

<b>Course Title</b>	Science, Technology and Society
<b>Course Code</b>	SOC334
<b>Recommended Study Year</b>	2 and 3
<b>No. of Credits/ Term</b>	3
<b>Mode of Tuition</b>	Lecture-Tutorial or Lecture-Service-Learning
<b>Class Contact Hours</b>	Three hours per week
<b>Category in Major Prog</b>	<b>CSIP</b> Elective
<b>Discipline</b>	Sociology
<b>Prerequisite(s)</b>	None
<b>Co-requisite(s)</b>	None
<b>Exclusion</b>	None
<b>Exemption Requirement(s)</b>	None
<b>Instructor</b>	LEE, William K. M. (Rm. SO207; tel: 2616-7377; email: Leew@LN.edu.hk)
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### **Brief Course Description**

This course will examine and reflect on science and technology's impact on the global village economically, politically, socially and environmentally. The course will start with examining the important questions of what science and technology are and their impacts in contemporary society. The course will also discuss the various theoretical underpinnings of science and technology in society, focus on the impact of science and technology on international relations, social institutions, social groups and on everyday life, and finally look at the future of science and technology in human civilization.

### **Objectives**

This course aims to introduce different meanings of science and technology, and stimulate, inspire and provoke awareness of science and technology's impact on society. Since the new century will usher in an urgent challenge to resolve the conflicts among our technological, environmental and social worlds, the ability to understand the impact of technology on our lives and on succeeding generations will be important for human survival and peaceful coexistence.

## **Learning Outcomes (LOs)**

Upon completion of the course, successful students will be able to

- LO1 define and differentiate different meanings of science and technology in forms of human activities;
- LO2 outline and describe the complex relationship between science and technology, and between science, technology and society;
- LO3 reason that science and technological development sometimes causes society to concern and wonder about its impact;
- LO4 gain a greater sociological understanding of the personal and social responsibility that accompanies technological development and implementation.; and;
- LO5 adopt advanced learning and research skill sets for personal development and analysis on social context.

## **Measurement of Learning Outcome**

**Students are required to enroll in either tutorials OR service-learning programs.** In tutorials, students are expected to present topics on how technology affects society. Students are expected to articulate causes, patterns and consequences of how science and technology has been changing social structures, institutions, and social behaviors. Students are also expected to discuss the extent to which technology has impact their daily lives. Students are expected to apply various ideas, concepts on technology and how it has affected society in their paper, and these concepts will be addressed in the mid-term assessment and final examination.

In service-learning programs, students are required to undertake fieldwork coordinated by the Office of Service-Learning (OSL) or other non-governmental organizations (NGOs) for a semester. Students are expected to apply the knowledge acquired from the course and weave their academic inquiry into practice through social exposure, and ultimately, to integrate their knowledge on how technological changes impact on society with experiences gained from service-learning in their reflective essays and presentations. Finally, in the self-reflection and seminar they are required to share their personal experiences in the program and formulate how science and technology, individuals and institutions mutually shape one another to the benefit and sometimes detriment of society. Students' subject knowledge will be assessed by continuous assessment and final examination. For details of SL programs, please see the SL student kit.

## **Indicative Content**

- I. Introduction
  - a. What is Science and Technology?
  - b. Why Study Science and Technology in Society
  - c. Science and Technology: Their Natures and Relationship
  - d. Theories of Science and Technology in Society
  
- II. The Influence of Science and Technology on Modern Society
  - a. Social Institution
  - b. Social Groups
  - c. Technology and Everyday Life
  
- III. Impact of Science and Technology on International Politics
  - a. Technology and International Order
  - b. Science, Technology and War in the 20th Century
  - c. Technology and Diplomacy
  
- IV. Technology and Ecology and Environmental Concerns
  - a. The Consuming Society
  - b. The Depletion of Natural Resources
  - c. Technology and Air Pollution
  
- V. The Influence of Modern Society on Science and Technology
  - a. Influence Agents, Types and Effects
  - b. Social Control of Science and Technology
  
- VI. Science and Technology in the New Century
  - a. New Horizons of Information Technology
  - b. New Technology in Medical Science
  - c. The Information Warrior

## **Teaching and Learning Method**

The interactive and learner-centered teaching and learning method combines both individual and work group components. Major concepts and issues will be discussed in the lectures. For tutorial approach, presentations, in-class activities, and in-depth discussions will be utilized for further discussions and explorations of related issues. For service-learning approach, students will design a community service project, which emphasizes social exposure with guidance in community service and integration of community service with academic content, for the service targets. Learning will be enhanced by team work, self-reflection, discussions, seminars, and regular meetings with course instructor and SL coordinator.

