

Archaeological Dating

Archaeology 311

Section: D100

Term: 2003 Fall

Instructor: Professor Erle Nelson

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Morning course at Burnaby campus

Discussion Topics: Archaeology 311 is a course designed to familiarise students in Archaeology and the Earth Sciences with the dating methods that have been developed from the physical sciences. The emphasis will be on understanding the bases, the powers and the limitations of each method, so that students can learn to make intelligent use of the methods. Detailed laboratory practice is discussed only as is necessary to understand the application. The major emphasis will be given to radiocarbon dating, as it is the primary dating method for the sorts of research on-going at SFU.

The course will cover the following topics:

First part:

- a quick review of radioactive decay
- a discussion of the fundamental principles underlying all dating methods
- an overview of K-Ar dating
- an overview of fission-track dating
- an overview of U-Th series dating
- an overview of TL dating
- an overview of obsidian hydration datnan overview of amino-acid racemisation dating

Second part:

- an examination of Carbon-14 dating, including: the basis, isotopic fractionation, measurement techniques, calibration, sample selection and data handling

Grading: The details of the marking scheme will be decided upon by mutual agreement at the beginning of the course, but will be something similar to

- assignments as given (=30%)
- a mid-term (=30%)
- a final take-home set of problems on Carbon-14 dating (=40%)

Required Texts: No required text as none is available that covers the course as taught. A list of suggested books and articles will be provided.

Recommended Texts: none

Materials/Supplies: none

Prerequisite/Corequisite: Phys 181 or permission of the Department

Interested students with a basic background in physics or chemistry are urged to contact the

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instructor, as the details of the course can be adjusted somewhat to fit the needs of the class.

Notes: Deferred grades will be given only on the basis of authenticated medical disability.

This outline is derived from a course outline repository database that was maintained by SFU Student Services and the University's IT Services Department. The database was retired in 2014 and the data migrated to SFU Archives in 2015.