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## COURSE DESCRIPTION AND SYLLABUS

### Science and Technology in the French speaking countries

**Terms:** Autumn and Spring  
**Duration:** 21 hours (10 lectures, 11 seminars)

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#### Course description

The aim of this module is to provide an introduction to the History of Science, Technology and Medicine, through an overview of the fields of chemistry, biology and medicine from the late 18<sup>th</sup> century to the present day.

Facts and artefacts generally presented as “discoveries that have revolutionized science” will be introduced and analysed following the historian John Pickstone’s framework of “ways of knowing”, through the study of French academic publications as well as archive material.

Insofar as scientific facts and discoveries are contingent upon history, the conditions in which scientific forerunners worked will be studied to understand their relevance in light of their intellectual context. An understanding of various historical contexts will in turn allow for useful and relevant comparisons to be made with contemporary science. Special consideration will be given, in term 2, to the theoretical and revolutionary changes, the emergence of new paradigms and the position scientists adopt in controversies. The latter will provide suitable material for the oral presentation.

By the end of the course, students will have acquired a clear understanding and knowledge of the various events, processes and ideas that have governed French scientific research and culture and will be able to have a reflexive view on their own practice as scientists embedded in their culture and society.

The course consists of one 1-hour lecture/seminar per week and requires at least one hour of private study per week. The assessment will consist of an in-class writing task in the first term, a project and a viva.

Students will be provided with a variety of up-to-date written and audio-visual documentation in French. In addition, they will be provided with a list of recommended reading material.

#### Assessment

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|--------------------------|---|
| <input type="checkbox"/> | <b>In-class writing task at the end of term 1 - 25%</b>             |
| <input type="checkbox"/> | <b>4000-word project to be submitted at the end of term 2 - 50%</b> |
| <input type="checkbox"/> | <b>30-minute viva at the end of term 2 - 25%</b>                    |

The course is moderated by an External Examiner. All marked work must be retained for resubmission at the end of the course.

#### Syllabus

## TERM 1:

### De « L'histoire naturelle » à l'âge de « l'analyse »

- a. Du Malade aux maladies : « Les origines de l'hôpital ».
- b. Précurseurs, inventeurs, découvertes et techniques qui ont fondé et contribué aux progrès de la médecine moderne: Ambroise Paré, P. Bernard Parmentier et notamment:
  - . Pasteur et la « révolution pastoriennne » ,
- . La découverte du radium et de la radioactivité : le laboratoire Curie entre science et industrie
- c. La « technoscience » selon John Pickstone. Dissections, études anatomiques au début de l'ère moderne. La dissection virtuelle à l'époque contemporaine
- d. Du médecin ambulant aux Médecins du monde.

## TERM 2:

### Héritage scientifique, médecine moderne, controverses, l'accès aux soins

- a. Le Comité d'Ethique de la Recherche ; l'OMS ; le Code International d'Ethique Médicale (MSF, Mdm et autres ONG). L'engagement de l'Etat Français dans une politique nationale de Recherche : la création du CNRS.
- b. Histoire de la pharmacie, médicaments et soins, vaccins. Médicaments et santé publique. Industrialisation et mise sur le marché des médicaments,
- c. La controverse scientifique. Contexte, le rôle des médias, étude de controverses (en médecine, en administration des soins et des médicaments) passées et actuelles.
- d. 'Inventer la biomédecine': La transformation des activités biologiques et médicales dans la seconde moitié du 20<sup>ème</sup> siècle.
- e. Les nouveaux acteurs de la biomédecine au 21<sup>ème</sup> siècle

**Bibliography:**

**N.B.** In addition to the references cited below, a number of sources such as links to articles by science writers to be found in scientific magazines and various other media will be distributed at the start of term 1.

- Bensaude-Vincent, Bernadette, Isabelle Stengers, *Histoire de la Chimie*, La Découverte, Poche, Coll. Sciences Humaines et Sociales, 2001.
- Berche, Patrick et Yvan Brohard, *Une Histoire de la médecine. Le souffle d'Hippocrate*, Université Paris Descartes, 2011.
- Boudia, Soraya, *Marie Curie et son laboratoire, Science et industrie de la radioactivité en France*, Edition des Archives Contemporaines, 2001.
- Corsi, Pietro, Jean Gayon, Gabriel Gohau, Stéphane Tirard, *Lamarck, Philosophe de la Nature*, Presses Universitaires de France, Coll. Science, Histoire et Société, 2006.
- Foucault, Michel, *Naissance de la Clinique*, Presses Universitaires de France, Coll. Quadrige, 2003 (1963).
- Gaudillière, Jean-Paul, *Inventer la Biomédecine: La France, l'Amérique et la production des savoirs du vivant (1945-1965)*, La Découverte, Coll. Textes à l'Appui / Histoire des Sciences, 2002.
- Latour, Bruno, *Pasteur: Guerre et Paix des Microbes*, La Découverte Poche, Coll. Sciences Humaines et Sociales, 2001 (1984).
- Pestre, Dominique, *Science, Argent et Politique, un essai d'interprétation*, INRA Editions, Coll. Sciences en Question, 2003.
- Pickstone, John, *Ways of Knowing. A new History of Science, Technology and Medicine*, The University of Chicago Press, 2001.
- Torny, Didier et Francis Chateaurayneau, *Les Sombres Précurseurs, une sociologie pragmatique de l'alerte et du risque*, Editions de l'EHESS, 1999.

