

**Arch 5110 FA Archaeological Science Seminar
Fall 2020**

Instructor/coordinator Scott Hamilton
Telephone: 343-8742
Mon and Wed, 5:30 to 7 pm. ZOOM

Office: BB2001E
email: shamilto@lakeheadu.ca

This course addresses communication and critical appraisal in archaeological science. It emphasizes exploration of methods and their theoretical underpinnings. It contributes to skills development in information synthesis and presentation, and critical evaluation of research proposals, briefing documents, oral presentations and formal seminars. As we will meet remotely using ZOOM, it is important to review the presentation and supporting readings before the presentation to be better prepared to meaningfully participate. The assigned/suggested readings will either be available on MyCourseLink (folders with presenter's name on them), or readily available for download through the library. The Zoom meetings will be recorded, and made available for review. PDF versions of Hamilton's presentations will also be made available. Some of the other presenters might also make their materials available.

The 2020-21 academic year will be challenging as we shift to internet course delivery. This involves both yourselves and your instructors learning new ways of doing things 'on the fly'. Both faculty members and students will lead seminars that address various research topics in the archaeological and biological anthropological sciences. You will be expected to read assigned background materials, listen to the presentations, and participate in the discussion that ensues. You will submit short written 'reflections' or critiques about these issues, and contribute a seminar presentation on a topic of your choice.

The primary 'learner outcome' is to refine students' critical thinking, and written and oral communication skills. Grading emphasis is on demonstrated comprehension of the topics at hand, and the quality of communication.

Writing must be focused and well-crafted. Think carefully about your objectives, and write deliberately and sparingly. Readers' and listeners' attention span is generally short. You must capture interest, and provide information that builds to a defensible conclusion. Also important is recognition of uncertainty and potential bias. An important part of scholarship is self-reflection and self-criticism.

Writing well is difficult, and academic prose may be disjointed, convoluted, incompletely argued and jargon laden. Work to do better. When writing about a controversy or difference of interpretation, offer a critically balanced summary of positions, the basis for interpretation, and how well the data supports the divergent conclusions.

NOTE: A family emergency has recently arisen for Hamilton. This might mean that he is unavailable at the beginning of term. Check your LU email account to learn about any adjustments required in early September.

Lakehead's Accommodation & Confidentiality Statements:

Lakehead University is committed to achieving full accessibility for persons with disabilities/medical conditions. Part of this commitment includes arranging academic accommodations for students with disabilities/medical conditions to

ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability/medical condition and think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please email sas@lakeheadu.ca or visit <https://www.lakeheadu.ca/faculty-and-staff/departments/services/sas>

In **Arch 5110 FA**, in the context of remote instruction and participation, video and audio recordings of class activities will be made to ensure students' and instructors' easy and comprehensive access to those activities. The recordings are confidential and are intended only for the use of the course students and instructors. They may otherwise not be used or disclosed. During recording, to protect others' privacy, each student should ensure that no one else is present in the location where they are being recorded without that non-student's consent. The recordings are made under the authority of sections 3 and 14 of *The Lakehead University Act, 1965*. Questions about the collection of the images and sounds in the recordings may be directed to Dr. Todd Randall (Dean, Faculty of Science and Environmental Studies), todd.randall@lakeheadu.ca, 807-343-8289.

Grading

- 3 critical reviews of papers/presentations posted on MyCourseLink (Discussion) (600-800 words) (3 x 10%)
- 3 responses to other students' posts on MyCourseLink (Discussion) (400 words) (3 x 5%)
- research 'speed dating' (5%)
- 30 minute seminar presentation (20%)
- 10 page paper discussing an instructor-approved topic (20%)
- class participation (10%)

Week 1 (Sept 8) Scott Hamilton

- Wk1a Module 1: Course Introduction, Module 2:
- Wk1a Module 2: What is academic criticism?

Week 2 (Sept 14, 16) Scott Hamilton

- Wk2 Module 1-5: Role of Theory in Research

Week 3 (Sept 21, 23) Matt Tocheri:

- Topics in PaleoAnthropology. Discoveries, Debates, and the Details: Deciphering the Complexities and Incompleteness of the Hobbit Fossil Record.

