



Computing and Science: Course Overview

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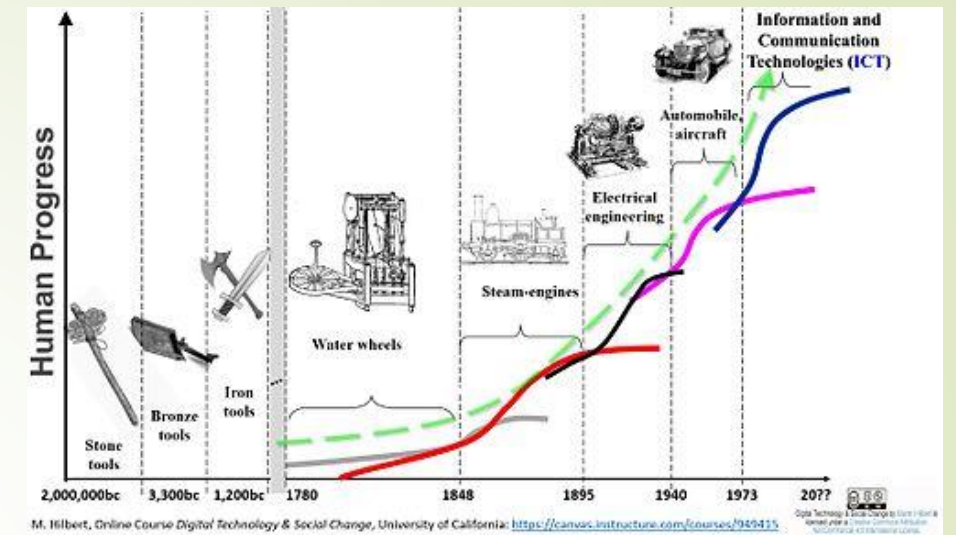
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Modern science and technology

- What does modern science and technology mean to you?
- How is life today different from what it was 500 years ago?
 - Electricity and electrical appliances
 - Fast transport via cars, trains, airplanes
 - Modern medicines and vaccinations
 - Computers, Internet, cell phones
 - Increased productivity, less manual labor
 - Better standard of living
 - More pollution? Global warming?
 - Ecological collapse? Extinction of species?
 - What else can you think of?



Computing and Science: What is this course about?



- Story of the evolution of modern science and technology
 - What is “modern” science and technology? How is modern science different from what existed a thousand years ago?
 - Why did modern science emerge in Western Europe? And why a few hundred years ago, not earlier or later?
 - What is the process by which science and technology develop?
 - Examples: astronomy, industrial revolution, modern computing
- Why should you know this?
 - You are the future scientists and engineers. Knowing the past will help you better steer the future in a sustainable direction

Computing and Science: What is this course about?



- Applying scientific thinking to daily life
 - How to analyze scientific, political and other arguments
 - Understand common fallacies in arguments
 - How to interpret numbers and statistics correctly
- Why should you learn this?
 - Engage with scientific and other debates better
 - Develop correct reasoning and scientific temper in daily life

Computing and Science: What is this course about?

- Introduction to the various areas in Computer Science and Engineering
 - Computing Systems, Intelligent Systems, Theoretical Computer Science (broadly)
 - Past, present, and future trends
- Why should you know this?
 - A trailer for the rest of your CSE journey!
 - Get you excited about and interested in CSE (if you are not already)





Logistics

➤ Lectures

- First half: evolution of science and technology, scientific thinking in daily life (course instructor)
- Second half: introduction to CSE (guest lectures by faculty)

➤ Grading

- Weekly quizzes (Moodle): **10%**
- Two assignments (research on your own and present): **30%**
 - Study the evolution of any modern technological innovation
 - Critically analyze any debate (scientific/political) from daily life
- Mid-semester exam: **25%**
- End-semester exam: **35%**