



Instructor: Tommaso Gazzarri

Email: gazzarrt@union.edu

Class meets: M./W. 03:05-4:45 PM

Location: VART 215+

Office: HUMN 018/A (basement)

Office hour: M./W. 5:00-6:00 PM (and by appointment) - to book a slot, use the form on my office door

Mailbox: HUMN, Dept. of Classics (2nd floor)

Description of the course

The history of engineering reflects the history of humankind. New discoveries and inventions represent not only ways to make the forces of nature work for man's good. They constitute cultural achievements as they alter basic daily habits and modify the approach to everyday basic tasks. For instance, by increasing mobility, technical innovations alter the boundaries of time and space. By assuring secrecy and fairness in polling, they contribute to reshaping entire constitutional systems. By making primary goods, such as water, available to large masses they raise the common standards of hygiene and well-being. These few examples show the transformative sociocultural power of technical development. Its large impact and its effects can be appreciated throughout all social strata. This course will explore the influence of engineering on ancient societies, the tenets of ancient technical and scientific lore and a large numbers of discoveries and material inventions. Our focus will be mainly on Greece and Rome, but Babylonian and Egyptian civilizations will be also considered. Each topic (irrigation, pottery, sailing, warfare etc.) will be targeted from multiple angles such as the degree of technological innovation, the type of scientific background involved, the socioeconomic impact of a given invention. Regular quizzes, a midterm and a final exam will assess the progress of the students.

Course schedule

Lecture 1 - 03/26/12

Lecture 2 - 03/28/12

Lecture 3 - 04/02/12

Lecture 4 - 04/04/12

MAIN COORDINATES

Greek history in pills

Roman history in pills

NEAR EASTERN ENGINEERING

Babylonians

Egyptians

Lecture 5 - 04/09/12	<u>ANTHROPOLOGY OF CLASSICAL ENGINEERING</u> Greek attitudes towards manual labor and technical innovation
Lecture 6 - 04/11/12	QUIZ # 1 Euclid, Pythagoras, Archimedes: the first universal geniuses
Lecture 7 - 04/16/12	Hero of Alexandria, Vitruvius, Frontinus, Pliny: The first writers on technological subjects
Lecture 8 - 04/18/12	<u>APPLIED TECHNE</u> Power and energy sources: Man power Animal power Water power
Lecture 9 - 04/23/12	Power and energy sources: Wind power Steam power
Lecture 10 - 04/25/12	MIDTERM EXAM
Lecture 11 - 04/30/12	Water supplies
Lecture 12 - 05/02/12	Water pumps
Lecture 13 - 05/07/12	Cranes and Hoists
Lecture 14 - 05/09/12	Warfare and catapults
Lecture 15 - 05/14/12	Ships and sea transport
Lecture 16 - 05/16/12	Land transport
Lecture 17 - 05/21/12	Medicine and surgical instruments
Lecture 18 - 05/23/12	QUIZ # 2 Books and paper

Lecture 19 - 05/28/12

Toys

Lecture 20 - 05/30/12

REMARKABLE BUILDINGS

Greece: Parthenon, Demeter's Telesterion
Rome: Pantheon, Colosseum.

Lecture 21 - 06/01/12

Review and final remarks

Required texts (available from the bookstore)

- J. W. Humphrey, J. P. Oleson and A. N. Sherwood, *Greek and Roman Technology: A Sourcebook*. (Routledge) 1998, ISBN 0-415-06137-7
- J. P. Oleson, *The Oxford Handbook of Engineering and Technology in the Classical World*, Oxford) 2008, ISBN 978-0-19-518731-1
- Ancient Greece Timeline, ISBN 192886032X
- Roman Republic Timeline, ISBN 1928860079
- Roman Empire Timeline, ISBN 1928860028

**Course requirements****Attendance**

Regular participation and prompt attendance are required. If a student misses more than two classes without an excuse or is consistently unprepared for class, his/her grade will be significantly affected.

Remember to sign the roster - unsigned roster will be considered as evidence of missed classes. You CANNOT sign for other people.

Quizzes CANNOT be made up. Make-up exams will only be given if a medical or family emergency arises, and the Dean of Students office notifies me,

Grades

Final grades will be weighted as follows:

• Attendance and participation	20%
• Quizzes	25%
• Midterm exam	25%
• Final exam	30%

Grading Scale

	A 94–100	A- 90–93
B+ 87–89	B 83–86	B- 80–83
C+ 77–79	C 74–76	C- 70–73
D+ 67–69	D 63–66	D- 60–63

Exam dates

• Mid-term exam:	Lecture 10 (04/25/12)
• Final Exam:	M., June 4 - 2:30-4:30 PM - VART 215+

ADA Requirements

Students with disabilities needing academic accommodations must:

1. Register with and provide documentation to the Dean of Students Office.
2. Bring me a letter (within the first two weeks) from the Dean of Student Office indicating the needed academic accommodations.

For more information contact:

Shelly Shinebarger, Director of Student Support Services
Reamer Campus Center 303
shinebas@union.edu