Biology 395: The History, Utility and Practices of Natural History Museums

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Office Hours: Monday 3-4, Friday 2-3 and more by appointment

This 0.5 unit academic credit course is designed to provide a general overview of natural history museum uses and practices. Natural history museums were the primary locus for biological research in the 18th and 19th centuries. They represent invaluable archives of Earth’s biodiversity; their vast collections of specimens provide a temporal and geographic record of life unmatched by written or illustrated accounts. They document variation - the foundation of evolution - in time and space and allow biologists to make comparisons that are difficult or impossible to observe in the field. Natural history museums are an incredible resource for researchers with interests in evolution, ecology, zoology, botany and environmental change. They are phenomenal venues for teaching and engaging students ranging from young children to senior citizens. And they are sources of inspiration for scientists and artists. In this course students will be learn the history of natural history collections, engage in the practices of natural history museums, learn the myriad ways that natural specimens have been used in research, and do an independent project.

Learning Objectives: In this course we will use the collections of the Slater Museum of Natural History to learn about the practices, utility and potential of natural history museums. To achieve this goal, you will:

• learn about the ways that natural history specimens and associated archives are invaluable repositories of information;
• become familiar with museum practices including specimen and data collection, preparation, accessioning, cataloguing, georeferencing, and curriculum and exhibit development.
• execute an independent project that involves research with specimens, exhibit or curriculum design.

Readings: Primary and secondary literature and excerpts from Asma, S.T. Stuffed Animals and Pickled Heads and

Course Logistics: The course is 0.5 units and will meet once a week for 1.5 hours.

Assessment: The work in the course will consist of:

• Discussion preps for each week’s readings (20%)
• Participation (10%)
• Class exercises (10%)
• Presentations (10%)
• Independent Project involving exhibit, curriculum design or original research using museum specimens (Total 50% broken down into Prospectus-5, Oral Presentation-10, Final Project 35)

Discussion Prep Guidelines: Your discussion preps should be 1-2 pages and address the readings. They should identify the question/s, the argument or hypothesis and some of the
evidence presented by the authors. In addition you should provide your thoughts about the reading. If you are provided a prompt, you will need to address that. These allow us to check your comprehension of the readings, and provide a starting point for class discussions. I will grade them on a plus, check, minus scale. They must be turned into Moodle by 2 PM, day of the class. No late discussion preps.

**Independent Projects:** This project will allow you to more deeply engage in an aspect of natural history museums in which you’re most interested. Details will be posted on Moodle.

**Participation and Attendance:** Your participation is crucial to the success of this class. We will have many discussions and some demonstrations and hands-on exercises. Come prepared with your questions and thoughts about the readings. Obviously, you must be present to participate, and repeated absences will negatively impact your participation and attendance grade. Repeated unexcused absences will result in immediate withdrawal from the course.

**Academic Integrity:** Violations of Academic Integrity will result in dismissal from the course with an F. Cheating is unfair to yourself and others. It cheats the cheater of learning and ends up consuming too much time and emotion for everyone. Cheating is a waste of your time and mine. You will learn nothing from doing it. All assignments must be written individually. **You are responsible for understanding what constitutes plagiarism and academic dishonesty.** Refer to the University of Puget Sound Academic Handbook (in the Logger) for a definition and examples. Please talk to us if you remain unclear as to what constitutes plagiarism.

**Course Schedule**

Aug 31:  Introduction to Course and the Slater Museum of Natural History

Sep 7:  History of Natural History Museums – Special Guest: Kristin Johnson
  Reading: Farber, P.L. *Finding Order in Nature* (excerpts)

Sep 14:  The Many Uses of Natural History Collections. DNA and Stable Isotopes
  Readings: Suarez and Tsutsui 2004; McCormack et al. 2016, Norris
  Each student must find and read one additional paper and be prepared to give 5 minute summary.

Sep 21:  The Many Uses of Natural History Collections. Climate Change, Public Health and Contaminants
  Vo et al. 2011, Miller-Struttman 2015, Hantavirus paper
  Each student must find and read one additional paper and be prepared to give 5 minute summary.

Sep 28:  The Practice and Ethics of Museum Collecting and the importance of vouchers.

Oct 5:  Collection Registration – Accessioning, Cataloging and Digitizing Collections – Special Guest Gary Shugart
  Simmons and Munoz 2006; Online Databases (Vertnet, GBIF, etc)
Oct 12: Museum Collections and Education
   Melber and Abraham 2002, Cook et al. 2014, TBA

Oct 19: Exhibits – special guest: Angela Mele
   Readings TBA

Oct 26: Student project ideas – Speed dating and revision
   **Project Prospectus Due**

Nov 2: Specimen Preparation – Gary Shugart - Vertebrates
   Excerpts from Asma, S.T. *Stuffed Animals and Pickled Heads*

Nov 9: Specimen Preparation – Plant and fungus collecting and mounting, insect collecting and mounting
   Excerpts from Asma, S.T. *Stuffed Animals and Pickled Heads*

Nov 16: Student work on Projects

Nov 30: The challenges and future of natural history collections.
   Groff (2003), Krishtalka and Humphreys (2000), TBA

Dec 7: Student Project Presentations (could happen during Finals Week)

**Reading List: Required and Others of Interest**

   pugetsound.edu/files/resources/2343_Alcorn_PSM_history.pdf

   Planet. Sci. 37: 181-208

Blois, J.L., Zarnetske, P.L., Fitzpatrick, M.C., and Finnegan, S. (2013). Climate change and the past,

Cook et al. 2014. Natural history collections as emerging resources for innovative education. BioScience
   64:724-35


Helgen, K.M., Pinto, C.M., Kays, R., Helgen, L.E., Tsuchiya, M.T., Quinn, A., Wilson, D.E., and
   Maldonado, J.E. (2013). Taxonomic revision of the olingos (*Bassaricyon*), with description of a new
   species, the Olinguito. *Zookeys* 1.

Gardner et al. (2009) Shifting latitudinal clines in avian body size correlate with global warming in


Snow, N. 2005. Successfully curating smaller herbaria and natural history collections in academic settings


Classroom Emergency Response Guidelines

Please review university emergency preparedness, response procedures and a training video posted at www.pugetsound.edu/emergency/. There is a link on the university home page. Familiarize yourself with hall exit doors and the designated gathering area for your class and laboratory buildings.

If building evacuation becomes necessary (e.g. earthquake), meet your instructor at the designated gathering area so she/he can account for your presence. Then wait for further instructions. Do not return to the building or classroom until advised by a university emergency response representative.

If confronted by an act of violence, be prepared to make quick decisions to protect your safety. Flee the area by running away from the source of danger if you can safely do so. If this is not possible, shelter in place by securing classroom or lab doors and windows, closing blinds, and turning off room lights. Lie on the floor out of sight and away from windows and doors. Place cell phones or pagers on vibrate so that you can receive messages quietly. Wait for further instructions.

Student Accessibility and Accommodation

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Peggy Perno, Director of the Office of Accessibility and Accommodations, 105 Howarth, (253) 879-3395. She will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. See http://www.pugetsound.edu/academics/academic-resources/disability-services/

Student Bereavement Policy

Upon approval from the Dean of Students’ Office, students who experience a death in the family, including parent, grandparent, sibling, or persons living in the same household, are allowed three consecutive weekdays of excused absences, as negotiated with the Dean of Students’. For more information, please see the Academic Handbook. See http://www.pugetsound.edu/student-life/student-handbook/academic-handbook/bereavement-policy/

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