

GREEK AND ROMAN STUDIES 376: ANCIENT TECHNOLOGY

This course will provide an introduction to the role of technology in the ancient Mediterranean world, based mainly on primary evidence. We will draw our information for the most part from translations of ancient Greek and Latin texts, combined with archaeological remains and ancient representations of procedures, tools and products. The constant focus on primary information is intended to assist you to develop your own conception of the relationships between ancient societies and the technologies they developed. The survey will touch on the earliest developments from the Palaeolithic through the Late Bronze Age, but it will emphasize the technological development and capabilities of the Greek and Roman cultures, and the social place of their technologies. Special topics will include the extractive technologies, processing of materials, machinery and gadgets, mass production, engineering, nautical technology, the role of gender, the status of labour, and attitudes towards technology and innovation. In more general terms, this course has been designed to enhance your ability in critical thinking, particularly in the analysis of ancient texts and objects in their social context, and your ability to express and document your ideas clearly in expository prose. There are no prerequisites for the course, but GRS 371, 372, or 377 are useful and recommended.

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Office hours: Tuesday 9:30-10:20, Thursday 2:30-3:20, or by appointment.

Schedule: Monday and Thursday at 1:00-2:15 p.m. in Cornett A221.

Text: J. Humphrey, J.P. Oleson, A.N. Sherwood, *Greek and Roman Technology: A Sourcebook* (London 1998).

Optional Supplementary Readings (on Reserve in McPherson Library; a few copies are available in the Book Store):

J. P. Oleson, ed., *Engineering and Technology in the Classical World*. (New York 2008).

Requirements:

- (1) Mid-term examination (**February 12**, 25% of term grade).
- (2) Research paper, based largely on material in the sourcebook or other primary evidence (ca. 2,000-2,500 words. Due **March 30**, 40% of term grade).
- (3) Final examination (35% of term grade).

Examinations will consist of identification and discussion of images, short answer questions, and an essay. I will post images for review on the course Blackboard site before the Mid-term and Final examinations. The date of the final exam cannot be adjusted for individuals.

Grading System:

All assignments must be completed in order to receive a passing grade in the course. Electronic copies of the research paper must be submitted to MyDropBox.com for evaluation of originality; if you object to this procedure, do not register for the course. I will mark all assignments with percentages of the total possible score. I will use the following equivalences for transforming the

percentage grade into the letter grades that must be submitted to the registrar at the end of term: A range, 100-90%; B range, 89-80%; C range, 79-70%; D, 69-50%; F, below 50%. Cheating or plagiarism of any type may result in a grade of F for the term. Spelling, grammar, and style are taken into consideration in grading the research papers. See the Department's web site for a definition of plagiarism. I will distribute a cover sheet that sets out in detail my system for evaluating research papers and my policy on late submission.

Lecture Syllabus and Reading Assignments (subject to alteration in detail):

The only assigned readings are those in the *Sourcebook*. Read this material carefully and critically, including the introductions to the chapters and to the individual passages. I will cite and discuss this material frequently in the lectures. The "Optional Readings" provided for most lectures are intended to provide supplementary material for individuals who miss a lecture, who would like to review some images or ideas, who wish to develop a topic for the research paper, or who simply wish to enhance their knowledge of the topic. This optional material is useful but not required. It will be difficult to pass this course unless you attend lectures regularly, since I will present a great deal of information that does not appear in the assigned text.

- Jan. 5:** Introduction: The History of Technology and its Sources.
Sourcebook, pp. xv-xxiv.
 Optional: *Handbook*, Introduction, and Chapters 1-2.
- 8:** The Appearance of Human Culture: The Rise of Hominids, Palaeolithic and Mesolithic Cultures, The "Neolithic Revolution."
Sourcebook, Chapter 1.
 Optional: *Handbook* Chapter 3.
- 12:** Society and Technology. Bronze Age Technology in Egypt, Crete, and Greece.
- 15:** The Spread of Iron-Working. Greek Cultural Attitudes and Early Scientific Philosophy.
Sourcebook, Chapter 13.
- 19:** Agriculture and Animal Husbandry.
Sourcebook, Chapter 3.
 Optional: *Handbook* Chapters 7-8.
- 22:** Mining and Quarrying.
Sourcebook, Chapter 5.
 Optional: *Handbook* Chapters 4-5.
- 26:** Metallurgy.
Sourcebook, Chapter 6.
 Optional: *Handbook* Chapter 4.
- 29:** Irrigation and Hydraulic Technology.
Sourcebook, Chapter 8.
 Optional: *Handbook* Chapter 11.
- Feb. 2:** Food and Drink.
Sourcebook, Chapter 4.
 Optional: *Handbook* Chapter 14.
- 5:** Metalworking and Tools.
Sourcebook, pp. 331-37.
 Optional: *Handbook* Chapter 16.

