

Ancient Technology

Honors Seminar III, Inhabiting Other Lives, FIU Honors College (IDH 2003-U01)
Fall Semester – 2018

Instructor: Dr. Jill Baker

Tuesdays and Thursdays, 11.00 a.m. to 12.15 p.m.

Office location: DM 233, (305) 348-4100

Classroom: GC 286

Office hours: By Appointment or Borders Café GC, 10.15-10.45 a.m. Tu/Th

email: jibaker@fiu.edu

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 bull dozers, cranes, lifts, drills, or any of the modern tools with which we are familiar and lived in relative luxury. So, how did the ancient people move materials and build these amazing cities with surprising amenities? 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. This syllabus will be distributed on the first day of class in the spring semester.

Grading:

Analytical Essays (three sets) – 16.66% each (50% total).

Research Project – 50%

Class attendance is required and will be considered when grading.

Assignments submitted late, without prior arrangement, will be penalized – reduced by half of a letter grade if submitted after the stated deadline but on the same day and by one letter grade for every day it is late, after the stated deadline.

Required Reading: (Available from Amazon, Abebooks.com, or FIU Bookstore).

Books for Fall and Spring Semesters:

- Jill L. Baker. *Technology of the Ancient Near East. From the Neolithic to the Early Roman Periods*. 2018. ISBN: 978-0-815-39369-6 (paperback). Available September 2018.
- Henry Hodges. *Technology in the Ancient World*. 1997 (reprinted from 1970). ISBN: 978-0880298933.
- John W. Humphrey, John P. Oleson and Andrew W. Sherwood 1998 *Greek and Roman Technology: A Sourcebook. Annotated Translations of Greek and Latin Texts and Documents*. ISBN: 978-0415061360.
- J. G. Landels. *Engineering in the Ancient World*. 2000 (revised edition). ISBN: 978-0520227828.
- John Peter Oleson. *The Oxford Handbook of Engineering and Technology in the Classical World*. Oxford University Press. 2008. ISBN: 978-0199734856.

Books for Fall Semester Only:

- Carl J. Richard. *Why We're All Romans: The Roman Contribution to the Western World*. 2011. ISBN: 978-0742567795. (Fall Semester).

Books for Spring Semester Only:

- Vivian Nutton *Ancient Medicine*. 2013. ISBN: 978-0415520959. (Spring Semester).
- John F. Nunn. *Ancient Egyptian Medicine*. (2002, paperback) ISBN: 978-0-8061-3504-5 (paper). (Spring Semester).

Canvas (“Files”):

- J. Shortland (ed.). *The Social Context of Technological Change. Egypt and the Near East, 1650-1550 BC*. 2001. ISBN: 978-1842170502. Assigned chapters available on Canvas.
- Vitruvius, *On Architecture*, Books VI, VIII. Assigned chapters available on Canvas.
- The Tale of Sinhue, *ANET*. Available on Canvas.
- Journey of Wenamun. *ANET*. Available on Canvas.

Note: Lectures, articles, essay questions, etc. posted to Canvas under “Files” on Homepage.

Mobile phones, tablets, computers must be silenced and put away during class.

Analytical Essays (three sets, 16.66% each, 50% total): Guidelines distributed on Thursday, 13 September 2018.

1. **18 September 2018 – essay questions handed out in class. Essays due Thursday, 20 September 2018, in class, as a printed copy.** Due to Yom Kippur, alternate arrangements can be made.
2. **16 October 2018 – essay questions handed out in class. Essays due Thursday, 18 October 2018, in class, as a printed copy.**
3. **6 November 2018 – essay questions handed out in class. Essays due Thursday, 8 November 2018, in class, as a printed copy.**

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 in a meaningful way. These essays are meant to be like mini-research papers, so proper documentation for information taken from the readings, lectures, documentaries, guest lecture and field trip is required.

On essay days, class will consist of an overall discussion regarding the topics covered up to that point. During class the questions, topic(s) for analysis, will be distributed. After class, you will have the rest of the class period to begin writing your analysis and commentary in response to the distributed analytical queries.

Your essays will be due in the next class period, as printed copies.

Grading will be on one's ability to describe and analyze the material and the 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 concepts discussed in class and relate it to present-day contexts. Grading will also include proper and frequent documentation of abovementioned resources and going beyond that which is said in class lecture.

Use of class notes and the readings are permitted and 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 (50%): Guidelines distributed in class on Thursday, 20 September 2018.

- Topic proposals: a one-page outline and annotated bibliography, due **2 October 2018**. (10%)
- Presentation dates will be determined during class on **16 October 2018**. (15%)
- Research Project due **6 December 2018**. (25%), at 9.45-10.30 a.m. in our classroom.

