

2024年暑期学校课程信息

(共152门课, 191门次)

目 录

课类¹说明：

*A类课程：仅对校内学生开放

*B、C类课程：对校内和校外生开放

*国际课程：国际暑期学校项目课程，只对国际学生开放,报名通道请见国际暑期学校官网。

注:课程信息可能会略有调整，本文档仅供参考，不一致之处请以官网的课程数据为准。

序号	课程号	课程名称	课类 ¹	开课系所	班号	学分	授课教师	备注
(一) 常规课程								
1	00332950	航空航天工业实习	A	工学院	1	3	周超	具体安排按航空系通知
2	00333109	可持续性理论与实践	A	工学院	1	3	Rod BAIN(校外)	globex项目
3	00333145	优化和学习的模拟方法	A	工学院	1	3	Bernd HEIDERGOTT(校外)	globex项目
4	00333148	工程科学应用分析	A	工学院	1	3	唐少强	globex项目
5	00333181	工程项目管理中的金融决策	A	工学院	1	3	Daricha Sutivong(校外)	globex项目
6	00333390	生物医学工程实习	A	工学院	1	3	李长辉	只限生物医学工程本专业和双学位的同学选修
7	00333724	中华语言与文化	A	工学院	1	3	ZHANG Aidong(校外)	globex项目
8	00333736	分子模拟基础与应用	A	工学院	1	3	Houlong Zhuang(校外), Yang Jiao(校外)	
9	01034391	仪器分析原理与实验	A	化学与分子工程学院	1	4	张新祥, 张新祥, 李美仙, 周颖琳, 吕占霞, 潘伟, 陈明星, 高珍, 黄军	8月26日-9月6日开课

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10	01035280	化工新概念	A	化学与分子工程学院	1	1	马莲(校外)	
11	01035430	化学应用与实践	A	化学与分子工程学院	1	1	王颖霞, 高珍	
12	01130160	细胞生物学实验	A	生命科学学院	1	1	张泉, 辛广伟	
13	01130210	遗传学实验	A	生命科学学院	1	1	辛广伟, 张泉	
14	01130912	南海海洋生态学野外实践	A	生命科学学院	1	2	李晟, 饶广远, 李大建, 顾红雅, 龙玉, 贺新强, 孟世勇, 王戎疆	8月22日-9月2日, 广西钦州; 要求先修生物学野外综合实习及相关课程; 须提前与任课教师商讨确定题目后再选课
15	01132677	分子生物学实验	A	生命科学学院	1	1	毕群, 刘旖璇	
16	01132679	产业实习实践	A	生命科学学院	1	3	王世强, 唐平, 王黛芳	请关注“生声不息”公众微信号4月发布的前期培训通知, 经学院审核通过后方能选课。
17	01132685	衰老生物学	A	生命科学学院	1	2	陶伟	2024年7月1-10日上课
18	01134110	生态学野外实践	A	生命科学学院	1	2	王戎疆, 贺新强	6月22日-7月4日, 四川王朗; 要求先修生物学野外综合实习及先关课程; 须提前与任课教师商讨确定题目后再选课
19	01134140	生物学综合野外实习	A	生命科学学院	1	2	王戎疆, 李晟, 饶广远, 李大建, 顾红雅, 龙玉, 贺新强, 孟世勇	6月22日-7月4日1-12节, 四川王朗自然保护区
20	01134140	生物学综合野外实习	A	生命科学学院	2	2	顾红雅, 饶广远, 贺新强, 李大建, 王戎疆, 龙玉, 孟世勇, 李晟	6月22日-7月4日1-12节, 四川王朗自然保护区

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21	01134140	生物学综合野外实习	A	生命科学学院	3	2	顾红雅, 饶广远, 贺新强, 李大建, 王戎疆, 龙玉, 孟世勇, 李晟	6月22日-7月4日1-12节, 四川王朗自然保护区
22	01138495	生命科学前沿实验模块课	A	生命科学学院	1	2	王青松, 焦雨铃, 王东辉, 贺新强, 王晓静	6.24-7.12
23	01138495	生命科学前沿实验模块课	A	生命科学学院	2	2	贺新强, 梁希同, 李美琪, 辛广伟, 周辰	6.24-7.12
24	01139385	生物信息产业实践	A	生命科学学院	1	2	刘凤麟, 李程, 刘超	8月7日-8月15日, 1-8节
25	01139632	生物化学实验	A	生命科学学院	1	2	王青松, 刘旖璇, 刘凤麟, 秦咏梅	2024年6月3日-2024年6月21日
26	01231640	普通地质实习A	A	地球与空间科学学院	1	2	张志诚	
27	01231641	普通地质实习A讨论班	A	地球与空间科学学院	1	0	张志诚	
28	01231641	普通地质实习A讨论班	A	地球与空间科学学院	2	0	黄宝春	
29	01231641	普通地质实习A讨论班	A	地球与空间科学学院	3	0	许成	
30	01231641	普通地质实习A讨论班	A	地球与空间科学学院	4	0	张元元	
31	01231641	普通地质实习A讨论班	A	地球与空间科学学院	5	0	董琳	
32	01231912	五台山地区综合地质实习	A	地球与空间科学学院	1	2	张贵宾	
33	01231913	沉积地层古生物综合实习	A	地球与空间科学学院	1	2	关平, 孙元林, 薛进庄, 孙作玉	
34	01231914	地球系统野外建模	A	地球与空间科学学院	1	3	季建清	
35	01231915	冷湖野外联合实习考察	A	地球与空间科学学院	1	2	张志诚, 郭召杰, 沈冰, 程丰	
36	01231916	五台山地区综合地质实习讨论班	A	地球与空间科学学院	1	0	魏春景	

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37	01231916	五台山地区综合地质实习讨论班	A	地球与空间科学学院	2	0	张进江	
38	01231916	五台山地区综合地质实习讨论班	A	地球与空间科学学院	3	0	张波	
39	01231916	五台山地区综合地质实习讨论班	A	地球与空间科学学院	4	0	张贵宾	
40	01231916	五台山地区综合地质实习讨论班	A	地球与空间科学学院	5	0	李秋根	
41	01231916	五台山地区综合地质实习讨论班	A	地球与空间科学学院	6	0	吕增	
42	01231916	五台山地区综合地质实习讨论班	A	地球与空间科学学院	7	0	吴辉	
43	01231917	沉积地层古生物综合地质实习讨论班	A	地球与空间科学学院	1	0	关平	
44	01231917	沉积地层古生物综合地质实习讨论班	A	地球与空间科学学院	2	0	孙元林	
45	01231917	沉积地层古生物综合地质实习讨论班	A	地球与空间科学学院	3	0	薛进庄	
46	01231917	沉积地层古生物综合地质实习讨论班	A	地球与空间科学学院	4	0	孙作玉	
47	01231918	地球系统野外建模讨论班	A	地球与空间科学学院	1	0	季建清	
48	01231918	地球系统野外建模讨论班	A	地球与空间科学学院	2	0	江大勇	
49	01231918	地球系统野外建模讨论班	A	地球与空间科学学院	3	0	李文博	
50	01231918	地球系统野外建模讨论班	A	地球与空间科学学院	4	0	何涛	
51	01231919	冷湖野外联合实习考察讨论班	A	地球与空间科学学院	1	0	张志诚, 郭召杰, 沈冰, 程丰	
52	01231919	冷湖野外联合实习考察讨论班	A	地球与空间科学学院	2	0	郭召杰	
53	01231919	冷湖野外联合实习考察讨论班	A	地球与空间科学学院	3	0	沈冰	
54	01231919	冷湖野外联合实习考察讨论班	A	地球与空间科学学院	4	0	程丰	
55	01231919	冷湖野外联合实习考察讨论班	A	地球与空间科学学院	5	0		
56	01231919	冷湖野外联合实习考察讨论班	A	地球与空间科学学院	6	0		

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57	01231919	冷湖野外联合实习考察讨论班	A	地球与空间科学学院	7	0		
58	01231919	冷湖野外联合实习考察讨论班	A	地球与空间科学学院	8	0		
59	01231921	阿尔卑斯野外综合地质国际对比实习	A	地球与空间科学学院	1	2	韩宝福, 吴朝东, 江大勇, 孙荣双, 周敏	
60	01233660	地球物理野外实习	A	地球与空间科学学院	1	2	宁杰远	
61	01235260	3S野外综合实习	A	地球与空间科学学院	1	1	田原	
62	01533300	城乡地域空间认知实习	A	城市与环境学院	1	1	阴劼	
63	01535130	野外生态学	A	城市与环境学院	1	2	朱彪, 唐志尧, 吉成均	
64	01537530	普通地质实习	A	城市与环境学院	1	1	张家富	
65	01539340	地貌实习	A	城市与环境学院	1	2	张家富	
66	12631310	环境科学野外综合实习	A	城市与环境学院	1	2	李喜青	
67	12632140	生态学控制实验野外实习	A	城市与环境学院	1	2	贺金生	
68	12633070	自然地理综合实习	A	城市与环境学院	1	2	蒙吉军, 许学工	
69	12633130	陆面过程模型和植被遥感实习	A	城市与环境学院	1	2	朱丹	
70	12634070	“一带一路”综合实习	A	城市与环境学院	1	2	刘鸿雁, 戴林琳	
71	12634080	人文地理专业综合实习	A	城市与环境学院	1	1	冯健	
72	12634090	人文地理综合社会实践实习	A	城市与环境学院	1	1	冯健	
73	12635390	美术实习	A	城市与环境学院	1	2	沈文权	
74	12639010	综合社会实践实习	A	城市与环境学院	1	1	林坚	
75	01630580	人际沟通分析学	A	心理与认知科学学院	1	2	杨眉(校外)	
76	01630713	时间与认知	A	心理与认知科学学院	1	2	包燕	讨论教室, 英文授课, 先修统计类课程
77	02319642	传统太极拳: 哲学与实践	A	哲学系	1	2	朱效民	7月1-6日 10-12节, 7月8-12日 10-12节, 英文授课

