

Anthropology 9101B (001)
Research Methods in Archaeology/Bioarchaeology
Western University – W'17

Class Time: Friday 9:30 AM -- 12:20 PM **Class Room:** SSC 2257
Instructor: Ian Colquhoun (and Dan Jorgensen, Jan. 6th, Feb. 17th, and Mar. 24th, in SSC 3102)
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Office Hours: Tuesdays 1:00-3:00 PM, or by appointment.
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Course Description:

The course has been designed with multiple aims in mind. An **ultimate aim** of the course will be to examine how methodology is applied to address issues that flow from theory (i.e., research questions). A goal of this undertaking will be a philosophy of research methods, if you will -- to gain a broad appreciation for the multiple methodological approaches that one may employ in archaeological/bioarchaeological/physical anthropological research, *regardless of the particular research question or problem you are pursuing at present as part of your degree program*. A **proximate aim** is to have this course be a vehicle for you to develop your thesis research proposal. Among the issues we will be addressing through readings, presentations, and discussions in this seminar are: the nature of anthropological research, research questions and research design, situating proposed research in relation to existing literature, research ethics, data collection, and data analysis.

Learning Outcomes:

Upon successful completion of this course, students will:

- have made, first and most importantly, significant progress on producing a final version of their research proposal for presentation to Archaeology and Bioarchaeology faculty members in a “proposal hearing” by late April/early May;
- have, if necessary, initiated a research protocol ethics review by Western’s Non-Medical Research Ethics Board (NM-REB);
- have communicated to the seminar group, in considerable detail, various aspects of their proposed research project, and gained greater appreciation of the complexities of the research projects of the other students in the seminar;
- gained an appreciation of the scope of methodological approaches that a researcher can bring to bear on archaeological or bioarchaeological research questions;
- have developed a clearer conception (than they possessed at the beginning of the term) of the most appropriate or productive research methods for their particular thesis project; and,
- recognize the limits of their methodological knowledge and those areas where they might benefit from gaining further methodological experience.

Marking Breakdown:

30% -- Informed Participation and Mandatory Assignments

It is expected that all assigned readings will be completed, so that we will be able to discuss them (or at least use them as a springboard to discuss related items). “Participation” in the course will also include several assignments that will be mandatory but will not be graded individually; these will include:

- thesis research proposal discussion (Jan. 25th);
- questions concerning draft proposal “flow chart” presentations of others (Feb. 1st);
- comments and discussion on draft proposals/flow charts of others (Feb. 8th);
- discussion during “cross-over session” on Ethics (Feb. 15th);
- in-class summary presentation of meta-analysis assignment results (Mar. 15th)

- fielding of questions in session for draft research proposal presentations (Apr. 5th).

20% -- Research Proposal Flow Chart

This is what it sounds like. You are to give a graphic representation, in the form of a flow chart (these are also sometimes referred to as “logic trees”), of the inter-relationships between: theoretical background, research problem, research questions, methodology (or methodologies, as the case may be), and predicted/expected outcomes; a thorough research proposal flow chart would also factor in what one would need to do subsequent to negative outcomes or unexpected results – that is, you can expect there to be a number of “feedback” loops in your flowchart to properly account for points in your thesis project where you either move on to the next stage of the research, or you take a step back in your research project to re-do, re-examine, or re-analyze material. You will find examples of flow charts/logic trees among the readings for January 18th. Your completed flow chart is to be presented to the rest of the seminar group and handed in on February 1st – “Flow Chart Friday”! In week 5 (Feb. 8th), we will focus on commenting on, and discussing, the flow charts/draft proposals presented the previous week. All students will be asked to complete comment sheets for each of the other members of the class (see above).

20% -- Meta-Analysis Assignment (@2000-2500 words, or approx. 8-10 pages, not including the reference list)

You will need to find (at least) three published data sets in the peer-reviewed literature that you will then meta-analyze – **note: the data sets you meta-analyze can be either quantitative or qualitative in nature.** If the data sets are small, then you may want to try and find more than three to meta-analyze (but this would not be necessary – even the compiling and comparison of small data sets can produce interesting insights). Otherwise, three data sets should be sufficient to provide you with enough information to look for consistent and/or emergent patterns across the data sets, as well as any contrasts they may present. The data sets can be of direct relevance to your own proposed thesis research, or you can choose to meta-analyze data from another research area that you simply find interesting. Summary results of your meta-analysis will be presented to the seminar group (part of the non-graded “participatory work” in the course) and your write-up of the assignment handed in on March 15th.