Readings <https://drive.google.com/open?id=1i1hYJO8OtTNmXiE5i5MdSl-aaCi7VpQm>

- 1) Brown, P., Sutikna, T., Morwood, M.J., Soejono, R.P., Jatmiko, Wahyu Saptomo, E., Rokus Awe Due., 2004. A new small-bodied hominin from the Late Pleistocene of Flores, Indonesia. *Nature* 431, 1055–1061.
- 2) Morwood, M.J., Soejono, R.P., Roberts, R.G., Sutikna, T., Turney, C.S.M., Westaway, K.E., Rink, W.J., Zhao, J.-x., van den Bergh, G.D., Due, R.A., Hobbs, D.R., Moore, M.W., Bird, M.I., Fifield, L.K., 2004. Archaeology and age of a new hominin from Flores in eastern Indonesia. *Nature* 431, 1087–1091.
- 3) Morwood, M.J., Brown, P., Jatmiko, Sutikna, T., Wahyu Saptomo, E., Westaway, K.E., Rokus Awe Due, Roberts, R.G., Maeda, T., Wasisto, S., Djubiantono, T., 2005. Further evidence for small-bodied hominins from the Late Pleistocene of Flores, Indonesia. *Nature* 437, 1012–1017.
- 4) Bednarik, R.G., 1997. The initial peopling of Wallacea and Sahul. *Anthropos* 92:355–367.
- 5) Bednarik, R.G., 2009. Reviewing the Flores Hobbit Chronicles. *Anthropos* 104:195–198.
- 6) Sutikna, T., Tocheri, M.W., Morwood, M.J., Wahyu Saptomo, E., Jatmiko, Rokus Awe Due, Wasisto, S., Westaway, K.E., Aubert, M., Li, B., Zhao, J.-x., Storey, M., Alloway, B.V., Morley, M.W., Meijer, H.J.M., van den Bergh, G.D., Grün, R., Dosseto, A., Brumm, A., Jungers, W.L., Roberts, R.G., 2016. Revised stratigraphy and chronology for *Homo floresiensis* at Liang Bua in Indonesia. *Nature* 532, 366–369.
- 7) Sutikna, T., Tocheri, M.W., Faith, J.T., Jatmiko, Rokus Awe Due, Meijer, H.J.M., Wahyu Saptomo, E., Roberts, R.G., 2018. The spatio-temporal distribution of archaeological and faunal finds at Liang Bua (Flores, Indonesia) in light of the revised chronology for *Homo floresiensis*. *Journal of Human Evolution* 124, 52–74.

- 8) Veatch, E.G., Tocheri, M.W., Sutikna, T., McGrath, K., Wahyu Saptomo, E., Jatmiko, Helgen, K.M. Temporal shifts in the distribution of murine rodent body size classes at Liang Bua (Flores, Indonesia) reveal new insights into the paleoecology of *Homo floresiensis* and associated fauna. *Journal of Human Evolution* 130, 45–60.

Week 4 (Sept 28, 30) Scott Hamilton, Students

- **Developing a research proposal**
- **Research ‘Speed Dating’.** Students have 15 minutes to informally talk about their proposed thesis research. Introduce your thesis idea, how you became interested in the topic, why you think it is interesting and intellectually important, and how you might go about addressing it.

Week 5 (Oct 5, 7) Jessica Metcalfe:

- 'Bisotopes' (Bison isotopes) Part I: Long-distance travel by occupants of the Promontory Caves, Utah, AD 1240-1290

Reading: Metcalfe, J.Z., Ives, J.W., Shirazi, S., Gilmore, K., Hallson, J., Brock, F., Clark, B.J., and Shapiro, B. (in review). Isotopic evidence for long-distance connections of the AD thirteenth century Promontory caves occupants. Revised version submitted to *American Antiquity* August 29, 2020.

Ives, J.W., 2020. The view from Promontory Point, in: Brunswig, R.H. (Ed.), *Spirit Lands of the Eagle and Bear: Numic Archaeology and Ethnohistory in the American West*, University Press of Colorado, Boulder, pp. 90-117.

- 'Bisotopes' (Bison isotopes) Part II: What can we learn from the isotopic study of terrestrial mammals?

Reading: Bocherens, H., 2015. Isotopic tracking of large carnivore palaeoecology in the mammoth steppe, *Quaternary Science Reviews* 117, 42-71.