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78	02334141	科学哲学前沿	A	哲学系	1	2	陆俏颖, DON A. HOWARD(校外), Peter Takacs(校外)	上课9-11点, 讨论课每周五13-15点
79	02535510	新结构智库实践	A	经济学院	1	3	于佳	新结构经济学实验班22级
80	02830731	当代中国社会	A	光华管理学院	1	2	谢宇, 於嘉	7月11日-25日的每周一至周五 9:00-12:00, 报名人数不限, 需面试; 英文授课; 需参与课外实践活动
81	04031313	学年论文(马院)	A	马克思主义学院	1	1	宋朝龙	
82	04130126	体美	A	体育教研部	1	1	秦朗	
83	04130126	体美	A	体育教研部	2	1	秦朗	
84	04830810	可编程逻辑电路设计(I)	A	信息科学技术学院	1	2	蒋伟	
85	06239083	经济学社会实践	A	国家发展研究院	1	2	徐晋涛, 蒋少翔	预计实际上课时间: 7月1-12日
86	12739040	环境综合实习一	A	环境科学与工程学院	1	1	刘兆荣	外出实习, 统一学院乘车出发
87	12739060	环境综合实习二	A	环境科学与工程学院	1	1	刘兆荣	外出实习, 统一学院乘车出发
88	20133003	英国研究	A	汇丰商学院	1	3	刘芍佳	在英国校区开设
89	23200017	工程实训	A	材料科学与工程学院	1	3	高嵩, 莫凡洋, 张杨飞	昌平校区北大工程训练中心(原瑞德实训基地)。统一大巴前往, 详见邮件通知。面向理工科学生
90	23200018	工程实训B	A	材料科学与工程学院	1	2	高嵩, 莫凡洋, 张杨飞	昌平校区。统一大巴前往, 详见邮件通知。面向文科生
91	23200018	工程实训B	A	材料科学与工程学院	2	2	高嵩, 莫凡洋, 张杨飞	昌平校区。统一大巴前往, 详见邮件通知。面向文科生

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92	00432206	量子力学专题	B	物理学院	1	2	李定平, B. Rosenstein(校外)	1-3周+第4周周一
93	00432216	量子力学(II)	B	物理学院	1	2	钱志新	第五周周一下午 2:00-5:00考试
94	00437151	物理学科暑期专题研讨	B	物理学院	1	2	张华伟	7.8-7.12 全天上课
95	00437170	公共物理学	B	物理学院	1	2	王晓钢(校外)	
96	01133036	生命的逻辑	B	生命科学学院	1	2	白书农	7月8-24日上 课
97	01230450	虚拟现实内容创作	B	地球与空间科学学 院	1	2	陈斌	
98	01230470	北斗系统与时空智能	B	地球与空间科学学 院	1	2	陈秀万	
99	01233170	地震概论	B	地球与空间科学学 院	1	2	赵克常	
100	01431440	珠宝鉴赏与珠宝文化	B	地球与空间科学学 院	1	2	王长秋	
101	01831990	跨文化交流学	B	新闻与传播学院	1	2	李臻怡(校 外), 许静	
102	01832150	媒体与国际关系	B	新闻与传播学院	1	2	陈开和	
103	01834180	全球传播的新闻叙事及 想象	B	新闻与传播学院	1	2	吴靖, 许静, 张展(校外)	
104	01834310	宏观经济报道: 理论、 问题与新闻评论	B	新闻与传播学院	1	2	俞虹, 陈晋 (校外)	先修课程: 初 中级英文读 写能力; 最好 学过经济学 入门课程
105	01834348	健康传播研究: 理论与 方法	B	新闻与传播学院	1	1	许静	
106	02034960	经学通论	B	中国语言文学系	1	2	顾永新	
107	02532600	经济学原理	B	经济学院	1	3	张元鹏	非专业、非通 选, 7.27上午 考试, 经院学 生不可选
108	02533710	会计学原理	B	经济学院	1	3	张元鹏	7.27下午考 试

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109	02535290	量化历史研究	B	经济学院	1	2	管汉晖	7.1-7.10除周末双休每天上课,课程安排以老师通知为准
110	03033950	信息伦理与隐私保护	B	信息管理系	1	2	夏汇川	
111	03034020	数据可视化导论	B	信息管理系	1	2	步一	1. 与03033940《数据可视化》互斥! 2. 小组作业线上提交DDL为8月2日, 选课时请合理预留完成作业的时间。
112	03034030	非关系型数据库技术与应用	B	信息管理系	1	2	邱韞哲	考试时间为7月15日上午 考试地点待定 请关注教师通知
113	03631990	速成法语(零起点)	B	外国语学院	1	2	孙凯	第三周周三的最后一节课笔试
114	03633331	西班牙语及西班牙文化	B	外国语学院	1	2	宋扬	
115	04833310	集成电路逻辑综合实验	B	信息科学技术学院	1	2	贾嵩, 崔莹莹	
116	04833730	集成电路的物理设计实验	B	信息科学技术学院	1	2	贾嵩, 叶乐	
117	04834500	量子信息技术概论	B	信息科学技术学院	1	2	吴腾	
118	04834710	自旋与超导量子技术导论	B	信息科学技术学院	1	2	王润声	与业界人士合上
119	04835270	自动驾驶技术赏析	B	信息科学技术学院	1	2	赵卉菁	该课程需要学生面对面讨论
120	04835290	模拟集成电路设计方法、工具与流程	B	信息科学技术学院	1	2	叶乐	
121	04835300	人工智能前沿	B	信息科学技术学院	1	1	王乐业, 董豪, 仇尚航	

序号	课程号	课程名称	课类 ¹	开课系所	班号	学分	授课教师	备注
122	04835490	计算机科学高级专题	B	信息科学技术学院	1	2	周明辉, 刘先华, 边凯归, 罗国杰, 熊英飞, 张大庆, 施柏鑫, 王乐业, 董豪, 吴文斐, 金鑫, 李彤阳, 仇尚航	每周一、三、五上课时间为9:00-12:00; 每周二、四上课时间为9:00-12:00和14:00-17:00。
123	04835500	大模型：从基础到前沿	B	信息科学技术学院	1	2	邓志鸿	
124	04835510	量子硬件技术：从量子比特到量子计算机	B	信息科学技术学院	1	1	孙仲	与外专合上
125	06239139	量化金融专题	B	国家发展研究院	1	2	Tai	实际上课时间：7月17-19日, 7月23-26日, 7月29日至8月2日。
126	06733020	游戏化创新思维	B	教育学院	1	2	尚俊杰	
127	06733030	教育与人工智能	B	教育学院	1	2	贾积有	
128	18730010	社会调查实务	B	中国社会科学调查中心	1	2	丁华, 孙妍, 吕萍, 吴琼	
129	18730020	社会调查数据分析方法	B	中国社会科学调查中心	1	2	任强, 顾佳峰, 孔涛, 吴琼, 任莉颖(校外), 丁华	
130	21100013	水资源稀缺经济和政策分析	B	现代农学院	1	2	王金霞	上课时间：7月15-22日, 每天下午4节课, 2点-5点
131	21130001	植物发育及分子生物学	B	现代农学院	1	2	邓兴旺, 林辰涛(校外), 陈雪梅, 杨贞标(校外), James Michael Whelan(校外)	
132	21130002	植物知道生命的答案	B	现代农学院	1	2	邓兴旺, Daniel Chamovitz(校外)	上课时间：7月1日-7月5日, 每天上午9点-下午4点

序号	课程号	课程名称	课类 ¹	开课系所	班号	学分	授课教师	备注
133	21130011	经济学视角下的资源环境热点问题	B	现代农学院	1	2	侯玲玲	上课时间：7月1日-10日，每天上午上课。
134	21130013	经济学模型CGE的基本原理及优化软件GAMS编程	B	现代农学院	1	2	解伟	上课时间：7月1号-5号，上午9点到下午4点，7月8号上午9点-11点，计算中心机房上课
135	21130015	管理经济学基础	B	现代农学院	1	2	SHENGYU	
136	21130016	食物安全：政治经济学和心理学研究	B	现代农学院	1	2	王晓兵	7月15日-7月16日，每天上午2节，下午2节，连上8天
137	21130018	植物大迁徙	B	现代农学院	1	2	周岳	
138	21130019	计量经济学因果识别方法详解	B	现代农学院	1	2	黄开兴	7月3日-7月6日下午2点-6点(6-9节)、7月10日-7月13日下午2点-6点(6-9节)
139	21130021	免疫检测	B	现代农学院	1	2	张改平, 张意锋	7月2号-7月5号, 7月9号-7月12号, 每天下午1点~5点
140	21130022	动物基因工程	B	现代农学院	1	2	张改平, 张意锋	7月16号-7月19号, 7月23号-7月26号; 每天下午1点~5点
141	30330500	ACM/ICPC竞赛训练	B	教务部	1	2	郭炜	
142	03835100	西方人文英语	C	大学英语教研室	1	2	马小琦	
143	03835100	西方人文英语	C	大学英语教研室	2	2	马小琦	
144	03835360	英汉口译	C	大学英语教研室	1	2	方舒琼	
145	03835360	英汉口译	C	大学英语教研室	2	2	方舒琼	
146	03835520	英美文学概况	C	大学英语教研室	1	2	马小琦	
147	03835520	英美文学概况	C	大学英语教研室	2	2	马小琦	
148	03835544	学术英语写作	C	大学英语教研室	1	2	方艳	

序号	课程号	课程名称	课类 ¹	开课系所	班号	学分	授课教师	备注
149	03835544	学术英语写作	C	大学英语教研室	2	2	方艳	
150	03835620	美国华人移民的历史与文化	C	大学英语教研室	1	2	Tian Xiaofeng(校外)	
151	03835730	美国文化概览	C	大学英语教研室	1	2	马小琦	
152	03835730	美国文化概览	C	大学英语教研室	2	2	马小琦	
153	03835770	商务沟通与表达	C	大学英语教研室	1	2	马小琦	
154	03835770	商务沟通与表达	C	大学英语教研室	2	2	马小琦	
155	03835860	英语公众演讲	C	大学英语教研室	1	2	马小琦	
156	03835860	英语公众演讲	C	大学英语教研室	2	2	马小琦	
157	03835950	高级英语口语	C	大学英语教研室	1	2	马小琦	
158	03835950	高级英语口语	C	大学英语教研室	2	2	马小琦	
159	03835983	世界英语与英语世界	C	大学英语教研室	1	2	徐志长(校外)	
160	03835983	世界英语与英语世界	C	大学英语教研室	2	2	徐志长(校外)	

