

## SYLLABUS

### CORE 320 – INTD 301: The History Of Technology And Its Social Consequences

University of La Verne, Fall 2008, T/R 10-11:50 am, HB 117

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#### COURSE DESCRIPTION

Understanding the history of technology and its evolving social consequences - cultural, economic, and political - is of paramount importance in a world in which technologies have come to dominate almost every aspect of life, determining not just the character of our lives, but also the quality of our lives. The course will explore this history over a span of the last 3.5 million years, tracing its initial slow pace from its ancient roots in Africa to the invention of agriculture, manufacturing, writing and mathematics, printing, mechanical devices, industrial production, war machinery, computers, medicine, genetics, and space travel. The growth of technologies since the invention of printing has been exponential, but since the invention of digital computing the rate has gone off the scale, requiring an order of adaptation on the part of humans that is unprecedented. We are also faced with the consequences of our success as a technological society, consequences that have serious implications for the future including diminishing fossil fuels, global warming, population pressures, the consumption of finite resources, and waste and pollution.

#### WEB RESOURCE

We have established a website at [www.exhumanitas.com](http://www.exhumanitas.com) that provides information about the courses we teach at ULV, background information concerning our interests and research activities, special features, links to information sources, book recommendations, and special posts. A copy of this syllabus is available online at [www.exhumanitas.com](http://www.exhumanitas.com) in PDF format.

#### EXAMS AND OUTSIDE READING

There will be four exams. These will be announced in advance, and will occur at approximately three-week intervals. These will be short-answer exams worth 25 points each.

While there is no textbook for this class you have assigned outside reading (on reserve at the Wilson Library). You are required to submit short summaries of no more than a page of each article on the dates indicated. These summaries are worth 10 points each.

Paul Erhlich, *From Seeds to Civilization* (Sep. 18)

Paul Erhlich, *History as Cultural Evolution* (Oct. 2)

J. Diamond, *Why Some Societies Make Disastrous Decisions* (Oct. 23)

E.O. Wilson, *Bottleneck* (Nov. 13)

Paul Erhlich, *A New Imperative* (Dec. 4)

#### TERM PAPER (Worth 100 points)

Term Paper Topic - Make a World (see attached description and requirements).

#### GRADING

The final grade will be based on attendance and participation (10 percent), exams, and term paper. While we will not call roll each class meeting there will be a sign-in sheet. Be sure you sign in when you arrive.

## **Course Outline:**

### Part I

- Prehistoric technology, Hunter-Gatherer life.
- Agriculture, cities, writing, counting, control and management of water.
- Early medicine – shamanism, alchemy.
- Iron Age, hand tools, weaponry, ceramics, early mathematics and architecture.
- The library of Alexandria, the first battle between faith and reason.
- The triumph of faith, and the consequences for technological progress, the spread of ideas, and social welfare.
- Transportation, exploration, spreading populations, and manufacturing, trade, textiles, and colonialism.
- Spread of knowledge, Gutenberg, printing presses, mass-produced books, and photography.
- The birth of science, experimental methods, and observational instruments.

### Part II

- Mechanical revolution – transportation, agricultural production, manufacturing, mass production, electricity and fossil fuels.
- War machinery – modern warfare. poison gas, armored vehicles, more powerful bombs, artillery, early airplanes, machine guns.
- Computers – analog to digital. Complex systems – tools become systems. Internet, virtual worlds.
- Atomic bombs, atomic power. Risk assessment, how to calculate risk.
- Genetics and nanotechnology.
- Dealing with the consequences of our technological successes: global warming, climate change, diminishing resources. Earth's carrying capacity vs. population growth.
- Dealing with human driven catastrophes: technology and the social and political landscape.
- Space faring, modern astronomy, exploration – moving beyond earth.

**Absolutely No Cellular phones in class!**  
**Modifications to this syllabus may be made at any time**