Purpose of the Course: The purpose of this class is to explore ancient technology and engineering. Thanks to archaeological excavation, monumental buildings, gates, city walls, roads, and ships have been discovered. These sometimes gigantic structures were constructed without the benefit of bulldozers, cranes, lifts, drills, or any of the modern tools with which we are familiar. So, how did the ancient people move materials and build these amazing things? This class seeks to elucidate the ingenuity of the ancient mind in order to understand their technology which in turn will help us to better understand our own and apply these, and new, ideas to the future. Questions that will be addressed include what the ancients knew, when and how did they know it; what machines and tools did they use and for what purposes; how does technology and engineering help society advance; how can we apply these principles to our world and to the future?

Fall Semester: The big stuff - monumental constructions, residential dwellings, urban planning, etc.
Spring Semester: The smaller things – machines, maritime transportation, terrestrial transportation, medicine, time-keeping, etc.

Grading:
Analytical Essays (three sets) – 20% each (60% total).
Research Project – 40%
Attendance is required and will be considered when grading, unless prior arrangement is made.
Assignments submitted late, without prior arrangement, will be penalized – reduced by one letter grade per day and half of a letter grade if submitted after the stated deadline but on the same day.

Required Reading:
Analytical Essays (three sets, 20% each):
1. 30 January 2014 – essay questions handed out in class. Essays due Friday, 31 January 2014 at 12.00 p.m.
2. 27 February 2014 – essay questions handed out in class. Essays due Friday, 28 February 2014 at 12.00 p.m.
3. 27 March 2014 – essay questions handed out in class. Essays due Friday, 28 March 2014 at 12.00 p.m.

There will be three sets of analytical essays in each semester, each occurring at the end of a major section. The purpose of these is to facilitate the process of review, critical thinking, and to synthesize the data a meaningful way.

On essay days, class will consist of an overall discussion regarding the topics covered up to that point. During class the topic(s) for analysis will be distributed. After class, you will have the rest of the day to write your analysis and commentary in response to the distributed analytical queries. Your work will be sent to me as a .pdf attachment via email and will be due by 12.00 p.m., noon, lunch-time, on the assigned day.

Grading will be on ability to analyze the material, manipulation of the data into the discussion and use of it to support your statements. It will also include the ability to synthesize the material into the boarder aspects discussed in class.

Use of class notes and the readings are permitted; however, proper reference must be documented in your text. The internet may NOT be used for this portion of the class. This is NOT a group project. You may discuss the questions with classmates; however, the work you submit must be your own, not somebody else’s and not the result of a group effort. This is your time to shine! Be creative and be thoughtful!

Research Project (40%):
• Topic proposals: a one page outline and annotated bibliography, due 18 February 2014. (5%)
• Presentation dates will be determined during class on 4 March 2014. (15%)
• Research Project due 22 April 2014. (20%)

The research component of this course may be in the form of a paper or a reconstructed model. The topic can be mechanical, or conceptual but not harmful. Discussion points will include the item’s original purpose; building or manufacturing techniques; whether there is a modern equivalent; if it is lost technology discuss why it went out of use and whether it would be useful to reinstate its use today; its impact on society; the way(s), if any, modern society is affected by it and what can we learn from it today.

Scaled-down models could be of a machine, ship, battering ram, or a catapult. Models must be functional and accompanied by a summary paper discussing the abovementioned aspects (models must not cause damage or harm to people, property, or oneself). The class presentation will also demonstrate its use.

Project topics may be derived from one of the people-groups we discuss in class or from another people-group such as the Esquimaux (Inuit-Yupik) or the Aztec, Maya, or Moche.

Resources will include books, journal articles, and web sites with scholarly integrity. More about this aspect of the project will be discussed in class.
Field Trip: Edison & Ford Winter Estates, Ft. Myers, FL  
http://www.edisonfordwinterestates.org/
Saturday, 8th February 2014 (date subject to change). Entrance fee ca. $15-20 – still to be determined.
This field trip is optional.

PENDING RESERVATION APPROVAL

Upon visiting Florida, Thomas Edison purchased property and built a vacation home in 1887. Edison’s good friend, Henry Ford, purchased the adjoining property for his vacation home in 1916. Together Edison, Ford and their families escaped the harsh northern winter months and used these properties and the tropical surroundings as a laboratory in which to conduct research and focus on their inventions. The estate dates from 1885 and is comprised of nine buildings including Edison’s Botanic Research Laboratory, the Edison and Ford Museum which houses their inventions, Edison’s and Ford’s houses, a guest house and a caretaker’s house, and gardens. Their friend and colleague, Harvey Firestone and his family, frequently joined them at the estate and together with Edison attempted to find a cheap and reliable resource for rubber by growing their own crops.