Study Week (Oct 12 to 16)

Week 6 (Oct 19, 21) Scott Hamilton

- Wk6a Mod1 Introduction to cartography in archaeology
- Wk6a Mod2: Remote Sensing and its application to archaeology
- Wk6b UAVs and LiDAR applications to archaeology Readings: read one or two.
Hamilton, S. 2018 'More than pretty pictures: Drones, bison kills, and considerations of cultural landscapes' *Archaeological Survey of Alberta, Occasional Paper No. 28*, pp.53-91.
Hamilton, S. 2017 'Drone mapping and photogrammetry at Brandon House 4'. *Society for Historical Archaeology*. 51(4), 563-575. DOI 10.1007/s41636-017-0069-4.
Hamilton, S. and J. Stephenson 2017 'UAV (drone) aerial photography and photogrammetry and its utility for archaeological site documentation'. Occasional Paper #2, Ontario Association of Professional Archaeologists. http://www.apaontario.ca/resources/Documents/APA_OccasionalPaper2_DroneTesting_2017.pdf

Week 7. (Oct 26, 28) Scott Hamilton

- Wk6b UAVs and LiDAR applications to archaeology (cont'd)
- Wk7 Why is 'Near surface Geophysics' less widely used in N America compared to Europe?

Week 8 (Nov2, 4) Matt Boyd, Tim Kaiser:

- (Boyd Nov 2) Ancient human transformations of the Boreal ecosystem: fire, foraging, and farming".

Readings

Lewis, Henry T. and Ferguson, Theresa A. 1988. Yards, corridors, and mosaics: How to burn a boreal forest. *Human Ecology* 16: 57-77.

Berkes, F. and Davidson-Hunt, Iain J. 2006. Biodiversity, traditional management systems, and cultural landscapes: examples from the boreal forest of Canada. ISSJ 187.

- (Kaiser Nov 4) **What goes around, comes around.** One of the virtuous hallmarks of science, we are told, is that science is reflexive. That is, science is built—in part—around a willingness to re-examine past work, modifying earlier conclusions when and as necessary. What's it like to be the subject of a re-investigation? In this seminar we will look at archaeometric research into the hypothesized link between early metallurgy and pottery manufacture. Work done in the 1980s languished for three decades before another crack at the question was taken.

Readings:

Timothy Kaiser, Ursula Franklin, and Vanda Vitali (1986) Pottery and pyrotechnology in the late Neolithic of the Balkans. In *Proceedings of the 24th International Archaeometry Symposium*, edited by J.S. Olin and M.J. Blackman, pp. 85-94. Washington D.C.: Smithsonian Press.

Timothy Kaiser (1989) Steatite-tempered pottery from Selevac: A Neolithic experiment in ceramic design. *Archeomaterials* 3(1): 1-10.

Silvia Amicone, Miljana Radivojević, Patrick Sean Quinn, Christoph Berthold, and Thilo Rehren (2020) Pyrotechnological connections? Re-investigating the link between pottery firing technology and the origins of metallurgy in the Vinča Culture, Serbia. *Journal of Archaeological Science* 118 (June 2020) <https://doi.org/10.1016/j.jas.2020.105123>

Silvia Amicone, Arvin Raj Mathur, Rengasamy Deepthi Pavitra, Neda Miković-Marić, Ivana Pantović, and Julka Kuzmanović-Cvetković (In press. Available online 23 April 2020) Beneath the surface: Exploring variability in pottery paste recipes within Vinča culture. *Quaternary International* <https://doi.org/10.1016/j.quaint.2020.04.017>

Week 9 (Nov 9, 11) Tamara Varney, Scott Hamilton

- (Varney)
- (Hamilton) Case studies in the application of near-surface geophysics to Canadian Archaeology
 - Proton Magnetometry and fur trade posts
 - Gradiometer and GPR survey at Whitefish Lake precontact site

Week 10 (Nov 16, 18) Scott Hamilton

- The Archaeology of 'Contested Ground'.
- Case Study of the Battle of 'Little Big Horn' or 'Greasy Grass'
- Case Study of High Falls Burial Project (Is this research 'advocacy' or not?)
- Readings: Hamilton, Morrisseau and McCrady 'New Solitudes: Conflicting World Views in the Context of Contemporary Northern Resource Development' *Canadian Journal of Archaeology* 1995 Vol 19, pp. 3-18. 'This Powerful Place' CBC IDEAS radio documentary by Jody Porter.

Week 11 (Nov 23, 25)

Student Seminars

Week 12 ((Nov 30, Dec 2)

Student Seminars

Week 13 (Dec 7)

Student Seminars