Internet exercises will also be incorporated in both approaches. These exercises are designed to: a) enable students to be familiar with the knowledge dissemination mode of the ever-expanding Internet; and b) include the Internet's multimedia resources to enhance learning.

## **Assessment**

Assessment (%)	Details of Assessment	Date/ Due Date	Learning Outcome(s) Assessed
1. Final exam (40%)	Essay-type questions	TBA	LO1-4
Continuous Assessment (Tutorial Mode)			
2. Presentation (15%)	20-30 minute oral presentation of the assigned topic	To be allocated in the first class	LO1-5
3. Discussion and participation (10%)	In-depth discussion of selected presentation topics	In each tutorial	LO1-5
4. Mid-term test (15%)	20 multiple-choice questions	October 23, 2009 (Fri)	LO1, 2 and 4
5. Individual term paper** (20%)	Individual paper based on the presentation topic	December 4, 2009 (Fri)	LO1-5
Continuous Assessment (Service-Learning Mode)			
2. Proposal** (5%)	Expectations and objectives on their SL programs with	October 9, 2009 (Fri)	LO1-3

		sensitivity on the learning outcomes of this course		
3.	Mid-term test (15%)	20 multiple-choice questions	October 23, 2009 (Fri)	LO1, 2 and 4
4.	Presentation (10%)	Either 15 minute oral presentation or poster presentation	December 21, 2009 (Mon) (Tentative)	LO1-5
5.	Individual reflective essay** (15%)	Self-reflection on personal experiences and learning in SL programs	December 21, 2009 (Mon) (Tentative)	LO1-5
6.	Fieldwork performance (15%)	Attendance, work attitude and individual commitment (To be assessed by OSL or NGOs)	The end of each SL program	LO5

**\*\* All assignments and paperwork should be submitted to General Office (SO321), 3/F, Dorothy Y. L. Wong Building.**

### ***Tutorial Participation***

The tutorials build upon students' active preparation and participation, and give opportunities for in-depth discussion of selected topics. Students are expected to take the lead in in-class discussion, and stimulate the discussion with personal critical-analytical ideas and examples of key issues and concepts addressed in lectures and readings. Students should come prepared with questions to steer the discussion and try to answer other fellows' questions.

### ***Tutorial Presentation***

Students may present as a group (2 to 3 persons) or individually. In the case of group presentation, both will receive the same grade. It is expected that the presentation would not only answer the guided questions for the assigned topic, but also entail extended literature, theoretical underpinnings, facts, figures and real-life examples. For each tutorial class, 20-30 minutes will be given to the presentation, while the rest (around 20-30 minutes) will be for comments and discussions. Presenter(s) will be expected to prepare a presentation outline (1 to 2 pages), together with the bibliography/reference list for the fellows.

Students should hand in a typed summary (one to two pages) of their presentation via email or hard copy, at least three working days before the scheduled date of presentation.

Presentations will start on the week of the **September 21, 2009**.

### ***Individual Term Paper***

Students are to hand in an individual term paper based on the presentation. The following describes the requirements for the term paper:

- Indicate course code, course title, your name, student ID and topic on the front page
- 2500-3000 (Not including cover page and bibliography/reference list)
- Font size 12
- Double line spacing
- Margin: 1 inch/2.54cm for each margin
- Quote at least FIVE references in the paper, two of which must be from academic sources (e.g. journal articles, books, conference papers), and one of the FIVE references must be electronic/Internet source
- Bibliography/Reference list
- APA documentation format

The paper will be due on December 4, 2009 (Fri). A sub-grade will be deducted on daily basis from the late paper without any valid reasons.

### ***Service-Learning***

There will be a tutorial section assigned for SL students. Students who are interested in SL programs should enroll in the following section during the add/drop period:

Section 3 (CRN 873) (Wed 5-6pm)

Students are required to (1) complete at least 30 hours of community services, (2) attend the training workshops offered and coordinated by Office of Service-Learning (OSL), and (3) attend two consultation meetings with OSL and the course instructor. The first workshop, namely *Service-learning Leadership Training Workshop*, will be scheduled in early September, 2009. The second workshop, *Reflective Meeting*, will be arranged in October, 2009.