30% -- Final Project: Research Proposal, Research Diary and Proposal Abstract

Research proposal: One of the main goals of this course is to work towards having your final, formal research proposal prepared by mid-April. This is the document that will be reviewed by your supervisor, advisor and ANY other faculty members in the Department who would like to sit in on your proposal “hearing”. Proposal hearings regularly involve all available faculty members with archaeology/bioarchaeology/physical anthropology backgrounds and research interests (and, technically, *any* faculty member in the Department with SGPS advising privileges could attend *any* proposal hearing), so it is important that the document you submit be detailed enough to satisfy specialists in your area while still general enough to be comprehensible to any anthropologist. Achieving this balanced mix can be a challenge. This course has been designed to try to help towards this end.

The final assignment for this course, then, is something that you will have to complete anyhow: your research proposal. PhD students don’t have to submit this until after their 2nd year, but there is no harm in getting a draft of it prepared well in advance.

Proposals are generally short – around 5-6 pages for MA, up to 15 for PhD – and are meant to include a number of standard features like “situating” your research question/problem through a brief review of the most relevant literature, a section on methods to be employed, comprehensive bibliography (appended), etc. (all to be discussed in class). In preparing your draft proposal, you would do well to aim to put something together that follows this standard format, and that is between 8 and 10 pages in length – something that can be cut down for the MAs and added to for the PhDs. We finish the term up on Apr. 5th with a session dedicated to practice/mock proposal hearing presentations; you will also be expected to submit a written draft of your research proposal on that date. This should provide me sufficient time to be able to review them and to get them back to you with comments in advance of your having to circulate the defensible version of your proposal to faculty members ahead of your actual proposal hearing.

Research Diary: You will compile and keep a “research diary” over the duration of the course. This assignment requires that you develop a clear **timetable** regarding your research project and then keep track of your progress

throughout the term (this “progress-tracking” can simply be presented in the form of a daily/weekly calendar). Documents to include in this diary are:

- A brief "timed road map" outline (see Davies, 2007: 48 -- *Doing a Successful Research Project Using Qualitative or Quantitative Methods*), or timetable, regarding your research plans for the next 6 months. A model that would prove useful here is referred to as “**backcasting**” (see www.naturalstep.org/en/canada/backcasting), where you i) first, envision where you want to end up; ii) then move back from the vision to the present and ask yourself, “What do I need to do to reach that successful outcome?”; iii) then, take the necessary step-by-step moves to reach that envisioned outcome. Or, alternatively, develop some similar model that works better for your project/situation.
- A bibliography of 30-50 sources that are relevant to your proposed research (you can use *RefWorks*, available through the UWO Libraries homepage, or some other reference management software -- e.g., *Endnote*; or simply keep a running Word document of relevant sources as you find them through the term). To complement this bibliographic list, you are asked to also provide **five (5)** short (200-300 word; i.e., roughly one page) **annotations/discussions** on those particular sources you feel will be of **KEY importance** in relation to your work (that is, for example, these will be among the most heavily cited sources in your final proposal, either for reasons of theoretical background, methodological approach(es), or analytical insight). Feel free to make this a proper, fully annotated bibliography if it will help you.
- If necessary for your project at this point (i.e., Ph.D. students may not have to just yet), a copy of the first page of your ethics review application submission to the Research Ethics Board (REB). The Non-Medical REB only meets once a month, so if you will require ethics approval from the University for your research project, you should aim to submit your research protocol for REB review earlier in the term, rather than later – particularly since it is not uncommon for research protocol revisions and resubmission to be requested by the NM-REB (which, effectively, adds a month to the approval process).

Your research diary is due in class on April 5th.

