课程大纲
COURSE SYLLABUS

1.	**课程代码/名称** **Course Code/Title**	**ESE5018 痕量有机污染物的控制技术与管理** **Control Technology and Management of Trace Organic Pollutants**
2.	**课程性质** **Compulsory/Elective**	专业选修课
3.	**课程学分/学时** **Course Credit/Hours**	3/48
4.	**授课语言** **Teaching Language**	中文 Chinese
5.	**授课教师** **Instructor(s)**	史江红
6.	**先修要求** **Pre-requisites**	化学类课程 Chemistry Courses
7.	**教学目标** **Course Objectives**	
	水体、大气、土壤等环境中的痕量有机污染物，由于其来源广泛、种类繁多、含量极低，且对人类健康和生态平衡造成危害、已经成为当前环境热点问题。本课程旨在介绍饮用水、废污水、土壤以及大气环境中包括内分泌干扰物、持久性有机污染物在内的各种痕量、超痕量有机污染物的控制技术与管理进程；希望学生了解与把握相关领域的研究进展和学术动态。 Trace organic pollutants in water, atmosphere, soil and other environments have become a hot environmental issue due to their wide source, variety and low content, and harmful to human health and ecological balance. The purpose of this course is to introduce the control technology and management process of trace and ultra-trace organic pollutants in drinking water, waste water, soil and atmospheric environment, including endocrine disruptors and persistent organic pollutants. Students are expected to understand and grasp the research progress and academic trends in related fields.	
8.	**教学方法** **Teaching Methods**	
	课堂讲授+ 专题讨论 Teaching + Thematic Discussion	
9.	**教学内容** **Course Contents**	
	Section 1	痕量有机污染物的种类与特性 Species and Characteristics of Trace Organic Pollutants
	Section 2	各种环境介质中的痕量有机污染物与全球环境热点问题 Trace Organic Pollutants in Various Environmental Media and Global Environmental Hotspots
	Section 3	痕量有机污染物的全球与中国管理进程 Global and Chinese Management Process of Trace Organic Pollutants
	Section 4	饮用水中痕量有机污染物的污染现状与管理需求 Pollution and Management Demand of Trace Organic Pollutants in Drinking Water
	Section 5	活性炭、纳滤膜等对饮用水中痕量有机污染物的控制研究 Control of Trace Organic Pollutants in Drinking Water by Activated Carbon and Nanofiltration Membrane
	Section 6	废污水生物处理工艺过程中痕量有机污染物的去除过程与降解技术 Removal and Degradation of Trace Organic Pollutants in Wastewater

		Biological Treatment Process
	Section 7	废污水高度处理再生利用过程中痕量有机物的控制技术 Control Technology of Trace Organic Compounds in the Process of High Treatment and Recycling of Wastewater
	Section 8	流域治理与痕量有机污染物的控制技术 River Basin Management and Control Technology of Trace Organic Pollutants
	Section 9	烟气中痕量有机污染物的污染现状与控制技术 Pollution and Control Technology of Trace Organic Pollutants in Flue Gas
	Section 10	土壤中痕量有机污染物的污染特征与绿色可持续修复技术 Pollution characteristics of trace organic pollutants in soil and green sustainable remediation technology

10. 课程考核
Course Assessment

请再此注明：①考查/考试；②分数构成。
考察：论文+PPT 汇报；分数构成：出勤 20%+课堂讨论表现 40% +个人论文报告 40%
Assessment: Paper + PPT Report; Score Composition: 20% Attendance + 40% Classroom Discussion Performance + 40% Personal Paper Report

11. 教材及其它参考资料
Textbook and Supplementary Readings

全燮等著，《持久性有机污染物的水污染控制化学方法与原理》:科学出版社， 2019
何秋生等著，《持久性有机物污染及控制》化学工业出版社，2015
余刚等著，《持久性有机污染物-新的全球性环境问题》，科学出版社，2005.
陈怀满等著，《土壤中化学物质的行为与环境质量》，科学出版社，2002。
环境类核心期刊：EST、WR
Quan Xie et al., Chemical Methods and Principles for Water Pollution Control of Persistent Organic Pollutants: Science Press, 2019
He Qiusheng et al. Persistent Organic Pollution and Control. Chemical Industry Press, 2015Yu Gang et al., Persistent Organic Pollutants - New Global Environmental Problems, Science Press, 2005.
Chen Huaiman et al., Behavior of Chemical Substances in Soil and Environmental Quality, Science Press, 2002.
Environmental Core Journal： *Environmental Science & Technology；Water Research et al.*