The first and the second *consultation meetings* are scheduled on the week of **October 12, 2009** and **October 16, 2009** respectively. Each SL group should hand in a group proposal (2 to 4 pages) on or before **October 9, 2009 (Fri)**. In the proposal, students should state their own expectations and objectives on their SL project with sensitivity on the learning outcomes of this course, explain how their expectations will be fulfilled, describe the

service client(s), and an activity plan or work schedule to achieve the expectations/objectives. In the second meeting, students are expected to submit an outline of the individual reflective essay, in which students should cover the main points of their own essays and show how the course materials can be applied to explain their personal experiences and issues found in the SL projects.

Students are also required to submit a reflective essay upon the completion of the service-learning project. The essay serves as an important intellectual exercise for students to (1) review in detail what they have learned, observed, felt and experienced in the project; (2) identify the underlying social issues they have encountered at the service site; (3) evaluate the achievement of the objectives, expectations and plan according to the proposal, and (4) analyze and draw conclusion on the significance of the experience regarding the academic context. The essay will be due on **September 21, 2009 (Mon), by 5pm**. The format of the reflective essay will be subject to the same requirements as for the term paper.

The Service-Learning Report-Back seminar will be scheduled on **September 21, 2009 (Mon)**. Students should give either an oral or a poster presentation (max 15 minutes). The presentation serves as a way for the students to share their service-learning experiences with peers, course instructors, and professionals from different fields, and report their work done, observations, findings, feelings and reflection. Acknowledgement must be included at the end of the presentation.

Fieldwork performance (attendance, work attitude and individual commitment) will be graded by the NGOs or OSL.

### ***Mid-Term Test***

All students must attend the in-class mid-term test. The test will be scheduled on **October 23, 2009 (Fri)**. It will last for an hour and will consist of 20 multiple-choice questions. Test questions will come from materials presented in lecture and required readings up to the week before the test.

### ***Final Examination***

The final examination will be scheduled in the examination period. The date of final exam will be announced by Registry later in November, 2009. Attendance at this exam is compulsory to all students, so be careful not to make commitments before the final announcement is made. The final exam will consist of short and long questions. All exam questions will involve all the materials presented in lecture, readings, topics discussed in

tutorials and service-learning experience.

### ***Attendance***

Attendance to all scheduled sessions is mandatory. In case of absence due to illness, a medical certificate from a registered medical doctor is required. In such case, please inform the instructor via email or telephone call as early as possible. Absences must be discussed with instructor, prior to the absence, in order to make up the work. All make up assignments, if applicable, must be approved by the instructor. **Any absence may cost a 5 mark deduction of the final score.**

### **Required/Essential Readings**

Robert E. McGinn, *Science, Technology, and Society*, Prentice-Hall, 1991

Hjorth, Linda, Barbara Eichler, Ahmed Khan and John Morello (ed.), *Technology and Society: A Bridge to the 21st Century*, Prentice-Hall, 2000.

#### *Recommended/ Supplementary Readings:*

Alcon, Paul A., *Social Issues in Technology*, 4<sup>th</sup> Edition, New York: Prentice Hall, 2003

Castells, Manuel, *The Rise of the Network Society*, Blackwell Publishers, 1997

Rosenberg, Richard, *The Social Impact of Computers*, Academic Press, 1997.

Charles Sheffield, Marcelo Alonso, Morton Kaplan (eds), *The World of 2044: Technological Development and the Future of Society*, New York: Paragon House, 1994.

Albert Teich (ed.), *Technology and the Future*, New York: St. Martin's Press, 1990.

Schlager, N. *When Technology Fails: Significant Technological Disasters, Accidents and Failures of the 20<sup>th</sup> Century*. Washington DC., Gale Research, 1994.

Various articles on the impact of technology on political, economics and social aspects in Hong Kong society.

## **Academic Integrity**

Students shall be aware of the University regulations about dishonest practice in course work and the possible consequences as stipulated in the Regulations Governing University Examinations. Students are advised to consult the University Calendar and the regulations, which are available at the Registry website, for information regarding academic offences. Note that the University imposes severe penalties for academic dishonesty, especially cheating and plagiarism. *Plagiarism as well as cheating will be heavily penalized, and may result in a zero mark and disciplinary action.*

According to Lingnan University and Social Sciences Programme policy, plagiarism is "the presentation of another person's work without proper acknowledgment of the source". Plagiarism, intentional or unintentional, is considered academic dishonesty. Examples of plagiarism can be found at <http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml>.

With regard to your coursework in particular, you are reminded: *You must note the sources of quotations, data and general information in the coursework.* These sources/references should appear in alphabetical order in your list of references/bibliography.