(二) 通识教育联合暑期学校课程

161	02031540	中国古代文化	B	教务部	1	2	廖可斌	7月1日-7月12日, 每周一二四五, 3-4节、7-8节。
162	02335200	庄子哲学	B	教务部	1	2	郑开	7月1日至14日(共14天), 每天3-4节。其中7月14日加上第5-6节
163	03139110	死亡的社会学思考	B	教务部	1	2	陆杰华	
164	04334017	美索不达米亚艺术与文明	B	教务部	1	2	贾妍	7月1日-7月14日(共14天), 每天第3至第4节。其中7月13日加上第5-6节
165	06732040	经济学视角下的教育世界	B	教务部	1	2	马莉萍	
166	30340106	中国现当代小说选读	B	教务部	1	2	金理(校外)	
167	30340107	听觉文化与世界文明	B	教务部	1	2	毕明辉(校外)	7月1日至7月8日, 每天7-8节和10-11节
168	30340109	欧洲文化: 从古典希腊到文艺复兴	B	教务部	1	2	朱孝远	

序号	课程号	课程名称	课类 ¹	开课系所	班号	学分	授课教师	备注
169	30340111	艺术的启示	B	教务部	1	2	李睦(校外)	理论课+实践课, 教室需另安排
(三) 国际暑期学校课程 (英文授课)								
170	01630746	发展认知神经科学	国际课程	教务部	1	3	解万泽	
171	01834300	媒体与中国社会	国际课程	教务部	1	3	陈开和	
172	01834330	影像与社会	国际课程	教务部	1	3	吴靖	
173	02432090	本土视野下的中国外交与国际事务	国际课程	教务部	1	3	陈长伟	
174	02432140	中国政治与公共政策	国际课程	教务部	1	3	雷少华	
175	02534380	应用经济计量	国际课程	教务部	1	2	秦雪征	
176	02535030	企业全面风险管理	国际课程	教务部	1	2	陈凯	
177	02535620	新结构经济学国际实践	国际课程	教务部	1	3	于佳	
178	04130721	骑行老北京城: 探索千年古都回响	国际课程	教务部	1	2	卢福泉	最后一周每次只上两课时
179	04130721	骑行老北京城: 探索千年古都回响	国际课程	教务部	2	2	卢福泉	
180	04833360	情感智能机器人引论	国际课程	教务部	1	2	王韬	
181	21130017	发展经济学及其在中国的实践	国际课程	教务部	1	3	刘承芳	
182	30340056	镜中观花: 中国人的价值观	国际课程	教务部	1	3	韩金鹏	
183	30340059	中国古典诗词	国际课程	教务部	1	2	梅申友	
184	30340076	中国现当代小说与电影	国际课程	教务部	1	2	马乃强	
185	30340082	“中国崛起”专题研讨课	国际课程	教务部	1	3	徐昕(校外)	
186	30340094	中国改革与世界经济	国际课程	教务部	1	3	陈绍锋	
187	30340095	中国经济导论	国际课程	教务部	1	3	季曦	
188	30340095	中国经济导论	国际课程	教务部	2	3	LIUMINQUAN (刘民权)	
189	30340096	中国传统表演艺术	国际课程	教务部	1	3	张新亚(校外)	
190	E1273914	气候变化与可持续发展	国际课程	教务部	1	3	戴瀚程	
191	待定	中华文明形成的考古学探索	国际课程	教务部	1	3	秦岭	

课程简介 Course Description

课程号 (Course Number) : 00332950

课程名称 (Course Title) : 航空航天工业实习/Aerospace Industry Intern Program

开课院系 (School/Department) : 工学院/College of Engineering

学分 (Credits) : 3

授课教师 (Faculty) : 周超

先修课程 (Prerequisites) : 无

中文简介:

组织高年级本科生参观和访问航空和航天中有代表性的工业单位，在条件（保密、时间）允许的情况下适当从事科研实践活动，从而对我国航空航天研究、发展和生产单位建立一定的了解，为学生下一步在个人感兴趣的航空航天子课题上继续深入学习和研究指明方向。

英文简介 (Course Description) :

This course will organize several visits and intern programs of aerospace industry for junior undergraduates. These activities are designed to help our students deep understanding and build up an overview of Chinese aerospace industry, which could in turn guide their study and research in the near future.

-End-

课程号 (Course Number) : 00333109

课程名称 (Course Title) : 可持续性理论与实践/Sustainability Theory and Practices

开课院系 (School/Department) : 工学院/College of Engineering

学分 (Credits) : 3

授课教师 (Faculty) : Rod BAIN(校外)

先修课程 (Prerequisites) : 无

中文简介:

本课程将向学生介绍当前和未来能源供需的可持续性。课程将利用案例研究和实例，重点介绍可持续性理论和实践、二氧化碳排放和气候变化，当前和未来能源需求、高收入和低收入国家能源部门的未来挑战和机遇，跨学科和跨部门参与发展，以及这些解决方案如何影响社会、经济和环境。这门课程将由Rod Bain博士教授，并将邀请相关领域客座专家参与。

英文简介 (Course Description) :

This course will introduce students to sustainability in the context of energy supply and demand both now and in the future. Using case studies and practical examples, the course will focus on sustainability theory and practice, current and future energy demands in terms of CO2 emissions and climate change, future challenges and opportunities in the energy sector for high and low income countries, trans/interdisciplinary and cross sectoral engagement in the development of energy solutions, and how these solutions may affect society, economies and the environment. This course will be led by Dr Rod Bain and will feature lectures from a range of experts

from across the university.

-End-

课程号 (Course Number) : 00333145

课程名称 (Course Title) : 优化和学习的模拟方法/Simulation Methods for Optimization and Learning

开课院系 (School/Department) : 工学院/College of Engineering

学分 (Credits) : 3

授课教师 (Faculty) : Bernd HEIDERGOTT(校外)

先修课程 (Prerequisites) : 无

中文简介:

本课程讲解了使用计算机模拟进行动态随机模型分析与优化的要点。课程的重点放在利用离散事件动态系统来模拟随机系统，以及通过离散事件仿真分析和改进其模拟的表现。课程内容的应用广泛分布于各种领域，从社交网络到计算机网络，从金融工程到商业过程。本课程将通过基于模拟仿真的优化和学习方法来为学生介绍计算机模拟在动态随机模型分析中的应用。课程要回答的首要问题是如何使用模拟仿真来为现实生活中的问题做出更优、更负责任的决策。此外，课程还将回顾针对上述问题我们所见证的技术与数学理论上的进步。在积极设计模拟仿真课题的同时，课程还将会花时间回顾相应的数学与技术模型。亦即，在学习实用技术的同时，课程鼓励学生去思考与总结相关的科学与技术发展成果。

英文简介 (Course Description) :

This course gives a broad treatment of the important aspects of the use of computer simulation for the analysis and optimization of dynamic stochastic models. The emphasis is on modeling the stochastic system as a discrete event dynamic system, and analyzing and improving its performance by means of discrete event simulation. Applications will stem from a wide range of domains: from Social Networks to Computer Networks, and Financial Engineering to Business Processes. The course will introduce students to the use of computer simulation in analyzing dynamic stochastic models through simulation-based methods for optimization and learning. The leading question of the course is how to use simulation to make better and more responsible decisions for real-life problems. The course will also reflect on the technological and mathematical developments we witness in our societies. While actively working on simulation projects, the course will provide space for reflecting on the mathematical/technological paradigm. That is, next to learning the actual techniques, students will be stimulated to reflect on the history of science and the technological developments around them.

-End-

课程号 (Course Number) : 00333148

课程名称 (Course Title) : 工程科学应用分析/Applied Analysis for Engineering Sciences

开课院系 (School/Department) : 工学院/College of Engineering

学分 (Credits) : 3

授课教师 (Faculty) : 唐少强

先修课程 (Prerequisites) : Calculus (Single variate, and multi-variate), Linear Algebra, Ordinary Differential Equations.

中文简介:

本课程的目标包括: (1) 介绍广泛应用于工程科学、非线性力学和其他物理科学领域的现代 (1900-1990) 数学方法; (2) 发动学生的科研积极性, 包括启发思维, 明确问题并建模, 以及探索相应的数学方法; (3) 弥合数学工具与其物理解之间的鸿沟。

英文简介 (Course Description) :

The objectives of this course include: to show some modern (1900-1990) mathematical methods that are widely used in engineering sciences, nonlinear mechanics and other physical sciences; to help initiating research activities, namely, to boost ideas, to formulate the problem, and to explore the mathematics; to help bridging the gap between the mathematical tools and the physical understandings.

-End-

课程号 (Course Number) : 00333181

课程名称 (Course Title) : 工程项目管理中的金融决策/Financial Decisions in Engineering Project Management

开课院系 (School/Department) : 工学院/College of Engineering

学分 (Credits) : 3

授课教师 (Faculty) : Daricha Sutivong(校外)

先修课程 (Prerequisites) :

中文简介:

本课程主要介绍了在项目评估中广泛使用的金融技术。基于货币时间价值观念, 该课程探讨如何分析和评估各种现金流模式, 并提供项目评估和决策的常用方法, 包括净现值、收益率, 以及单一或多个项目决策的应用规范。该课程还涉及使用盈亏平衡分析, 敏感性分析, 决策树等方法在不确定环境下决策问题。学生将有机会在一个团队项目中对他们感兴趣的问题进行财务分析, 创建管理报告并进行展示。

英文简介 (Course Description) :

The course introduces widely-used financial techniques for project evaluation. Based on the time value of money concept, the course examines how to analyze and value various cash flow patterns and provides popular economic measures for project assessment and

selection, including the net present value and the rate of return, along with the application criteria for single and multiple project decisions. The course also addresses decision under uncertainties using techniques such as breakeven analysis, sensitivity analysis, decision tree, etc. Students will have an opportunity to perform a financial analysis of their interested problem in a group project and creating management report and presentation.

