

SYLLABUS

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

University of La Verne, Spring 2010, T/R 9:40 -11:10 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 Site www.exhumanitas.com

I have established a website that provides information about the courses I teach and other information. Importantly, a copy of this syllabus is available online there in PDF format. You will also be able access and download all of your assigned outside reading there in PDF format.

Outside Reading

These articles are required reading, as there is no textbook for this course.

Week 1: *How Man Began*, Lemonick

Week 2: *What Makes Us Different*, Lemonick, Dorfman

Week 3: *Why Did Human History Unfold Differently On Different Continents For The Last 13,000 Years?* Diamond.

Week 4: *Complexity*, Tainter

Week 5: *Exponential*, Bartlett

Week 6: *Why Do Some Societies Make Disastrous Decisions*, Diamond

Week 7: *Bottleneck*, Wilson

Week 8: *Hubbert and Steady State*, Hickerson

Week 9: *Is Humanity Suicidal?* Wilson

Week 10: *The Thing About Technology*, Pollard

Exams

There will be two exams, a mid-term and a final. These will be based entirely on the content of class lectures and outside reading. Together they are worth about 45 percent of your grade.

Term Project

Discovering 2150 (Worth about 45 percent of grade. Due on or before the last day of class before finals week)

The year is 2150. You are a historian on a quest to identify five objects that in some way represents the state of human culture and civilization in the year 2100. They must be things that are somehow emblematic of the general condition of humanity and where it was headed in that year. Once you have identified these objects you then set about to explain your reasoning for their selection and how they relate to the human condition in 2100. You must do this in no more than five pages, not including drawings, photographs, or diagrams necessary to show what these things were. Your audience for this project is a meeting of historians who are trying to understand how humanity got to where it is in the year 2150. Many will not be familiar with some of these things and why they represent the state of human affairs in 2100 and where it was headed, so your presentation must be written concisely and clearly.

Attendance

Because there is no text book for this course it is imperative that you attend the lectures. For this reason attendance will be part of your grade, about 10 percent. I will not call roll, however. There will be a sign-in sheet on the table for every class meeting. Be sure you sign in upon arrival to class. These will be collected and attendance recorded. You can miss only two class meetings for any reason without penalty. If you miss either the midterm exam or final there will be no make up exam unless you have made prior arrangements for that.

Grading

Grades will be based on total point accumulation for the term. Midterm and final exams will comprise about 45 percent of the grade. The term project will comprise another 45 percent of the grade. Attendance makes up the remaining 10 percent.

I may, from time to time, offer opportunities for extra credit.

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