This will be an all day trip, departing around 7.00 a.m. and returning in the evening. A “Complete Estate Tour” will be scheduled which will ca. 1.5-2 hours. Driving time to the estate from Miami is ca. 30 minutes. Further details will be discussed closer to the time of the field trip.

Religious Observances:
Every effort will be made, where feasible and practical, to accommodate students whose religious practices coincide with class requirements or scheduling. Please make sure to notify your instructor at the beginning of the semester of which dates you will be absent or any anticipated problems with completing course work.

Physical, Mental and Sensory Challenges:
Every effort will be made, where feasible and practical, to accommodate students who are so challenged. Should you require accommodations, contact the Disability Resource Center, if you have not done so already.

Code of Conduct:
Everybody in this class is expected to attend class regularly and observe FIU’s Code of Academic Integrity! Failure to comply with these standards, plagiarism, copying fellow students’ work, or cheating in any way may result in failure of an assignment or the class.

Academic Honesty and Plagiarism
FIU Academic Misconduct Statement

Procedures:
An Honors faculty member may bring charges of Academic Misconduct against an Honors student. If the faculty member suspects plagiarism or other forms of academic misconduct, within one week of the discovery of the suspected act the faculty member will hold an informal meeting with the student in order to inform him/her of the allegation(s), provide any evidence available, and allow the student to respond. The faculty member will decide whether to pursue informal resolution, file formal resolution charges, or take no further action, and will follow the procedures outlined in the Academic Misconduct Procedures, available at http://www.fiu.edu/~oabp/misconductweb/1acmisconductproc.htm.

The student will have the right to appeal the outcome of the meeting with the instructor within one week of the faculty member’s decision, when the decision is to pursue informal resolution or file formal resolution charges. The appeal will take the form of a letter to the Dean outlining the circumstances of the case and the reason for the objection to the professor’s recommendation. The Dean or his designee will examine the case and make a final determination about the pursuit of Informal Resolution or the filing of formal resolution charges.
Penalties
An Honors College student found responsible for plagiarism or other academic misconduct by informal resolution or formal resolution will receive an F in the relevant Honors course, and will be dismissed from the Honors College by the Dean, effective from the end of the semester in which the infraction occurs. Dismissal will be in writing and will entail the loss of all privileges and benefits of being in The Honors College, and the student will not be readmitted to The Honors College. The decision of the Dean will be final. This decision relates solely to the student’s status in The Honors College and does not affect the student’s right to appeal the original faculty decision. The penalty of dismissal from The Honors College may apply to academic misconduct in any course within Florida International University and not only to courses offered by The Honors College. In the case of courses outside The Honors College, the Dean of The Honors College will rely on the Office of the Provost for notification about the infraction(s). More stringent penalties, such as dismissal from the university, may be pursued through the university’s established academic misconduct process.

In The Honors College, the term “honor” refers both to academic accomplishment and character. Students in Honors should therefore adhere to and be held to the highest standards of personal academic accountability. Academic dishonesty in any form, including plagiarism, is antithetical to the very definition of being an Honors student at FIU. Consequently, an Honors College student found responsible for academic misconduct will be dismissed from the College. Academic misconduct is a violation of the University Code of Standards, the Code of Academic Integrity, the ethical relationship between the student and the academic community, and especially between the student and the instructor. It is the responsibility and prerogative of the instructor to make an initial determination about the extent and severity of an instance of academic misconduct; the instructor may opt to make a referral for further adjudication in appropriate cases.

