

SPRING 2015

OUTLINE OF THE COURSE ENS 302 TECHNOLOGY AND SOCIETY

Subtitle of the course :

TWELVE LECTURES ON THE TWILIGHT OF THE INDUSTRIAL SOCIETY

INTRODUCTION :

Ivory Tower Film and Introduction

LECTURES 1 - 4 ON KNOWLEDGE

Lecture 1 : Episteme and Techne

i- Two faces of knowledge and historical roots

ii- What is Science ?

Lecture 2 : The great cognitive breakthrough

i- The Ancient Cosmology

ii- The Copernican revolution

iii- Newton's Universe

iv- A musical video excerpt from Brecht-Losey's Galileo-Galilei

Lecture 3 : Soft and hard sciences

i - Natural ,Human and Imaginative Sciences

ii- Progress in Human Sciences ?

iii- Natural Sciences : Physics or Biology ?

Lecture 4 : Fantasies on technology

i- Kurzweil's singularity fantasy (Singularity is Near) and a Chinese Example

ii-Drexler's Atomically Precise Manufacturing

iii-Church on future of biology (Regenesis)

LECTURES 5 – 6 ON AUTOMATION

Lecture 5 : Automation technologies : concepts and history

i - The scope of automation technologies

ii- Homoestasis vs automaton in biology and technology

iii- Historical milestones

iv- Moore's law and the present

Lecture 6 : Limits of automation

i- Mathematical Limits : decidability and complexity

ii- Physical, psychological, biological and philosophical arguments

iii- Searle's video talk on free will

LECTURES 7-10 ON ECONOMICS

Lecture 7 : From raw resource to knowledge

i- The Keynes essay and the technological unemployment problem

ii- Economic models of production: resource and knowledge economies

iii- Human capital and Romer's model for knowledge-dominant economies

Lecture 8 : Social Consequences of Automation

i- Historical examples

ii- An entrepreneur's point of view : Martin Ford's Lights in the Tunnel

Lecture 9 : Contemporary Debates on Unemployment

i- Debates on causes of unemployment : Brynjolfsson & McAfee book vs Critiques

ii- Reich's analysis Phases 1 and 2

iii -BOBOs

Lecture 10 : Visions after 1980ies

i- Global-to-local (Friedman's account of globalism and Tapscott's Wikinomics)

ii-Local-to-global : Jacob's cities, Florida's creative labor and chartered cities

iii- Romer's video on chartered cities

iv- A field study of competition on 500 companies

LECTURES 11-12 ON POLITICS AND JUSTICE

Lecture 11 : Politics of industrial society

i- Carr's historical account of European nationalism

ii- Musical Intermission: Beginning and End of the 19th century optimism :

Beethoven's Eroica Symphony Mvt 1 and Mahler's 6th Symphony Mvt 1.

iii- Gellner's theory of agrarian vs industrial societies and nationalism

iv- Invention of compulsory primary-secondary schooling and industrial societies

Lecture 12 : Problems in and possibilities for a **just knowledge society**

i- Towards an knowledge society

ii- Equality vs Liberty

iii- Visions of ethics and Rawl's theory of justice

iv- Dilemmas of a just society