The research component of this course may be in the form of a paper or a scaled-down model. The topic can be architectural, mechanical, or conceptual but in no way 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 is society affected by it and what can we learn from it today.

Scaled-down models could be of an architectural structure such as an urban dwelling or temple, or a sculpture, or an urban plan. Models must be functional and accompanied by a summary paper discussing the abovementioned aspects. The class presentation will 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 Moche of Peru, the Maya of Mesoamerica, or the Vikings of England and northern Europe.

Resources may include books, journal articles, and web sites that exhibit scholarly integrity. More about the research aspect of the project will be discussed in class.

Field Trip: Vizcaya. Saturday, 27 October 2018 (date subject to change and confirmation).

This field trip is optional; however, those who participate will receive extra credit.

RSVP due by 27 September 2018. Field trip forms will be collected in class.

Entry fee: \$10.00 (subject to change).

Commissioned by the American industrialist James Deering in the early 1900's, his objective was to replicate a 400-year-old Italian estate house. Together with Paul Chalfin, a painter from New York; F. Burrall Hoffman, architect; and Diego Suarez, landscape architect, Deering created an Italian-style villa in Coconut Grove.

For our purpose, Vizcaya illustrates the adoption of ancient architectural style which was then adapted to modern (20th century) needs and technology. We will explore Vizcaya first with a guided tour by one of the museum's docents in order to learn about the features of the structure and early 20th century life in it.

After the tour we will gather in the courtyard to discuss the modern structure and compare it with what we have learned about its ancient antecedents. Our main considerations will be twofold: 1) which ancient architectural and technological features were utilized at Vizcaya and which of them were left out; 2) of the abandoned ancient features, which could be usefully incorporated into a modern structure today and in the future.

Visiting Vizcaya provides an opportunity to experience how an ancient Roman villa may have functioned and what living in one may have felt like. Further details regarding the field trip to Vizcaya will be discussed in class closer to the date of the visit.

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/lacmisconductproc.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.

Honors College Academic Misconduct Statement

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 <http://honors.fiu.edu/current-students/portfolio/>.

Honors Citizenship Requirements

Beginning in Fall 2014, Honors College students are required to accumulate at least **20 citizenship points** each academic year (Fall and Spring) by attending Honors College activities. Students attending only one semester (Fall or Spring) are required to accumulate **10 citizenship points**. See <http://honors.fiu.edu/current-students/citizenship/>.

Community Service

Honors College students must also complete **20 volunteer service hours**. These hours **DO NOT** count toward the 20 citizenship points discussed above. See <http://honors.fiu.edu/current-students/community-service/>.

Honors Education in the ARTS (HEARTS)

The HEARTS program is designed to give Honors College students opportunities to "explore and appreciate different artistic and cultural traditions and modes of artistic expression. HEARTS will also serve as a clearinghouse (and curatorial framework) for our students to experience the arts on campus and in the community by providing them with information about cultural activities and access to performances with free or discounted tickets. See: <http://honors.fiu.edu/current-students/hearts/>.

Lecture and Reading Schedule: Fall Semester
(Schedule may be subject to change)

Week 1: Introduction

1. 8/21: Introduction to the course and its purpose. What is technology? Why study ancient technology?
2. 8/23: The Basics: people, research, discoveries, and inventions.

Reading:

Baker, Chapters 1 and 2. (September) Hodges, Chapter 1.
 Oleson, et. al., Chapters, 1, 2, and 3.
 Humphrey, et. al., Introduction (pp. xv-xxi) and Chapter 1.
 Landels, Chapters 8-9.

Week 2: Early Technology

1. 8/28: Early Technology: Stone Age to Bronze Age and social aspects of technology.
2. 8/30: Early Building Materials and Methods.

Reading:

Baker, Chapters 3 and 4. (September) Hodges, Chapter 2.
 Oleson, et. al., Chapters 4 and 5.
 Humphrey, et. al., Chapter 5.
 Shortland, Chapters 2 and 3 – Canvas.

Week 3: Ancient Egypt

1. 9/4: Introduction to ancient Egypt and the Pyramids.
2. 9/6: Pyramids continued – “This Old Pyramid” (video) and discussion.

Reading:

Baker, Chapters 7, 8. (September) “This Old Pyramid” Nova 1997. YouTube.
(<https://www.youtube.com/watch?v=NnRDrzWJoxI>)
 Hodges, Chapter 3.
 Humphrey, et. al., Chapters 2, 7.
 Shortland, Chapter 1, 8 – Canvas.

