

New Technology 2010

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The world is changing. One of the major factors of change is technology. We constantly want new technology and we constantly use and rely on technology. Technology is what drives businesses, provides growth and new opportunities. Technology can also be disruptive putting many companies out of business and people out of work.

But do we really understand how technology changes and how it impacts businesses and people? Why do we find technology so unpredictable and difficult to understand? Why do businesses fail to take opportunities of new technologies and lose their market to newcomers?

As it turns out there are lots of studies and theories of technology and how technology evolves over time. In fact some technology follows a remarkably predictable path of evolution while other developments are highly unpredictable. By understanding these we can start to evaluate technology and even predict how technology will evolve and how it will disrupt our lives.

Some points:

- In the next few years about billion people will connect for the first time to the Internet
- TV stations as we know them will go out of business
- CDs and DVDs are not the future distribution format for music
- Printed newspapers will go out of business
- Mobile phones will converge with PC technology
- Social networks will be shape the next generation in more ways than we see today
- Real-time news will be handled by people not news organization
- Books are getting digital

The goal of this course is to provide insight in to how technology evolves, how to track technology trends and create a framework for understanding and even predicting technology changes.

History has numerous examples of how good and well-run companies fail to see potential of new technology and lose their market shares to new entrants to the market. Indeed, technology has for past decades and centuries, been one of the factors that have had major impact on businesses as well as people's daily live.

Technology has gradually improved over the years and even at times new innovations have disrupted society, causing businesses to go bankrupt and new once to emerge. Looking back, we see how entrepreneurs have used this technology progress to create new opportunities. History has several examples of how technology has transformed society.

This course is about the study of technology and the impact of technology on societies, industries, companies and people.

Objectives

The objective of this course is to look at innovations and technology trends, learn from history, and using theories of innovations to see lessons and try to see patterns so we can evaluate new technology currently emerging and interpret the impact.

In the course we look at how to keep up to date on technology trends. In particular we will look at communications, wireless devices, mobile phones and the TV, home appliances, the Internet and other consumer devices. Many of common devices are changing and taking on

new roles. The course will discuss what future trends will emerge, which standards and companies will be successful, and the effects that the technology will have on society.

As a term project, students will perform research and write a research paper on technology, the possibilities and effect on society.

On completion of the course students should:

- Understand innovation and technology change
- Understand the theories of innovations and how to apply them
- Get insights into disruptive technologies from history
- Know about new and emerging technology and the opportunities new technology presents
- Learn about new client devices like phones and interactive TV
- Understand the convergence of technology
- Learn how home entertainment is changing with convergence of TV and with computers and the internet
- Can analyze and see how technology develops
- Have written a research paper on technology

Teacher

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Grading

Grading is based on this work:

Three exams in class	20% (10% each)
Study exercises	10%
Two assignments	20% (10% each)
Peer-review	10% (draft 5%, review 5%)
Research Paper	40%

There is no final exam.

Exams

The three in-class exams are in weeks 4, 8, and 12. Friday lecture will be used (20-30 minutes). The two highest scores from the three are used for grade. Each exam is 10% and total of 20%.

Study Exercises

Study exercises are short in-class exercises where students discuss the topics presented in groups. Each group needs to hand in its findings. Grading is evaluated on participation and is 10% of course grade.

Research

A large part of this course is a study or research of a particular topic chosen by the student subject to approval by the teacher. As a term project, students should choose, based on area of interest, a technology to study and write a paper. The technology can be a device, a concept, a standard, philosophy or a metaphor, or a particular product. The research will be introduced in more details during the course.

Students can choose the topic of research subject to the course rules and teacher's approval.

These milestones are set:

1. Topic selection is due 12.02
2. Goals and outline are due 26.02
3. Draft for Peer Review is due 12.03
4. Peer-Review is due 19.03
5. Paper is due **26.03 at 17:00**

Research Paper is an individual work and is 40% of the course grade.

Research Peer-review

Each student will review draft of one paper and submit Paper Peer-review. This review is part of the work on research papers.

Textbook

There is no textbook.

All reading will be from the web or delivered electronically. Reading can also be video or audio. It is assumed that students will research the topics covered and find the needed resources.

Laptops

Use of laptops or other communication devices in class is forbidden. Research has shown that students are distracted when using the laptops due to tools such as MSN, Facebook and Youtube. Instead of using these in class we will talk about these technologies and their impact.

Syllabus

Week	Monday lecture	Friday lecture	Work due
1	Introduction Year in Review	Study of Technology	
2	Evolution of Technology	Disruptive Technologies	
3	Technology Adoption	Tracking Technology Trends	Assignment 1 28.01 22:00
4	Communication	Wireless	Exam 1 05.02 in class
5	Cellular phones	Mobile Solutions	Research Topic – Selection 12.02
6	Wireless Solutions	Counting Machines	Assignment 2 18.02 22:00
7	Personal Comptuers	Operating Systems	Research Topic goals/outline 26.02
8	Graphical User Interfaces	The Internet – Past and Present	Exam 2 05.03 in class
9	Reinventing the Internet	The Social Web	Research Paper Draft Due for review 12.03
10	The Digital Home	Home Entertainment	Review due 19.03
11	Computer Games Part 1	Computer Games Part 2	Research paper due Friday 26.03 at 17:00
12	Future Trends	Conclusions	Exam 3 09.04 in class