課程中文名稱： 持久性有機污染物

課程英文名稱： Persistent Organic Pollutants

授課教師： 陳家揚 助理教授 公衛新址 105 室

2351-6478 ext. 47 dbms@ntu.edu.tw

學分數： 二 學分

授課對象： 博士或碩士班學生

授課地點：公衛新址 102 室

上課時間： 週二 5,6 節

評分方式：期中考及期末考各占 45%與 55%

教學目標：

Persistent organic pollutants (POPs) have brought attention because of their ability to undergo long-range transport and significant bioaccumulation. The goal of this course is to introduce the source, fate, and toxicity of POPs to graduate students.

授課內容：

The course will contain the following topics of POPs:

1. Occurrence and properties.
2. Environmental fate, including deposition, transport, and degradation.
3. Exposure and bioaccumulation.
4. Disposition and adverse affects.
5. Analytical procedures and difficulties.

Students who are doing relating research will obtain an overall review on POPs. Other students will get fundamental concepts about this important group of contaminants. Background of physiology, and toxicology will be a plus, however, not a prerequisite. Basic knowledge about organic chemistry is needed.

主要參考教材：

1. Persistent Organic Pollutants, Heidelore Fiedler (editor), Springer-Verlag, 2003.
2. Persistent Organic Pollutants: Environmental Behavior and Pathways for Human Exposure, Stuart Harrad (editor), Kluwer Academic Publishers, 2001.
3. Dioxins and Health, Arnold Schecter and Thomas A. Gasiewicz (editors), 2nd Ed., Wiley-Interscience, 2003.
4. The Ortho Side of PCBs: Occurrence and Disposition, Larry G. Hansen (editor), Kluwer Academic Publishers, 1999.
5. Environmental Endocrine Disrupters, Louis J. Guillette, Jr. and D. Andrew Crain (editors), Taylor & Francis, 2000.

課程大綱：

9/16	Introduction
9/23	PCDDs/PCDFs I
9/30	PCDDs/PCDFs II
10/7	PCBs/PBBs
10/14	PAHs
10/21	Chlorinated Pesticides
10/28	Analysis of POPs
11/4	期中考
11/11	Atmospheric Fate
11/18	Transfer into Vegetation
11/25	Transport and Fate in Food Animals
12/2	Human Exposure and Fate
12/9	Bioaccumulation in Aquatic Food-chains
12/16	Temporal Trends in Environmental Contamination
12/23	Long-range Transport
12/30	POPs as Endocrine Disrupters – Immunotoxicity
1/6	POPs as Endocrine Disrupters – Reproductive Toxicity
1/13	期末考