-End-

课程号 (Course Number) : 00333390

课程名称 (Course Title) : 生物医学工程实习/Biomedical Engineering Practice

开课院系 (School/Department) : 工学院/College of Engineering

学分 (Credits) : 3

授课教师 (Faculty) : 李长辉

先修课程 (Prerequisites) : 高等数学、大学物理、分子与细胞生物学、解剖学

中文简介:

本课程在美国佐治亚理工大学的生物医学工程系进行。本科生在那里会进不同的实验室直接参与科研活动,同时选修一至两门相关实验类课程。课程也安排参观世界一流实验室或科研设施,和本领域著名学者直接面对面讨论和交流。

英文简介 (Course Description) :

This course is taken at Georgia Institute of Technology at Atlanta. All undergraduates will be assigned a research lab to take part in various projects. They also will take one or two experimental courses. In the meantime, students have opportunities to visit cutting-edge research facilities, and discuss with world-famous scientists face to face.

-End-

课程号 (Course Number) : 00333724

课程名称 (Course Title) : 中华语言与文化/Chinese Language and Culture

开课院系 (School/Department) : 工学院/College of Engineering

学分 (Credits) : 3

授课教师 (Faculty) : ZHANG Aidong(校外)

先修课程 (Prerequisites) : N/A

Undergraduate and Graduate Students (all majors and all levels) with prerequisite: Basic Chinese reading and listening skills

中文简介:

本课程旨在介绍中华语言和文化不同方面。包括中国思想、文化和语言之间的关系、中国语

言和文字的特点、中国社会、民间传说和语言、中国人的思维模式和思维方式、东西方的思维方式和文化属性、社会和文化的变化及其对汉语的影响。

英文简介 (Course Description) :

This course is designed to introduce different aspects of Chinese language and culture. Including, the relationship between Chinese thought, culture, and language. The characteristics of Chinese language and scripts. Chinese society, folklore, and language. Chinese thought patterns and thinking styles. Eastern and Western ways of thinking and the cultural attributes embedded. The social and cultural changes as well as its influence on Chinese language.

-End-

课程号 (Course Number) : 00333736

课程名称 (Course Title) : 分子模拟基础与应用/Fundamentals and Applications of Molecular Simulations

开课院系 (School/Department) : 工学院/College of Engineering

学分 (Credits) : 3

授课教师 (Faculty) : Houlong Zhuang(校外) , Yang Jiao(校外)

先修课程 (Prerequisites) : 无

中文简介:

本课程将为学生提供对原子和分子尺度上材料建模和模拟的概念和技术的入门级理解。通过从计算材料和软物质研究前沿提炼的例子，讨论最流行的分子模拟方法的基本原理和应用，包括蒙特卡罗 (MC) 模拟、分子动力学 (MD) 方法和密度泛函理论 (DFT)。

英文简介 (Course Description) :

This course will provide the students with an introductory level understanding of the concepts and techniques for the modeling and simulations of materials on atomistic and molecular scales. Both fundamentals and applications of the most popular molecular simulation methods including Monte Carlo (MC) simulations, Molecular Dynamics (MD) methods and Density Functional Theory (DFT) will be discussed, through examples distilled from the frontier of computational materials and soft matter research.

-End-

课程号 (Course Number) : 00432206

课程名称 (Course Title) : 量子力学专题/Advanced topics in Quantum Mechanics

开课院系 (School/Department) : 物理学院/School of Physics

学分 (Credits) : 2

授课教师 (Faculty) : 李定平, B. Rosenstein(校外)

先修课程 (Prerequisites) : 量子力学

中文简介:

目前, 国内现有的量子力学课程着重讲授非相对论性量子力学的基本理论和方法, 对其路径积分形式的表述和实际具体的计算方法、解决具体实际问题的应用等大多不予深入讨论、甚至根本不提及, 对于从量子力学到量子场论的过渡大多也不予讨论。该专题课程针对解决这些问题而开设, 从而帮助同学打下从量子力学的形式理论过渡到开展具体物理研究的坚实基础。

本课程主要讲授非相对论性量子力学在描述一些基本量子现象的应用(比如能谱、量子动力学、散射理论、隧穿理论、AB效应和Berry相位等)和量子力学中的路径积分、格林函数及其它一些基本问题的实际计算方法(比如半经典近似、变分法、数值计算方法、一些精确可解模型、微扰的费曼图展开理论等等)。课程将采用新的理论框架(路径积分和其相关计算技术)来描述量子现象, 从而为同学们进一步学习量子多体理论等后续课程打下扎实的理论基础。该课程将在突出清晰的物理概念的同时, 强调具体计算技能(包含解析和数值两方面), 并结合当前的研究实例来展开。

英文简介 (Course Description) :

The course provides a deeper understanding of general phenomena in systems that behave essentially quantum mechanically and practical introductions to methods used to describe the behavior.

The phenomena discussed include the nature of spectrum, quantum dynamics, scattering and tunneling. In addition to a survey of exactly solvable problems, a variety of approximations are introduced: from perturbation theory, semiclassical, variational to numerical simulation. General tools of the Green's functions and path integrals are also introduced and utilized.

-End-

课程号 (Course Number) : 00432216

课程名称 (Course Title) : 量子力学 (II)/Quantum Mechanics (II)

开课院系 (School/Department) : 物理学院/School of Physics

学分 (Credits) : 2

授课教师 (Faculty) : 钱志新

先修课程 (Prerequisites) : 量子力学 I

中文简介:

在量子力学 I 的基础上, 介绍He原子和多电子原子的基本理论, 主要讨论量子力学中的微扰理论和变分方法; Hartree 理论, Hartree-Fock 理论和Thomas-Fermi理论. 双原子分子、多原子分子的转动谱和振动谱. 价键理论的基本概念. 介绍量子力学中的Feynman 路径积分方法(以自由粒子和谐振子为例). 介绍WKB近似, Bohr 量子化条件, 势垒的隧穿. 量子力学里态的相

干态描述；介绍量子力学中的相位，包括Aharonov-Bohm 效应的实验观察；引力导致的量子力学相位效应；Berry 相和 Aharonov-Anandan 的介绍。讨论量子力学中的密度矩阵理论和 Wigner 函数的概念。

英文简介 (Course Description) :

This course is intended for senior undergraduate students or motivated junior undergraduate students in physics major or chemistry major who have completed the study of the one-semester course of quantum mechanics. The level is more advanced than the usual course of quantum mechanics. Several topics listed below will get discussed at a high level. The method of the perturbation theory and the variational theory in quantum mechanics will be presented at the beginning. Introductory materials to the study of the atom of helium and those with more than two electrons are then presented the next. The methods of Hartree theory, Hartree-Fock theory, and Thomas-Fermi theory are discussed; quantum mechanical many-body theory is presented but at the level of an introduction. The main topics further cover several other basics in the quantum chemistry, like the rotation and vibration of a diatom molecule and other small (and somehow simple) molecules. The path integral approach of Feynman to quantum mechanics is discussed. The course also include the subjects on the semi-classical methods such as WKB approximation; the application of them to bound states and scattering states is discussed. The final part of this course is devoted specifically to the topic on phases in quantum mechanics. After introducing the concept of phase in quantum mechanics, we discuss their effects in the Aharonov-Bohm experiments and other important experiments. On theoretical aspect, we introduce and discuss the concepts of the Berry phase and the Aharonov-Anandan phase. The theory of density matrix and the introduction to the Wigner function might also be presented in the course, though not always.

-End-

课程号 (Course Number) : 00437151

课程名称 (Course Title) : 物理学科暑期专题研讨/Selected Topics on Physics

开课院系 (School/Department) : 物理学院/School of Physics

学分 (Credits) : 2

授课教师 (Faculty) : 张华伟

先修课程 (Prerequisites) : 无

中文简介:

物理学院举办的物理学、大气与海洋科学、天文学、核科学与技术领域的暑期学校；授课时间超过34学时，记2学分。

英文简介 (Course Description) :

Selected Topics on Physics

-End-

课程号 (Course Number) : 00437170

课程名称 (Course Title) : 公共物理学/Physics for General Public

开课院系 (School/Department) : 物理学院/School of Physics

学分 (Credits) : 2

授课教师 (Faculty) : 王晓钢(校外)

先修课程 (Prerequisites) :

中文简介:

这是一门为大学文理科各专业开的通用物理课。

从Galileo到今天,经过几百年的发展,物理学已经是一门非常成熟的科学。其成果也在不同的科学、技术领域得到广泛的应用。但是物理学的思想、理论、和方法还没有成为国内高等普通教育的有机组成部分。为非物理类理工科专业开设的物理课程偏重于在该学科的具体应用,为文科各专业开设的物理课程也没有脱出大学物理学教材体系(如浙江大学盛正卯、叶高翔教授合编的国家精品课教材:《物理学与人类文明》)。

随着科学技术的日益发展,物理学及其成果对国家的发展、公众的日常生活的影 响越来越大,特别在能源、环境、全球气候变化、空间开发等等领域越来越得到公众的关注。Berkeley物理系的Muller教授为全校开设的课程《Physics for Future Presidents》的讲义出版之后,立即成为畅销书并被翻译成各种文字,说明了一门讲授公众所关心的物理学课程在普通高等教育中的重要性。当然这门课程的名称叫做《Physics for General Public》——《公共物理学》(或者《大众物理学》)更合适。(在准备这个申请的时候,日本的地震灾害引起的核泄漏事故引起了公众广泛的注意和不安,而很多所谓“专家”的意见显示不仅公众、而且很多科学工作者和工程技术人员对核科学和核安全的认识是非常混乱的。而介绍公众关心的重大问题这是这门课程的重要组成部分。)

这门课程是为具有高中毕业文化程度的大学各院系学生开的。不需要高深的数学工具,而是侧重于讲述物理学的思想和方法,以及用这些思想、方法和已经得到的结论去分析日常生活中公众所关心的问题,特别是安全、能源、环境等等重大问题。开课申请人曾尝试在国内一些大学开设针对本科生的相关讲座,感觉到在国内开设一门相似的课程很有必要。

初步考虑,课程由以下几部分组成:

首先介绍物理学的基本思想——即物理学家怎样“看”世界(第二章:物理世界的基本规律)和方法——即物理学家怎样“量”世界(第三章:物理世界的时空尺度),然后讲授如何利用物理学理论与方法分析客观世界(特别是人类社会)中一些基本过程(第四、五章:物理过程与社会过程),最后讨论公众关心的重大问题(第六章:公众关心的问题中的物理学)。

英文简介 (Course Description) :

This course is for undergraduate students with basic high school physics background. It can also open for general public with a high school education basis.