Student Portfolios:
The Honors College will be using a portfolio method to assess students’ learning outcomes. The portfolio allows for maximum flexibility in gauging student learning. Students decide (with instructor consultation) what “artifacts” or assignments to include for consideration in their portfolios to demonstrate successful achievement of each of five key student learning outcomes over the 4-year Honors experience. Portfolios provide a rich context for students to show what they have learned and to explain their learning process. The purpose of the portfolio is to assess how successfully our curriculum fulfills its goals, and is not graded. Because the Honors curriculum is meant to be thought-provoking and reflective, student self-assessment through portfolios will facilitate learning and provide in-depth assessment. Each course will include at least one assignment that could potentially fit portfolio requirements. For more information on the student learning outcomes and constructing a portfolio for your senior year, see www.honors.fiu.edu/portfolios.
Lecture and Reading Schedule: Spring Semester
(Schedule may be subject to change)

Week 1: Review and Energy in the Ancient World
1. 1/7: Review (briefly, last term) and Power and Energy: attitudes toward technology; devices and mechanisms.
2. 1/9: Power and Energy (continued).

Reading:
Landels, Chapters 1 and 2 (review).
Humphrey et. al., Chapters 2 (review) and 13.

Week 2: Medicine
1. 1/14: Ancient medicine: historical background, surgical tools, prosthetics, mummification, etc.
2. 1/16: Ancient medicine, continued: pharmaceuticals, herbs, spices, etc.

Reading:
Nutton, Chapters 1, 3-, 7, 9-11, 16, 18, 20.

Week 3: Time, Distance, and Other Machines
1. 1/21: Counting mechanisms: calendars, astronomy, time keeping, distance measuring, etc.
2. 1/23: Counting mechanisms continued: “Antikithera Mechanism” and discussion.

Reading:
Hodges, Chapters 6, 7.
Humphrey et. al. Chapter 11.

Week 4: Communication and Analytical Essay
1. 1/28: Communication, Finance, Market, etc.
2. 1/30: Analytical Essay – DUE: Friday, 31 January 2014 at 12.00 p.m. By Email as PDF.

Reading:
Humphrey, et. al., Chapters II (review) and 13.

Week 5: Warfare: Ancient Near East; Greece
   Discuss research project proposals – due 18 February 2014 at the beginning of class.
2. 2/6: Greek warfare.

Reading:
Humphrey, et. al., Chapter 12.
Nutton, Chapter 12.
Shortland, Chapter 4.
Casson, Chapters 5-7.
Lecture and Reading Schedule: Spring Semester
(Schedule may be subject to change)

Week 6: Warfare: Greece, Rome
1. 2/11: Greek warfare, continued: “Greece in the Age of Alexander – Engineering an Empire” and discussion.
1. 2/13: Roman warfare.

Reading:
Landels, Chapter 5.
Casson, Chapters 5-7 (review).
Nutton, Chapter 12 (review).

Week 7: Roman Warfare and Maritime Technology
1. 2/18: Roman warfare continued: “The Roman War Machine” and discussion.
   Research Paper topic proposal due at the beginning of class.
2. 2/20: Ships – manufacture of and transportation.

Reading:
Casson, Chapters 8-12.
Landels, Chapter 6.
Hodges, Chapter 4 (review).
Humphrey et. al., Chapter 10B.

Week 8: Land Transportation and Analytical Essay
1. 2/25: Land Transportation.
2. 2/27: Analytical Essay – DUE: Friday, 28 February 2014 at 12.00 p.m. By Email as PDF.

Reading:
Humphrey, et. al., Chapter 10A.
Hodges, Chapter 6 (review).
Landels, Chapter 7.

Week 9: Metallurgy; Textile Industry
1. 3/4: Metallurgy.
   In-class sign-up for project presentation dates.
2. 3/6: Textile Industry.

Reading:
Shortland Chapters 9, 10.
Humphrey et. al. Chapters 6 (review), 9.

SPRING BREAK!!! 10-15 March 2014

Week 10: Personal Maintenance; Food
1. 3/18: Personal Maintenance.
2. 3/20: Food: agriculture, use, preparation, types, etc.

Reading:
Humphrey et. al. Chapter 3 (review), 4.
Lecture and Reading Schedule: Spring Semester
(Schedule may be subject to change)

Week 11: Environment and Analytical Essay
1. 3/25: Environment: human manipulation of, conservation (or not), the future.
2. 3/27: Analytical Essay – DUE: Friday, 28 March 2014 at 12.00 p.m. By Email as PDF.

Reading:
Landels, Chapter 6 and 7 (review).
Hodges, Chapters 4-6 (review).

Weeks 12 and 13: Student Presentations
Each student will have 15 minutes to present their research project to the class. There will be four presentations per class period, leaving room for discussion.
4/1
4/3
4/8
4/10
4/15

4/17 – Class Summary

Final Project Due: 22 April 2014