Proposal Abstract: Finally, I would ask that you produce an abstract (between 200 and 300 words) of your research proposal – something accessible to a general readership that might be included on the Department website (e.g., on a page featuring profiles of “Current Graduate Research”). Nothing will be posted without your permission!

Course Sources

See week-by-week breakdown for required readings (below).

Week-by-Week Breakdown (tentative schedule -- some additional readings will be added; classes in which the Arch./Bio-arch and S-C seminar sections of the course meet jointly are indicated by the notation "**Cross-over session**")

Week 1 – Jan. 6: Course Introduction – personal introductions and overview of course requirements.

Week 2 – Jan. 13: Research questions, research design, and construction of proposals I.

Required Readings --

- Anon., 2007. Structural Differences in the Hairs of Non-destructive Flower-Feeding Prosimians (a manuscript submitted to the *American Journal of Primatology*, and subsequently rejected), plus the comments of two reviewers and the journal's editor – copies to be made available.
- Chamberlin, T.C., 1965. The Method of Multiple Working Hypotheses. *Science* 148: 754-759.
- Clark, G.A., 1982. Quantifying Archaeological Research; pp. 217-273 in: *Advances in Archaeological Method and Theory*, vol. 5 (M.B. Schiffer, ed.).
- Dunbar, R.I.M., 1989. Ecological Modelling in an Evolutionary Context. *Folia Primatologica* 53: 235-246.
- Platt, J.R., 1964. Strong Inference. *Science* 146: 347-353.
- Russell, B.H., 2002. *Research Methods in Anthropology* -- ch. 16: Introduction to Qualitative and Quantitative Analysis.

- Week 3 – Jan. 20:** Discussion of research questions and draft proposals.
- Required Readings --** a selection of thesis research proposals that have been successfully presented **and** defended in previous years (anonymized copies of these will be made available electronically).
 Boellstorff, T., 2008. How to Get an Article Accepted at *American Anthropologist* (or Anywhere). *American Anthropologist* **110(3)**: 281-283.
 Drubin, D.G., 2011. Editorial: Any jackass can trash a manuscript, but it takes goodscholarship to create one (how *MBoC* promotes civil and constructive peer review). *Molecular Biology of the Cell* **22**: 525-527.
 Resnik, D.B., 2011. A Troubled Tradition. *American Scientist* **99(1)**: 24-27.
- Week 4 – Jan. 27*:** Research questions, research design and construction of proposals II.
 * Flow charts of thesis research plans to be presented in class.
- Week 5 – Feb. 3:** Flow chart follow-up -- for this week, you will be asked to provide comments on the flow chart/draft proposal outlines presented by your classmates in the previous week's class. We will discuss each flow chart/draft proposal outline individually. You should provide, in class, copies of your comments to me and to the author of the relevant proposal.
- Week 6 – Feb. 10:** Follow-up on the flow chart follow-up -- what "adjustments" resulted from last week's flow chart feedback? (**Note** -- discussion from this week's seminar should have direct implications for your developing research proposal!).
- Week 7 -- Feb. 17*:** Ethics.
Cross-over session* – joint discussion session on ethics with S-C students in SSC 3102.
- Week 8 -- *Feb. 24: *"Reading Week"* -- *no class*.
- Week 9 – Mar. 3:** Ethics II – focus on Archaeology, Bioarchaeology, and Physical Anthropology
- Required Readings:** **Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2)** -- available from the website of the Interagency Advisory Panel on Research Ethics (PRE) at: http://www.pre.ethics.gc.ca/pdf/eng/tcps2/TCPS_2_FINAL_Web.pdf ; read the following sections of the TCPS2: Introduction, and ch. 1 – "Ethics Framework"; ch. 9 – "Research Involving The First Nations, Inuit And Metis Peoples of Canada"; and, ch. 12 – "Human Biological Materials".

Western's Department of Anthropology affirms and abides by the **Vermillion Code on Human Remains**. These principles were adopted at the South Dakota World Archaeological Congress (WAC) Inter-Congress in 1989. The complete WAC Code of Ethics and additional information about these principles can be found here: <http://worldarch.org/code-of-ethics/> .