It focuses on methods and basic ideas of physics, as well as their applications to daily life problems of public, particularly security, energy sources, environment, and so on. The course will cover following subjects: how a physicist to view the world, how to measure it, basic theory and method of analyzing our world, basic processes in the world, etc.

-End-

课程号 (Course Number) : 01034391

课程名称 (Course Title) : 仪器分析原理与实验/Principle and experiments of Instrumental Analysis

开课院系 (School/Department) : 化学与分子工程学院/College of Chemistry and Molecular Engineering

学分 (Credits) : 4

授课教师 (Faculty) : 张新祥, 李美仙, 周颖琳, 吕占霞, 潘伟, 陈明星, 高珍, 黄军

先修课程 (Prerequisites) : 普通化学, 定量分析化学, 普通物理, 化学实验室安全技术

中文简介:

本课程将以分析化学特别是仪器分析化学的知识体系和思维方式培养为目标, 通过任务式实验内容的工作, 让学生对仪器分析基本知识内容框架、分析化学样品处理、分析化学数据处理及团队合作等方面进行积极参与, 达到了解分析化学特别是仪器分析的基本原理、基本方法和基本应用的了解, 完成仪器分析理论和实验同时进行的教学目标。

英文简介 (Course Description) :

The aim of this course is to cultivate the knowledge system and thinking mode of analytical chemistry, especially instrumental analysis. Through task-based experimental content, students will actively participate in the framework of basic knowledge of instrumental analysis, analytical chemistry sample processing, analytical chemistry data analysis, and team collaboration, achieving an understanding of the basic principles, methods, and applications of analytical chemistry, especially instrumental analysis, to achieve the teaching goal of conducting both instrumental analysis theory and experiments simultaneously.

-End-

课程号 (Course Number) : 01035280

课程名称 (Course Title) : 化工新概念/New concept of modern chemical industry

开课院系 (School/Department) : 化学与分子工程学院/College of Chemistry and Molecular Engineering

学分 (Credits) : 1

授课教师 (Faculty) : 马莲(校外)

先修课程 (Prerequisites) : 化学化工相关课程

中文简介:

本课程是授课老师根据自己二十多年在现代跨国公司工作的职业生涯及经验，以现代跨国公司为案例，介绍现代工业企业如何创新及可持续发展。并通过案例分析帮助同学们对现代国际化的化工行业及化工公司的发展理念，基本构架及运营有一个全面深入的了解！同时介绍现代化工行业与其他工业行业之间的相互关系以及化工行业未来的发展趋势。最后详细介绍现代人才所需的基本素质，求职和未来职业发展的设计与规划！

本课程希望能够帮助同学们及早明确自己的学习的目的和未来目标！帮助同学们更快地适应现代化机构的工作要求及节奏，更容易融入现代化的工作机构！从而帮助同学们更容易进入社会！并及早成为一名合格的对社会有贡献的现代化人才！

本课程以老师讲课，学生读书及小组讨论，学生演讲等多种形式同时进行。以期达到在学习的同时开阔学生的眼界，提高学生各方面的能力和见识！

英文简介 (Course Description) :

This course is based on personal experiences in chemical industry more than 20 years and take chemical industry as an example to

*Introduce the development and operation of modern chemical industry, in order to help student getting an insight of the industry branch.

*Introduce the basic requirement for an employee and their career develop pass with the modern industry, to help fresh graduate finding their way in the companies and developing themselves better! And to help them getting to the society easier!

-End-

课程号 (Course Number) : 01035430

课程名称 (Course Title) : 化学应用与实践/Application and Praticce of Chemistry

开课院系 (School/Department) : 化学与分子工程学院/College of Chemistry and Molecular Engineering

学分 (Credits) : 1

授课教师 (Faculty) : 王颖霞, 高珍

先修课程 (Prerequisites) : 无

中文简介:

本课程旨在提高学生的劳动素养，树立正确的观念，培养学生必要的劳动能力。

课程内容由反映化学学科特点的几个模块组合而成。学生可以自主选择并完成32个学时。各模块的实践内容循序渐进。学生必须完成所要求的基本任务和学时。然后，可以自主选择不同的任务或者进一步完成具有挑战性的工作以满足总学时要求。

该课程包括四个模块：化学应用、金工实践、社会服务和开放实践。

英文简介 (Course Description) :

This course aims to encourage the students to improve their labor literacy, to establish proper attitude to Labor and to develop necessary labor ability.

The content of the course is a combination of several modules which reflects the characteristics of the chemistry discipline. Students can choose independently and complete 32 credit hours. The practical content of each module is progressive and strengthened. Students must take the required basic tasks and credit hours. Then they can select different tasks to take a challenging work to complete the left hours. The course now includes four modules: chemical application, metalworking practice, social service, and open practice.

-End-

课程号 (Course Number) : 01130160

课程名称 (Course Title) : 细胞生物学实验/Cell Biology Lab.

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 1

授课教师 (Faculty) : 张泉, 辛广伟

先修课程 (Prerequisites) : 先修 “细胞生物学 “ 课程对理解实验中涉及到的细胞生命现象有帮助。

中文简介:

“细胞生物学实验”是面向本科生的实验基础课，课程的宗旨是通过几个代表性的实验，帮助学生掌握细胞生物学实验的基本原理和操作方法，直观观察多样的细胞及细胞生命活动，学会记录实验结果并分析。其中最核心的实验技术是显微成像技术，核心的生物学概念是“细胞结构与功能的多样性”及“细胞结构与功能相适应”。

英文简介 (Course Description) :

The purpose of Cell Biology Lab is to help undergraduate students to grasp the principles and methods of cell biological experiment and understand the functional and structural diversity of plant and animal cells. Our experiments focus on the ideas and the conventional methods for displaying nucleic acids, proteins, and metal ions within the cells. In particular, this lab course requires students to master basic skills in the use of the microscope and microscopic observation.

-End-

课程号 (Course Number) : 01130210

课程名称 (Course Title) : 遗传学实验/Genetics Lab

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 1

授课教师 (Faculty) : 辛广伟, 张泉

先修课程 (Prerequisites) : 遗传学, 分子生物学

中文简介:

本课程紧密配合遗传学课程而设置, 通过从实验设计和理念的讲授, 到实际的遗传实验操作, 加深对课堂讲授内容的理解, 拓展思维的空间。

我们的遗传学实验内容将细胞染色体水平、基因组水平, 功能基因组水平的实验有机的融合在一起。不仅包括经典的验证性实验, 而且引入了与科研密切相关的现代基因功能研究的实验。首先通过展示和讲授不同的模式动物(如果蝇、线虫和斑马鱼), 让学生认识到模式动物在遗传性研究中的重要性。通过染色体制备、观察和引入果蝇平衡染色体的使用, 让学生真正从实际使用的层面了解染色体是基因的载体, 认识基因是如何通过染色体传递遗传信息的。经典的正向遗传学验证性实验, 我们将通过一个杂交实验, 就可同时分析和验证遗传学的三大定律(基因的自由组合, 分离定律, 连锁定律)、伴性遗传, 同时分析基因间的遗传距离; 基因的互作则通过玉米的遗传实验实现。现代后基因组时代反向遗传学的实验, 则强调基因突变对研究基因功能的重要性, 通过功能丧失(loss of function)或者获得(gain of function)的基本策略实现基因突变后研究目的基因表型的目的, “Gal4/UAS系统(被称为果蝇遗传学研究的瑞士军刀)诱导癌基因在果蝇中异位表达”可以实现功能获得的目的, 而“利用Flp/FRT系统构建果蝇的Mosaic克隆(获得纯合突变克隆)”可以实现功能丧失的目的。同时传授这些系统的灵活和组合使用可以达到的不同目的, 进而让学生自己设计实验, 从而实现利用遗传性理念和工具在科学研究中研究基因功能的目的。

英文简介 (Course Description) :

This course focuses on the genetics Lab from concept to design and practical procedure, closely related to the theory course in order to deepen and extend the knowledge and dimension of thinking.

The content of this genetics Lab combined chromosome, molecular and functional experiments together, including classical genetic crosses and crosses of gene function used in modern scientific researches. Firstly, we introduce *C. elegans*, *Drosophila* and zebrafish as model animals to emphasize their importance and respective characters in the research of genetics. Then through the preparation and analysis of polytene chromosome, observation of chromosomes of different species and identification of phenotypes of balancers and mutants in fly, let students to know the genes on the chromosome and how the genetic message pass through chromosomes. We design a single cross in which the classical genetic laws of segregation, recombination, distance among genes and sexual linkage can be tested and verified at the same time. The complex network of interaction that give rise to multifactorial traits can be tested and analyzed by counting the number of different phenotypes of core kernels. For the gene functional research in the term of reverse genetics, we emphasize the significance of the mutation through the strategy of loss or gain of function. The ectopic expression of oncogene in fly eye using Gal4/UAS system (A Fly Geneticist's Swiss Army Knife) and making Mosaic clones by FLP/FRT system are our extended experiments to achieve the goal of gain or

loss of function. We also let students to design their own experiment using these versatile tools to study the function of genes. All these experiments are overlapped during the period of one semester.