- 9:** Textiles and Leather.
Sourcebook, pp. 346-71.
Optional: *Handbook* Chapters 18-19.
- 12: MIDTERM EXAMINATION.**
- 16-20: READING BREAK**
- 23:** Applied Chemistry. Woodworking.
Sourcebook, pp. 337-46, 380-90.
Optional: *Handbook* Chapter 17.
- 26:** Ceramic production.
Sourcebook, pp. 371-75.
Optional: *Handbook* Chapter 20..
- Mar. 2:** Glass-making.
Sourcebook, pp. 375-80.
Optional: *Handbook* Chapter 21.
- 5:** The Social and Economic Role of Transportation. Land Transport and Roads.
Sourcebook, pp. 409-42.
Optional: *Handbook* Chapters 22-23.
- 9:** Sea Transportation and Harbours.
Sourcebook, pp. 442-84.
Optional: *Handbook* Chapters 12 (canals), 24, 25.
- 12:** Trade, Coinage, Prices, and Wages.
Sourcebook, pp. 484-511.
Optional: *Handbook* Chapter 30.
- 16:** Literacy and Book Production. Calendars and Time Reckoning.
Sourcebook, Chapter 11.
Optional: *Handbook* Chapters 28-29.
- 19:** Construction Engineering.
Sourcebook, Chapter 7.
Optional: *Handbook* Chapters 12 (tunnels), 9, 10.
- 23:** Warfare.
Sourcebook, Chapter 12.
Optional: *Handbook* Chapters 26-27.
- 26:** Prime-Movers, Machines, Gadgets.
Sourcebook, Chapter 2.
Optional: *Handbook* Chapters 6, 13, 31.
- 30:** Attitudes towards Technology.
Sourcebook, Chapter 13.
Optional: *Handbook* Chapter 32.
- RESEARCH PAPER DUE.**
- Apr. 2:** Summary: Technological Innovation and the Status of Labour.
Sourcebook, pp. 390-408.
Optional: *Handbook* Chapter 15.
- FINAL EXAMINATION**

Reserve List:

The following books, which may be of use to you in writing your research papers, are in the McPherson Reserve Room, tagged for 3-day loan. If you feel that more restrictive or less restrictive loan periods would be useful for a particular title, please let me know.

Forbes, R. J. *Studies in Ancient Technology*, 9 vols. (Leiden, 1964-72). I, *Bitumen and Petroleum in Antiquity*; II *Irrigation and Drainage*; III, *Cosmetics, Perfumes, and Food*; IV, *Fibres and Fabrics*; V, *Leather, Sugar, Glass*; VI, *Heating and Cooling*; VII, *Geology, Mining, and Quarrying*; VIII, *Metallurgy*, pt. 1; IX, *Metallurgy*, pt. 2 (T15/F728).

Humphrey, J., J.P. Oleson, A.N. Sherwood, *Greek and Roman Technology: A Sourcebook* (London 1998)(T16/H796).

Landels, J.G., *Engineering in the Ancient World* (London, 1978) (T16/L36 1981).

Oleson, J.P., ed., *Engineering and Technology in the Classical World*. (New York 2008) (T16/O94).

Strong, D., and D. Brown, eds. *Roman Crafts*. (London, 1976) (NK680/R64).

White, K.D., *Greek and Roman Technology*. (Ithaca NY, 1984) (T16 W5).

Wikander, Ö., *Handbook of Ancient Water Technology*. (Leiden, 2000) (TC16 H36).

I have published an annotated bibliography on ancient technology that is available in the Reference Area (not the Reserve Room). It is, however, now 22 years old: J.P. Oleson, *Bronze Age, Greek, and Roman Technology: A Select, Annotated Bibliography* (New York, 1986) (Ref. Z7914/H5042). There are more up to date, topical bibliographies in the *Sourcebook* and in the *Handbook of Engineering and Technology*. I can also assist you with the bibliography for your research paper topic, but I expect you to consult first the bibliographies mentioned above.

Blackboard Resources:

The Blackboard site for the course contains a copy of the course syllabus. As the term progresses, I will also mount copies of various handouts concerning the research paper, examination review sheets, exam review images, and a list of the important terms, names, and dates I deal with in each lecture. You can view these on the web server, print them out, or download the files to your computer. There is also a file of links to various web-based resources useful for topics discussed in the course. I will try to mount the key-word lists for each lecture on Blackboard a few days ahead of the lecture, but this may not always be possible, since I revise many of my lectures as we go along. You may want to download a fresh version of the list immediately after each lecture. **PLEASE DO NOT SEND E-MAIL TO ME FROM THE BLACKBOARD SITE. I DO NOT ACCESS THAT FEATURE. USE MY UVIC ADDRESS:** jpoleson@uvic.ca.

Web Sites:

You may also want to consult various resources on the web. Google now works amazingly well for topical words and phrases. **DO NOT DOWNLOAD TEXT AND USE IT IN YOUR RESEARCH PAPERS WITHOUT CITING THE SOURCE. THIS CONSTITUTES PLAGIARISM AND, NATURALLY, IS VERY EASY TO TRACE.** In any case, except for a very few web sites of academic origin, most web sites are not suitable sources of interpretive information for your research paper and must not be used as such. Web sites are best used as sources of illustrations and occasionally for specific information. If you wish to cite information from a web site, simply list the URL in the citation note or footnote, as you would a book or journal article. Do NOT cite Wikipedia as a source; it has no scholarly value.