

# 课程大纲

## COURSE SYLLABUS

1.	<b>课程代码/名称</b> Course Code/Title	环境土壤学/Environmental Soil Science
2.	<b>课程性质</b> Compulsory/Elective	专业选修课/Elective
3.	<b>开课单位</b> Offering Dept.	环境科学与工程学院/School of Environmental Science and Engineering
4.	<b>课程学分/学时</b> Course Credit/Hours	3
5.	<b>授课语言</b> Teaching Language	中文/Chinese
6.	<b>授课教师</b> Instructor(s)	王俊坚/Junjian Wang
7.	<b>开课学期</b> Semester	秋季/Fall
8.	<b>是否面向本科生开放</b> Open to undergraduates or not	No
9.	<b>先修要求</b> Pre-requisites	(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.) 无/Null
10.	<b>教学目标</b> Course Objectives	(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)  本课程的教学目标是使本科生: 1) 掌握土壤物理、化学、生物的基础知识与前沿方向 2) 了解土壤在环境保护与农业生产中的重要性 3) 熟悉土壤退化与防治的典型案列  The course is designed to help students: 1) learn basic theories of soil physics, soil chemistry, and soil biology; 2) learn the critical roles of soils in agricultural management and environmental protection; and 3) learn the typical cases of soil degradation and it prevention.
11.	<b>教学方法</b> Teaching Methods	(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)  授课/Lecture + 实践实习/Field trip
12.	<b>教学内容</b> Course Contents	(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)
	<b>Section 1</b>	绪论与课程简介 (3 学时) / Introduction and course overview (3 class hours)

<b>Section 2</b>	土壤物理：土壤的形态与描述（3学时） / Soil physics: soil morphology and description (3 class hours)
<b>Section 3</b>	土壤物理：土壤颜色、质地、结构、容重与孔隙度（3学时） / Soil physics: soil color, texture, structure, bulk density, and porosity (3 class hours)
<b>Section 4</b>	土壤物理：土壤通气性与温度（3学时） / Soil physics: soil aeration and temperature (3 class hours)
<b>Section 5</b>	土壤物理：土壤水（3学时） / Soil physics: soil water (3 class hours)
<b>Section 6</b>	土壤物理：野外实习课（3学时） / Soil physics: field trip (3 class hours)
<b>Section 7</b>	土壤化学：土壤胶体（3学时） / Soil chemistry: soil colloids (3 class hours)
<b>Section 8</b>	土壤化学：土壤矿物与离子交换（3学时） / Soil chemistry: soil mineralogy and ion exchange (3 class hours)
<b>Section 9</b>	土壤化学：土壤酸碱度与酸碱度管理（3学时） / Soil chemistry: soil pH and pH management (3 class hours)
<b>Section 10</b>	土壤化学：土壤有机质：来源、特性与降解（3学时） / Soil chemistry: soil organic matter - sources, properties and decomposition (3 class hours)
<b>Section 11</b>	土壤碳氮循环（3学时） / Soil carbon cycle (3 class hours)
<b>Section 12</b>	土壤生物（3学时） / Soil organisms and plant roots (3 class hours)
<b>Section 13</b>	土壤退化：侵蚀（3学时） / Soil degradation: erosion (3 class hours)
<b>Section 14</b>	土壤退化：重金属污染（3学时） / Soil degradation: pollution (3 class hours)
<b>Section 15</b>	土壤退化：有机污染（3学时） / Soil degradation: pollution (3 class hours)
<b>Section 16</b>	土壤退化防治（3学时） / Prevention of soil degradation (3 class hours)
<b>13. 课程考核</b> <b>Course Assessment</b>	
	（①考核形式 Form of examination; ②.分数构成 grading policy; ③如面向本科生开放，请注明区分内容。If the course is open to undergraduates, please indicate the difference.）  演讲50%+期末报告50%， Course presentation: 50%, final report: 50%.
<b>14. 教材及其它参考资料</b> <b>Textbook and Supplementary Readings</b>	
	陈怀满. 2010. 《环境土壤学》科学出版社出版 Brady N.C. and Weil R.R., 2010. Elements of the Nature and Properties of Soils 3rd Ed.