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课程号 (Course Number) : 01130912

课程名称 (Course Title) : 南海海洋生态学野外实践/Marine Ecology Field Practice of South China Sea

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 李晟, 饶广远, 李大建, 顾红雅, 龙玉, 贺新强, 孟世勇, 王戎疆

先修课程 (Prerequisites) : 生物学综合野外实习 (或同类课程)

中文简介:

本课程面向生态学与演化生物学方向的2、3年级本科生, 借由海洋生态学中的具体实例课题使学生掌握生态学研究的基本方法和流程, 提升学生解决实际问题的科研实践能力和综合运用多学科知识的自主创新能力。课程实践地点在广西钦州三娘湾, 以广西北部湾潮间带、近岸、浅海的多类型生态系统为天然实验室, 以海洋生态学中的实例课题为载体, 引领学生深入了解南海热带海洋生态系统的物种组成、种间关系、物质循环、能级传递, 各类生态因子的作用及关系, 人类活动对生态系统的影响等, 并运用种群生态学、群落生态学及生态系统生态学的基本原理和研究方法解释现象、总结规律、提出并验证假设、解决生产实践中的具体问题。

英文简介 (Course Description) :

This is a field practice course for senior grade students in the major of ecology and evolution biology. The students will be organized to work on specific in situ cases of marine ecology topics using integrative research tools. The course will be taught at Sanniang Bay, Qinzhou, Guangxi, and use the intertidal and coastal areas of Beibu Bay as the study ecosystems. The students will learn knowledge of species composition, inter-specific relationship, energy flow and nutrient cycling etc. of the study systems, and gain insights into the ecological process and human-nature interactions of coastal South China Sea.

-End-

课程号 (Course Number) : 01132677

课程名称 (Course Title) : 分子生物学实验/Molecular Biology Experiments

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 1

授课教师 (Faculty) : 毕群, 刘旖璇

先修课程 (Prerequisites) : 分子生物学理论课, 学习实验课相关原理。微生物学理论课,

学习微生物操作的原理和方法。

中文简介：

本课程旨在培训学生分子生物学基本的实验方法和技术。在实验过程中使学生掌握基础分子生物学实验的基本原理和结果分析方法，并得到相应的实验技能和操作训练。课程主要包括以下几个部分：

1. 质粒DNA的分离纯化。
2. DNA的限制性内切酶消化。
3. DNA琼脂糖凝胶电泳。
4. 利用PCR技术扩增GFP基因。
5. Gibson assembly构建pET28a-EGFP表达载体。
6. 阳性克隆的筛选及外源基因在原核细胞中的诱导表达。
7. 唾液细胞总RNA提取及逆转录合成cDNA。
8. 夜猫子基因推定及表达检测。
9. 转录因子HetR的凝胶阻滞分析。

英文简介 (Course Description) :

The present course is an experimental teaching course opened for students majoring in biosciences. The technology commonly used in molecular biology will be taught in this course. Through several experiments, the students will not only learn the related technology, but also will realize how to use it in the practice of scientific research. This course includes following parts:

1. Extraction and purification of plasmid DNA.
2. Digestion of plasmid DNA with restriction endonucleases.
3. Agarose gel electrophoresis of DNA.
4. In vitro amplification of GFP gene by the polymerase chain reaction.
5. Construction of expression vector through Gibson assembly.
6. Identification of positive colonies and induction expression of foreign gene in prokaryotic cell.
7. Extraction of total RNA from salivary cells and its reverse transcription.
8. Detection of gene related to Delayed Sleep Phase Disorder (DSPD).
9. Electrophoretic mobility shift assay of transcription factor HetR.

-End-

课程号 (Course Number) : 01132679

课程名称 (Course Title) : 产业实习实践/Industry practice

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 3

授课教师 (Faculty) : 王世强, 唐平, 王黛芳

先修课程 (Prerequisites) : 无

中文简介:

本课程主要内容为，组织学生赴产业相关单位进行不少于4周的实习实践，并在实践前进行相关技能培训，实践后进行总结报告。目的是引导学生通过亲身实践深入了解产业运作模式和发展方向，树立个人职业发展目标，进而合理规划学业和职业生涯。

英文简介 (Course Description) :

The main content of this course is to organize students to go to industry enterprises for at least four weeks of practice. Students should be trained in relevant skills before practice. After practice, students need to make a summary report. Through summer internship in enterprises, this course will guide students to deeply understand the operation mode and development direction of enterprises. Through personal practice, students will establish personal career development goals, and then rationally plan their academic and career.

-End-

课程号 (Course Number) : 01132685

课程名称 (Course Title) : 衰老生物学/Biology of aging

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 陶伟

先修课程 (Prerequisites) : 具备基本的细胞生物学和遗传学的基本知识。

中文简介:

随着我国以及世界许多发达国家人口进入老龄社会，衰老成为对社会和发展有着重大影响的学科。衰老和健康老年也成为当前的热门话题和研究领域。本课程讲授衰老发生的基本原理和当前的主要理论，着眼于介绍与人类生活和健康密切相关的衰老知识，揭示衰老与社会普遍关注的癌症，神经退行性疾病以及心血管疾病等诸多衰老相关疾病发生的科学关系，介绍当前衰老科学的重大进展及其对当前人类社会及未来的深远影响，阐述当前潜在的抗衰老途径方法和现实意义，以及抗衰老面临的机遇和挑战。

英文简介 (Course Description) :

With the population of our country and many developed countries entering the aging society, aging has become a subject that has a significant impact on society and development. Aging and healthy aging have become hot topics and research fields. This course introduces the basic principles and current main theories of aging, focuses on the introduction of aging knowledge closely related to human life and health, reveals the scientific relationship between aging and many aging related diseases, such as cancer, neurodegenerative diseases and cardiovascular diseases, which are generally concerned by the society, and introduces the major progress of current aging science and its depth to the current human society and the future Far influence, expound the

current potential anti-aging methods and practical significance, as well as the opportunities and challenges of anti-aging.

-End-

课程号 (Course Number) : 01133036

课程名称 (Course Title) : 生命的逻辑/The logic of life

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 白书农

先修课程 (Prerequisites) : 无

中文简介:

2021修改版:

《生命的逻辑》课程从2016年试开至今,已经开讲5年了。在2018年发布过一版课程介绍。该版介绍概括了2016、2017两年期间的课程内容,也介绍了选课同学的反馈。在之后三年,尤其是新冠疫情造成的影响,授课教师对“生命的逻辑”有了更深多的思考。加上2020年新冠疫情所致的居家工作,让授课教师有机会把之前几年授课内容整理成文。这些思考和写作,都使得本课程的内容和授课方式需要做出一些调整。另外,在过去5年授课过程中,注意到大部分同学很难有阅读课程推荐的参考书和文献的时间,好在从2019年至今,授课教师有幸获得一些演讲和专栏写作的机会,对本课程的内容做过一些概述。可以为有意向选修本课程的同学了解课程内容提供一些参考。

另外,本课程有一个特别的要求,即在开课第一天提交一份课前论文《我理解的生命》。概述一下自己目前理解的生命。篇幅在2页A4纸。请选课的同学做好准备。

2018版:

都说要珍惜生命。可是生命是什么?很多学者都认为他们在解读生命甚至“规定”生命。可是如果我们了解生命是在 10^9 次方(10亿)年的时间尺度中出现的自然现象,而人类有记录的历史不过是 10^3 次方(千)年的时间尺度上才发生的故事,会不会觉得号称自己或者自己研究的学科在“规定”生命的人在什么地方有点儿不对劲儿?

现在社会上,起码在我们的校园中,承认我们人类是生命体的人恐怕不多了。可是谁能说清楚“生命”究竟是什么?人们以为或者期待生物学家会给出标准答案,可是生物学家口中陌生而拗口的术语,他们演讲的幻灯片中令人眼花缭乱的符号,常常让绝大多数不以生物研究为业的人敬而远之。可是,树欲静而风不止。伴随对生命科学敬而远之的,却往往是对日新月异而且难以理解的新发现所带来的各种传言的困惑和面对变幻莫测生存环境的焦虑。生命科学发展得越迅猛,似乎离大众的距离也越远。研究者和大众之间在生命认知上越来越大的鸿沟该由谁来填补呢?

面对超越“摩尔定律”速率增加的生命科学研究领域的庞大信息，指望让大众按照专业生物教育的模式来了解生命显然是不现实的。可是，无论从社会还是从生命科学自身可持续健康发展的角度，又都不得不设法让更多的社会成员了解生命的本质和基本规律，从而在生活中遵循生命的规律而构建和谐的生活。毕加索当年受远古洞穴岩画启发而把毛发必现的写实的牛画成线条勾勒的抽象的牛，似乎为解决上述困境提供了一个值得尝试的途径：以抽象的方式，从海量信息中抽象出核心要素。看他寥寥几笔，大概没有几个成年人不会马上分辨出大师画的是“牛”而不是别的什么动物。以帮助受众思考生命本质、理解生命规律为目的，生命科学学院白书农教授根据其多年研究工作中形成的对生命的理解和感悟，设计了《生命的逻辑》课程，作为供全校同学（不分专业、不分年级）选修的通选课，和大家一起探讨我们每个人都无法回避的“生命”的本质及其规律问题。

本课程设计为暑假小学期小班课（限25人）。32个学时，2个学分。授课、讲座、结合讨论。主要围绕与大家日常生活密切相关的问题介绍与生命有关的基本知识及其内在联系。根据出席与讨论参与程度（10%）和两篇论文（每篇2000字左右的）以及两次讲座的心得（论文与心得共占90%）三方面来计成绩。两篇论文都是以“你理解的生命”主题，总结自己对“生命”的理解。在课程的开始和结束时各提交一篇。论文目的在于帮助选课者了解自己随课程进程对“生命”现象理解的变化。论文将根据论点是A明确、论证是A有依据（是A有参考文献以及对参考文献引用的规范性）及论证的合理性等三方面予以评分。

特别值得介绍的是，本课程的讲座部分，将由两位美国著名大学的教授承担。一位是美国芝加哥大学的演化生物学教授龙漫远。他是国际上新基因起源研究的开创者和引领者。他将为本课程讲授生物演化的基本原理。另一位是位于美国西雅图的华盛顿大学的应用数学教授钱紘。他以数学的家学积淀，遍历天体物理、生物化学、蛋白质结构计算，最后在应用数学领域，用数学的方法，描述纷繁复杂的生命过程，从中发掘出简明美妙的基本规律。他将为本课程讲授能A以及如何用定量科学的逻辑来解释生命系统的内在规律。

英文简介 (Course Description) :

My independent scientific career started from an attempt to decipher genetic program of organ formation, using stamen as an experimental system. This effort led to a scenario that a stamen is a node of three cycles: cell cycle, sexual reproduction cycle and life cycle, functioning as a turning point linking multicellular structures and unicellular sexual reproduction cycle.