Week 4: Ancient Egypt (continued)

1. 9/11: Egyptian temples, palaces, statues, obelisks, friezes and paintings. Socio-political aspects of Egyptian technology.
Field Trip Form - Handout.
2. 9/13: “What the Ancients Knew – Egypt” (video) and discussion
Guidelines to Analytical Essays.

Reading:

Oleson et. al., Chapter 28 “What the Ancients Knew – Egypt” YouTube
(<https://www.youtube.com/watch?v=tZgNg-lxNXo>)

Week 5: Analytical Essays and Canaan

1. 9/18: **Analytical Essays - DUE: Thursday, 20 September 2018, in class as printed copy.**
Collect Field Trip Forms.
2. 9/20: Canaan Part 1: The socio-political and religious aspects of technology, science – gates and walls.
Essays Due.
Discuss research project proposals – Guidelines handout. Proposals due **2 October 2018** at the beginning of class.

Reading:

Oleson et. al. Chapters 6, 15. Baker, review Chapters 7, 8.

Tale of Sinuhe – Canvas.

Journey of Wenamun – Canvas.

Lecture and Reading Schedule: Fall Semester

(Schedule may be subject to change)

Week 6: Canaan, part 2, and Ancient Greece

1. 9/25: Canaan Part 2.
2. 9/27: Ancient Greece: socio-political, religious and historical introduction.

Reading:

Oleson et. al., Chapters 16, 17

Hodges, Chapters 6, 7.

Humphrey, et. al., Chapter 7.

Landels, Chapters 1, 2.

Week 7: Ancient Greece (continued)

1. 10/2: Greek city planning and architects.
Research Project Topic Proposal due at the beginning of class, as printed copies.
2. 10/4: Greek Architecture Part 1.

Reading:

Oleson et. al., Chapters 9, 13.

Landels, Chapter 4.

Humphrey, Chapters 5 and 6.

Week 8: Ancient Greece (continued)

1. 10/9: Greek Architecture Part 2.
2. 10/11: “Engineering an Empire – The Ancient Greeks” (video) and discussion.

Reading:

Humphrey, et. al., Chapter 5 - review.

Hodges, chapter 4

“Engineering an Empire – The Ancient Greeks” YouTube.

(<https://www.youtube.com/watch?v=2WWuuPmGltM>)

Week 9: Essay Day and Ancient Rome

1. 10/16: **Analytical Essays – DUE: Thursday, 18 October 2018, in class as a printed copy.**
In-class sign-up for project presentation dates.
2. 10/18: Ancient Rome: socio-political, religious and historical introduction.
Essays Due.

Reading:

Oleson et. al., Chapter 11

Humphrey, et. al., Chapter 8.

Richard, Chapters 1-3.

Hodges, Chapter 7 (review).

Landels, Chapter 9 (review).

Week 10: Ancient Rome (continued). FIELD TRIP – Saturday, 27 October 2018 – VIZCAYA

1. 10/23: Roman city planning and architecture (Pompeii, Herculaneum, Ostia).
2. 10/25: Rafael Padilla (guest lecturer), registered architect and certified general contractor. Will discuss architecture, ancient and modern.

Reading:

Oleson et. al., Chapters 10, 12

Humphrey, et. al., Chapter 10.

Richard, Chapters 4-6

Vitruvius Bk. VI – Canvas.

Lecture and Reading Schedule: Fall Semester
(Schedule may be subject to change)

Week 11: Ancient Rome (continued) and Analytical Essay

1. 10/30: Water and Hydraulics.
2. 11/1: “What the Ancients Knew – Rome” (video) and discussion.

Reading:

Baker, Chapter 12.

Richard, Chapters 7-10.

Landels, Chapters 2 (review), 3.

Oleson, Chapters 11, 12 (review).

Humphrey Chapter 8 (review).

Vitruvius Bk. VIII - Canvas

What the Ancients Knew – Rome” YouTube.

(<https://www.youtube.com/watch?v=BNbGjI-MEXE>)

Week 12: Analytical Essay and Presentations Begin!

1. 11/6: Analytical Essays – DUE: Thursday, 8 November 2018 in class, as a printed copy.

Weeks 12, 13-15: Project Presentations

Each student will have 15 minutes to present their research project to the class. There will be four (4) presentations per class period, leaving room for discussion.

11/8 – **Essays Due.**

11/13

11/15

11/20 – No Class.

11/22 – Happy Thanksgiving! No Class.

11/27

11/29

Final Project Due: Thursday, 6 December 2018

at 9.45 – 10.30 a.m.

in our classroom, PC416