display itself. These photos can easily be incorporated into your assignment. Similarly, drawings can be scanned and inserted into your assignment. Make sure to edit your photos or scans so that they are not too large: you should not be submitting a project that is over 5 MB in size!
- ☐ There are several resources at the museum that might help you as you complete your “scavenger hunt”. First, there are volunteers (wearing red vests) who are often available in each exhibit to explain displays and help you locate particular displays. Second, there are information booths located on almost all floors.

Submission of this assignment:

This assignment is due on the ultimate course deadline of Monday, **December 18th, 2017** at 5:00 pm. Submission will be strictly electronic via the *Learning Management System.* All assignments must be typed and must be submitted in Adobe PDF format.

Don’t forget to submit your AMNH ticket to your instructor