The rationale of choosing decipher genetic program of organ formation as a research interest could be traced back to my postdoc era in UC Berkeley with Renee Sung. Through a project characterizing an Arabidopsis mutant “embryonic flower” in Renee’s lab, I firstly faced a challenge on which the “vegetative” or “reproductive” phase is “default”, whether a plant has a developmental program, in comparison with animal individual, and if a plant has, when is its starting and ending point. To answer these questions, I proposed a new concept called “plant developmental unit (PDU)” in 1993 (Bai 1999; Bai and Xu 2013). This concept contains three aspects: 1) a plant should have a determined genetic program otherwise no “generation” could be identified. Such a determined genetic program starts from a zygote and ends at two different types of

gametes; 2) while unlimited number of organs can be generated by a shoot tip (e.g. the shoot apical meristem in angiosperms), the organ types are limited. Therefore, all organ types, if we ignore the number and imagine one pair of organs each type, generated from one shoot tip (using Arabidopsis as an example, including cotyledon, rosette leaf, cauline leaf, sepal, petal, stamen and carpel) consists a PDU ; 3) a plant that people usually considered as an individual is essentially not an individual comparable to an animal, such as a worm, a fly and a human, which carries out the genetic program, but a colony comparable to coral, consisting of unlimited number of partial PDU. This concept is essentially the elaboration of ideas proposed by the founder fathers of modern botany, i.e. Grew and Malpigi back to 17th century, carried out by Waddington in 1960s' and should be revived in the future.

Based on the conceptual framework of PDU, I used to divide plant developmental program as three subprograms: vertical, controlling sequential emergence of organ types; horizontal, controlling organ formation of each type from a group of undifferentiated cells to an organ with particular shape, structure and function; and environmental response. The first is too difficult to experimentally pursue and the third one is developed so well and I have no idea to make the progress any better. So I chose the second. I chose stamen as my experimental system not only because of its conservation in shape and function, but because of its application potential in artificial male sterility used for heterosis in crop improvement.

Taken together, a set of principles emerged that governs plant morphogenesis or development although numerous variations can be added in for each species. These principles could be summarized as “plant morphogenesis 123”. ONE means one start point, i.e. SRC. TWO means two themes, i.e. structure building (through “neo-modularization) and environment responding (through two driving forces, i.e. photoautotroph and stresses responses). THREE means three sequential steps to complete a single “ring” :

1. photoautotrophism driving an increase in surface area for photosynthesis and away from the unicellularity of the SRC;
2. the increased external and internal stress that accompanies the increase in the surface area available for photosynthesis;
3. this increase in stress driving a reduction in the surface area available for photosynthesis and compelling the morphogenesis back toward the unicellularity of the SRC.

-End-

课程号 (Course Number) : 01134110

课程名称 (Course Title) : 生态学野外实践/Field Practice of Forest and Wildlife Ecology

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 王戎疆, 贺新强

先修课程 (Prerequisites) : 普通生态学, 生物学野外实习

中文简介:

生态学是研究生物与生物之间以及生物与环境之间关系的学科。生态学研究多在野外环境中开展, 有其特殊的研究方法和实施过程, 而这是无法通过一般课堂教学所能学习和体会的。本课程将把有一定生物学基础知识的本科生带到自然保护区等野外环境, 主要在四川省岷山北部, 以平武县王朗国家级自然保护区为核心基地, 并涵盖周边位于唐家河国家级自然保护区、九寨沟国家级自然保护区、老河沟自然保护区内的若干野外站点。通过让学生参与野外生态学研究项目, 学习野外生态学研究的基本过程和研究方法。通过本课程的学习, 学生将加深对生态学基本概念的理解, 了解生态学野外研究的基本过程和操作方法, 从而掌握实验设计、数据获取以及数据分析等基本方法, 培养学生基本的野外调查与科研能力, 为将来从事动物学、植物学、保护生物学和生态学野外研究奠定基础。

英文简介 (Course Description) :

Ecology is focused on the relationship between organism and environment and between organisms. Being conducted in wild environment, ecological researches possess specific methods and protocols, which could not be learned in common courses. In this course, the students with general knowledge of ecology will be brought into the wild environment such as nature reserves. They will take part in the ongoing projects of forest and wildlife ecological researches, from which they will learn the conventional and advanced methods in ecological researches. Through studying the course, the students will improve the understanding of general ecological concepts, and learn the methods of designing experiments, inquiring data, and analyzing data, which will confer the basis for ecological field research in future.

-End-

课程号 (Course Number) : 01134140

课程名称 (Course Title) : 生物学综合野外实习/Field Practice of Biology

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 王戎疆, 李晟, 饶广远, 李大建, 顾红雅, 龙玉, 贺新强, 孟世勇

先修课程 (Prerequisites) : 植物生物学, 动物生物学

中文简介:

生物学野外实习是生物类本科生重要的学习内容和基本的教学训练, 是同学们了解生物多样性及其与环境相互关系的重要环节, 它不仅是对动物生物学、植物生物学和其它生物学课程课堂知识和室内实验内容的必要补充, 而且具有独特的形式、内容和效果。内容包括不同生境下植

物的主要类群的识别，陆生植物和海洋潮间带藻类识别、标本的采集和保存方法，陆生动物（主要是昆虫）和海洋潮间带动物主要类群的识别，啮齿类动物种群调查、鸟类环志和动物行为观察和动物标本的采集和制作方法。通过野外实习培养学生自主发现问题、解决问题的能力，激发同学们探索自然奥秘的愿望，进而从内心热爱自然，热爱生命科学。此外，野外实习还是培养同学之间互助、团结和合作精神的课堂。

英文简介 (Course Description) :

Field Practice of Biology is focused on plants, animals, their relationships and relationships between environment and organisms. In this course, the students will learn the basic identification of plants and animals, ecological methods to study the plant and animal life in the wild environment such as natural reserves. Through studying the course, the students will improve the understanding of general biological concepts, and learn the methods of designing experiments, inquiring data, and analyzing data, which will confer the basis for biological study in future.

-End-

课程号 (Course Number) : 01134140

课程名称 (Course Title) : 生物学综合野外实习/Field Practice of Biology

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 顾红雅, 饶广远, 贺新强, 李大建, 王戎疆, 龙玉, 孟世勇, 李晟

先修课程 (Prerequisites) : 植物生物学, 动物生物学

中文简介:

生物学野外实习是生物类本科生重要的学习内容和基本的教学训练，是同学们了解生物多样性及其与环境相互关系的重要环节，它不仅是对动物生物学、植物生物学和其它生物学课程课堂知识和室内实验内容的必要补充，而且具有独特的形式、内容和效果。内容包括不同生境下植物的主要类群的识别，陆生植物和海洋潮间带藻类识别、标本的采集和保存方法，陆生动物（主要是昆虫）和海洋潮间带动物主要类群的识别，啮齿类动物种群调查、鸟类环志和动物行为观察和动物标本的采集和制作方法。通过野外实习培养学生自主发现问题、解决问题的能力，激发同学们探索自然奥秘的愿望，进而从内心热爱自然，热爱生命科学。此外，野外实习还是培养同学之间互助、团结和合作精神的课堂。

英文简介 (Course Description) :

Field Practice of Biology is focused on plants, animals, their relationships and relationships between environment and organisms. In this course, the students will learn the basic identification of plants and animals, ecological methods to study the plant and animal life in the wild environment such as natural reserves. Through studying the course, the students will improve the understanding of general biological concepts, and learn the methods of designing experiments, inquiring data, and analyzing data, which will confer the basis for biological study in future.

-End-

课程号 (Course Number) : 01134140

课程名称 (Course Title) : 生物学综合野外实习/Field Practice of Biology

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 顾红雅, 饶广远, 贺新强, 李大建, 王戎疆, 龙玉, 孟世勇, 李晟

先修课程 (Prerequisites) : 植物生物学, 动物生物学

中文简介:

生物学野外实习是生物类本科生重要的学习内容和基本的教学训练, 是同学们了解生物多样性及其与环境相互关系的重要环节, 它不仅是对动物生物学、植物生物学和其它生物学课程课堂知识和室内实验内容的必要补充, 而且具有独特的形式、内容和效果。内容包括不同生境下植物的主要类群的识别, 陆生植物和海洋潮间带藻类识别、标本的采集和保存方法, 陆生动物 (主要是昆虫) 和海洋潮间带动物主要类群的识别, 啮齿类动物种群调查、鸟类环志和动物行为观察和动物标本的采集和制作方法。通过野外实习培养学生自主发现问题、解决问题的能力, 激发同学们探索自然奥秘的愿望, 进而从内心热爱自然, 热爱生命科学。此外, 野外实习还是培养同学之间互助、团结和合作精神的课堂。

英文简介 (Course Description) :

Field Practice of Biology is focused on plants, animals, their relationships and relationships between environment and organisms. In this course, the students will learn the basic identification of plants and animals, ecological methods to study the plant and animal life in the wild environment such as natural reserves. Through studying the course, the students will improve the understanding of general biological concepts, and learn the methods of designing experiments, inquiring data, and analyzing data, which will confer the basis for biological study in future.