Other association websites to consult include:

- American Assoc. of Physical Anthropologists (AAPA): www.physanth.org
- Canadian Archaeological Assoc. (CAA): www.canadianarchaeology.com
- Canadian Association for Physical Anthropology (CAPA-ACAP): <http://capa-acap.net/ethics-physical-anthropology-0>
- Society for American Archaeology (SAA): www.saa.org
- as well as, Research Western: www.uwo.ca/research/ethics

Two earlier relevant documents from CAPA-ACAP (both available on the CAPA-ACAP website: <http://capa-acap.net/publications/canadian-review-physical-anthropology>) are:

Statement on the excavation, treatment, analysis and disposition of human skeletal remains from archaeological sites in Canada. 1979. *Canadian Review of Physical Anthropology* **1(1)**: 32-36; and,

Motion to Support Research on Human Skeletal Remains. 1981. *Canadian Review of Physical Anthropology* **3:1**.

Week 10 – Mar. 10: The nature and acquisition of data, and methods of data analysis and interpretation.

Required Readings:

- Ambrose, S.H., 2006. A Tool for All Seasons. *Science* **314**: 930-931.
- Colquhoun, I.C., 2011. A Review and Interspecific Comparison of Nocturnal and Cathemeral Strepsirrhine Primate Olfactory Behavioural Ecology. *International Journal of Zoology* Volume 2011 (2011), Article ID 362976, 11 pages <http://dx.doi.org/10.1155/2011/362976> .
- Driscoll, D.L., Appiah-Yeboah, A., Salib, P. and Rupert, D.J., 2007. Merging Qualitative and Quantitative Data in Mixed Methods Research: How To and Why Not. *Ecological and Environmental Anthropology* **3(1)**: 19-28. (note -- this is an online open-access journal).
- Fernandez-Duque, E., and Valeggia, C., 1994. Meta-Analysis; A Valuable Tool in Conservation Research. *Conservation Biology* **8(2)**: 555-561.
- Grant, B., 2008. Trash to Treasure. *The Scientist* **22(1)**: 20-21.
- Hoppa, R. and Saunders, S., 1998. The MAD Legacy: How Meaningful is Mean Age-at-Death in Skeletal Samples? *Human Evolution* **13(1)**: 1-14.
- Kefi, R., 2011. Ancient DNA Investigations: A review of their significance in different research fields. *International Journal of Modern Anthropology* **4**: 61-76 (available online at: www.ata.org.tn).
- Kohn, M.J., 1999. You Are What You Eat. *Science* **283**: 335-336.
- LeBlanc et al., 2007. Quids and Aprons: Ancient DNA from Artifacts from the American Southwest. *Journal of Field Archaeology* **32**: 161-175.
- McGovern, P.E. et al., 2009. Ancient Egyptian herbal wines. *Proceedings of the National Academy of Sciences* **106(18)**: 7361-7366.
- Sponheimer, M. and Lee-Thorp, J.A., 1999. Isotopic Evidence for the Diet of an Early Hominid, *Australopithecus africanus*. *Science* **283**: 368-370.
- Sponheimer, M et al., 2006. Isotopic Evidence for Dietary Variability in the Early Hominin *Paranthropus robustus*. *Science* **314**: 980-982.
- Vogel, G., 1999. Did Early African Hominids Eat Meat? *Science* **283**: 303.
- Wiley, S., 2008. Telling Science's Stories. *The Scientist* **22(1)**: 27-28.

Week 11 – Mar. 17*: Nature and acquisition of data II.

* Results of meta-analysis assignment to be presented in class, and short written summary of results submitted.

Week 12 – Mar. 24*: *Cross-over session* (SSC 3102) –
Data, Methods, and Data Analysis and Interpretation.

Week 13 – Mar. 31: Collaborative research (Readings to be announced).

Week 14 – Apr 7*: Proposal Presentations. A session of “speed proposals”; each student will make a short presentation (8-10 minutes) outlining their plans for their upcoming research.

* Research Diaries due; written draft of research proposal also to be submitted.

Required Readings: None.

In past years, Anthropology grad students (and faculty) have held an end-of-term **Cross-over session/joint session with Geography grad students** on the topic of “Safety in the Field”. Stay tuned for further details!

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