

## Tentative Schedule for Project Presentations –

Economics 3351 - Spring 2015<sup>th</sup>

March 24 & 26, 2015

**Group I Power Technologies and their components to 1900** - cranks, gears, rocker beams, water wheels, windmills, sails & steam power – ships – transportation

An outline history of selective power technologies with a running explanation including the operating principles:

1 – Water- wheels (and windmills) overshot and undershot – With wind and waterpower, show history from river small sailing vessels to transoceanic ships

2 – Power transmission – gears (including sun and planetary), cranks, rocker beams etc. and how they work

3 – From atmospheric pumps to steam engines with working power point models easily found online. Atmospheric pressure and how it works.

4 – Steam power from stationary engines for mining to ever larger steam engines powering factories to smaller ones mounted on *rail cars or river boats and steam ships*.

5 – The development of electric power starting with turbines.

6 – Tie into the development of internal spark engines.

March 31, 2015

**Group II – The Households Connection to the Industrial System: Shelter, Food & Cooking, Temperature, Water, Clothes & Furnishings etc. – 1870 to 1960 & beyond.**

A – Household food preparation before 1870 in U.S. and around the world

B- The “Industrial Kitchen” (Consider the Fork: A History of How We Cook and Eat by [Bee Wilson](#))

**C- 20<sup>th</sup> century changes in the home kitchen (useful non-assigned sources in addition to Consider the Fork are Cuisine and Empire: Cooking in World History by [Rachel](#) Laudan and The Warmest Room in the House: How the Kitchen Became the Heart of the Twentieth-Century American Home by [Steven Gdula](#) )**

Pictorial history of the methods, tools and technology of food preparation in the house. **Very light presentation** of A, B &C -- minimize overlap with Econ 4389 presentations.

D - The Industrialization of the other duties for women in the household from making clothing from the basic raw materials, gathering fuel for heating and cooking, obtaining water for cleaning & washing, cooking and drinking to indicate what consumed a women’s entire day. This would a pictorial history of the household tools of production such as the spinning wheel to the many components of textile production in the Industrial revolution. Also includes bring the technology into the household such as the Singer Sewing Machine with interchangeable parts, furnaces and stoves with coal, piped or bottled gas (See for example a recent book by Sean Patrick Adams – Home Fires), piped in clean water washing machines etc.

**Hans Rosling: The magic washing machine**

[http://www.ted.com/talks/hans\\_rosling\\_and\\_the\\_magic\\_washing\\_machine](http://www.ted.com/talks/hans_rosling_and_the_magic_washing_machine)

April 2, 2015

**Group III – The Global Value Chain (Check online publication on the subject by IFPRI)**

Mobile phones and other communication technologies that facilitate globalization - Group itself will identify sub-topics and assign members to cover them

April 7, 9, 14, 16, 21, 2015

Technologies Making our Globalized World Possible

**April 7, 2015**

**Group IV - Power Technologies for the Modern World Historical to 1850 to the Present.** – Diesel, gas turbine, electricity – ships – transportation

- 1. gas turbine engine to modern jet planes*
- 2. diesel power, containerization and global trade*
- 3. electricity light and fractionalized power*

**April 9, 2015**

**Group V – Materials for Modernization and Globalization including Satellites, Engines, Smart Phones, Planes etc. – 1950 to 2015 & 2015 – 2050(Nano technology, Graphene etc.)**

**Group VI – Technologies for the Global Supply Chain including Refrigeration in all Components when necessary**

**April 14, 2015 - Modernized Infrastructure in Developing Countries – Rail Systems and Ports – 1980 to 2015**

**April 16, 2015 – Planes, Ships, Containerization and Ports in Developed Countries – 1950 to 2015**

**April 21, 2015 4 to 4:30 – Completing the Distribution Chain – Rail, Roads, Large Trucks**

**April 21, 2015 – 4:30 to 5:20 – Groups III, IV, V & VI work out a summary /conclusion which one or two students will present on behalf of the groups.**

**Beyond the three historical topics, Groups will identify and describe technologies – rail, ports, ships, diesel trucks, planes, metallurgy that make globalized production cost effective in contrast to local technologies which may or may not be cost effective?**

**This topic has been expanded to more class periods with the expectation that enough students will want to be involved in a detailed in depth examination of the technology underlying the modern global economy.**

**I will expand in some detail on the 1<sup>st</sup> day of class what I consider to be the potential of group projects IV, V & VI. This is not a class in engineering or one of the sciences but it does not mean that we cannot explore and understand some of the technology that has allowed the globalized economy to emerge. In my other class, we will be studying the science and technology that allows us to grow enough food to feed 7.2+ billion people. In this class, we examine the refrigerated transportation network which allows consumers with income eat fresh and preserved food from the entire globe at all times of the year. We will want to understand the technology that makes it cheaper with less environmental impact for consumers in the UK to eat mutton from sheep raised in New Zealand rather than from sheep raised at home. Or why buying at your local farmer's market may be a good thing in many ways but it is not likely to be more**

**environmentally sustainable than so-called large scale “industrial” produced food.**

**What I would like to see accomplished in the project would be a more detailed look at each step of the process from farm to fork, from factory to consumer or from mines to factories to the smart phone that you have in class from factories anywhere on the planet to you. To look at every step in the process would be beyond the capacity of this course but particular steps in the process, communication networks between small farmers or other suppliers and global traders, rail lines and the engines on them, ports in some detail including an historical narrative and separate presentation on the Port of Houston, jumbo cargo jets, large refrigerated trucks, etc. etc.**

**I would also like presentations on the different materials necessary to make a smart phone and where do the raw materials for them originate? Or with each new class of jet planes, what are the materials being used and/or develop to make them lighter and more fuel efficient? One could also are the free range cattle have a larger environmental impact than feedlot finished cattle though few would believe you no matter how strong the evidence may be.**

**I have a range of different technologies that I would like to see studied. The sum total of the various technologies and the science underlying them should help us understand how the global economy operates. I would argue in advance that such a comprehensive life cycle analysis would raise serious**

questions about largely unchallenged ideas about what is the most sustainable forms of production.

**April 23, 2015**

**Hans Rosling: The best stats you've ever seen**

[http://www.ted.com/talks/hans\\_rosling\\_shows\\_the\\_best\\_stats\\_you\\_ve\\_ever\\_seen](http://www.ted.com/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen)

Hans Rosling: The seemingly impossible is possible

<http://www.gapminder.org/videos/hans-rosling-ted-talk-2007-seemingly-impossible-is-possible/#.VBeJKWoo59A>

GMO controversies - science vs. public fear: Borut Bohanec

[https://www.youtube.com/watch?v=mz4\\_TwdaYeI](https://www.youtube.com/watch?v=mz4_TwdaYeI)

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## **Group VII - Trends in Global Population – life expectancy, child survival, births & deaths,– Immunization and Disease Prevention**

*1 - Trends in global life expectancy including poor countries since 1950 - causes and consequences - show how many more people would be dying each year if 1950 death rates prevailed in recent years*

*2 - Trends in child survival in poor countries 1960 to present - immunization, improved food supply etc. How many children are not dying each because of current death rates and not those in 1990?*

*3 – Long Trends in life expectancy and population growth in developed countries since 1500. Provide more detail since 1900 - antibiotics, regularized food supply etc. chlorination of water*

**April 28 & 30, 2014**

**PowerPoint course Summary for both courses combined**

April 30, 2014– 5:00 to 5:20 – course evaluation