-End-

课程号 (Course Number) : 01138495

课程名称 (Course Title): 生命科学前沿实验模块课/Cutting Edge Laboratory Research Module in Life Sciences

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 王青松, 焦雨铃, 王东辉, 贺新强, 王晓静

先修课程 (Prerequisites) : 普通生物学实验、生物化学实验、分子生物学实验

中文简介:

生命科学前沿实验模块课是一门以本科生自主探究为中心的生命科学创新实验课程。本课程由多位PI导师主持设计，将前沿的生物学科学问题和实验方法设计为适合本科生科研训练的创新实验课题。学生在PI导师与实验教学中心老师共同指导下，将所学专业知识和技能综合应用于开放性的生物学创新实验课题，接受全面的科学训练过程，培养提升学生的文献查阅、实验设计与实验操作、科学沟通与写作等综合科研能力，使学生得到充分的科研思维、科研技能与自主科研能力的训练。

英文简介 (Course Description) :

Cutting Edge Laboratory Research Module in Life Sciences is an innovative laboratory course in life sciences aimed at undergraduate independent inquiry. Designed and led by multiple PI (Principal Investigator) mentors, this course translates cutting-edge biological scientific problems and experimental methods into innovative experimental projects suitable for undergraduate research training. Under the joint direction of PI mentors and teachers from the experimental teaching center, students integrate their professional knowledge and skills to tackle open-ended biological research projects, undergoing a comprehensive scientific training process. The course aims to foster and enhance students' comprehensive scientific research capabilities, including literature review, experimental design and operation, as well as scientific communication and writing, thus providing students with thorough training in scientific thinking, research skills, and independent research abilities.

-End-

课程号 (Course Number) : 01138495

课程名称 (Course Title): 生命科学前沿实验模块课/Cutting Edge Laboratory Research Module in Life Sciences

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 贺新强, 梁希同, 李美琪, 辛广伟, 周辰

先修课程 (Prerequisites) : 普通生物学实验、生物化学实验、分子生物学实验

中文简介:

生命科学前沿实验模块课是一门以本科生自主探究为中心的生命科学创新实验课程。本课程由多位PI导师主持设计，将前沿的生物学科学问题和实验方法设计为适合本科生科研训练的创新实验课题。学生在PI导师与实验教学中心老师共同指导下，将所学专业知识和技能综合应用于开放性的生物学创新实验课题，接受全面的科学训练过程，培养提升学生的文献查阅、实验设计与实验操作、科学沟通与写作等综合科研能力，使学生得到充分的科研思维、科研技能与自主科研能力的训练。

英文简介 (Course Description) :

Cutting Edge Laboratory Research Module in Life Sciences is an innovative laboratory

course in life sciences aimed at undergraduate independent inquiry. Designed and led by multiple PI (Principal Investigator) mentors, this course translates cutting-edge biological scientific problems and experimental methods into innovative experimental projects suitable for undergraduate research training. Under the joint direction of PI mentors and teachers from the experimental teaching center, students integrate their professional knowledge and skills to tackle open-ended biological research projects, undergoing a comprehensive scientific training process. The course aims to foster and enhance students' comprehensive scientific research capabilities, including literature review, experimental design and operation, as well as scientific communication and writing, thus providing students with thorough training in scientific thinking, research skills, and independent research abilities.

-End-

课程号 (Course Number) : 01139385

课程名称 (Course Title) : 生物信息产业实践/Practice in the Bioinformatics Industry

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 刘凤麟, 李程, 刘超

先修课程 (Prerequisites) : 无

中文简介:

本课程是一门旨在将理论知识与产业实践紧密结合的综合性课程。通过本课程的学习, 学生将了解生物信息学相关企业的运作机制、发展动态以及技术应用, 掌握产业实践的基本方法和技能。

通过案例分析、实地考察和项目实践等多种教学方式, 学生将有机会了解产业的前沿技术和市场趋势, 培养解决实际问题的能力。此外, 课程还将注重培养学生的团队协作和创新精神。通过小组讨论、团队项目等形式, 学生将学会与他人合作, 共同解决实践中遇到的问题, 培养创新思维和实践能力。

通过本课程的学习, 学生将加深对生物信息学相关产业的理解, 提升自己在产业实践中的竞争力, 为未来的职业发展奠定坚实的基础。

英文简介 (Course Description) :

This comprehensive course aims to tightly integrate theoretical knowledge with industrial practice. Through studying this course, students will gain an understanding of the operational mechanisms, development trends, and technological applications of enterprises, and master the basic methods and skills of industrial practice.

Utilizing various teaching methods such as case studies, field trips, and project practices, students will have the opportunity to learn about cutting-edge industrial technologies and market trends, and cultivate their ability to solve practical problems. Additionally, the course will emphasize fostering students' team collaboration and

innovative spirit. Through group discussions, team projects, and other formats, students will learn to collaborate with others, jointly solve problems encountered in practice, and cultivate innovative thinking and practical abilities.

Through studying this course, students will deepen their understanding of the bioinformatics-related industry, enhance their competitiveness in industrial practice, and lay a solid foundation for their future career development.

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课程号 (Course Number) : 01139632

课程名称 (Course Title) : 生物化学实验/Biochemistry Lab

开课院系 (School/Department) : 生命科学学院/College of Life Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 王青松, 刘旖璇, 刘凤麟, 秦咏梅

先修课程 (Prerequisites) : 生物化学

中文简介:

生物化学实验属于主干基础课,是与生物化学理论课配套的基础实验课程,该课程面向生命科学学院全体本科生,元培学院、化学与分子工程学院及其他学院部分本科生,双学位或辅修本科生,每学年学生约100余人。课程内容包括生物大分子的分离纯化、定量测定及性质鉴定,涉及的实验技术有生物大分子的制备技术、光谱分析技术、层析分离分析技术、电泳技术以及超速离心技术等。学生学习使用的生化仪器有离心机、可调式移液器、蛋白质电泳装置、蛋白质半干转印仪、蛋白-核酸检测仪及记录仪、分光光度计、酶标仪等。随着生物化学理论和实验技术的不断发展,教学内容也不断更新,增加新技术,增开新实验,教学内容以每学期教学大纲为准。

英文简介 (Course Description) :

Biochemistry experiment is a major course associating with the theory study of biochemistry, which is intended to improve the basic experiment skills of undergraduate. This course is designed for all undergraduates at School of Life Sciences in Peking University and also available for undergraduates at Yuanpei College, College of Chemistry and Molecular Engineering and others, as well as dual degree or minor students. More than 100 students are involved in this course each academic year. Separation, purification, quantification, and identification of biological macromolecules are the main contents of this course. Experiment skills including preparation of biomolecules, spectrum analysis, chromatography, electrophoresis, ultracentrifugation etc. will be taught in this course. Students will learn to use instruments such as centrifuge, pipette, protein electrophoresis and semi-dry tran-sblot apparatus, protein and nucleic acid detector and recorder, spectrophotometer, microplate reader, and so on. With the development of biochemical theory and experimental technology, new technologies and experiments are constantly provided in the course. Details of teaching contents are

showed in syllabus each semester.

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课程号 (Course Number) : 01230450

课程名称 (Course Title) : 虚拟现实内容创作/Virtual Reality Content Creation

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 陈斌

先修课程 (Prerequisites) : 本课面向全校文理科学生，无先修课程。

中文简介:

以虚拟现实、增强现实及模拟仿真为内容的虚拟仿真技术，成为近年创新技术热点，2016年被称为VR（虚拟现实）元年，各种VR硬件和系统爆发式集中亮相，虚拟现实将在未来5到10年间颠覆众多行业。虚拟仿真可以应用到学术科研、教育培训、休闲旅游、城市规划、安防应急等众多涉及国计民生的领域。

本课程是公选课《虚拟仿真创新应用与实践》的平行延伸课程，介绍各种类别虚拟现实内容，并重点加强实践教学环节，讲授虚拟现实内容创作特点、工具平台和开发实践，提升学生的创新能力、实践能力和就业能力。

英文简介 (Course Description) :

Virtual simulation technology based on virtual reality, augmented reality, and simulation has become a hot spot in innovation in recent years. It is known as VR (Virtual Reality) in 2016. VR hardware and systems are exploited in a variety of places, and virtual reality will destabilize a wide range of industries in the next 5 to 10 years. Virtual simulations can be applied to academic research, educational training, leisure tourism, urban planning, security emergencies, and many other areas involving national economy and people's livelihood.

This course is a parallel extension of the public-selected course "Application and Practice of Virtual Simulation Innovation", introducing various types of virtual reality content, and focusing on strengthening the practice teaching process to teach the features of virtual reality content creation, tool platforms, and development practices to enhance students' innovation, practice, and employment capabilities.

-End-

课程号 (Course Number) : 01230470

课程名称 (Course Title) : 北斗系统与时空智能/BDS-based Spatiotemporal Intelligence

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 陈秀万

先修课程 (Prerequisites) : 不需要先修课程。

中文简介:

北斗系统是中国自主卫星导航系统，与美国GPS、俄罗斯GLONASS和欧洲Galileo并称世界四大全球导航卫星系统 (Global Navigation Satellite System, GNSS)。北斗三号基本系统已于2018年底建成并开始提供全球基本服务，2020年7月完成全球系统建设并正式提供服务。时空智能和视觉智能、声音智能一样，属于人工智能的一部分。精准时空服务——动态厘米级静态毫米级的高精度定位服务和纳秒级授时服务，已经成为人工智能感知外在所需的基础信息之一。“北斗系统与时空智能”属于二十世纪七十年代以来被称为世界三大尖端技术（空间技术、能源技术、人工智能）之“空间技术”与“人工智能”的交叉领域。

本课程结合北斗时空智能应用创新和全国大学生创新创业实践相关项目的实施，以及北京大学“导航与位置服务”学科建设，基于“北斗杯”全国青少年科技创新大赛（教育部科技司、共青团中央学校部、中国科协青少年科技中心和中国卫星导航系统管理办公室于2010年联合发起）项目十余年来累积的大中学生科技创新成果及孵化经验，面向大学生和社会公众，介绍北斗卫星导航与时空智能的基本概念、发展历史、关键技术、典型应用和对创新型国家建设的深远影响，展示北斗系统的应用发展前景，为大学生和社会公众提供一个全面了解北斗系统与时空智能的平台。

本课程依托北京大学全球大学生创新创业中心、地球观测与导航教育部工程研究中心、中欧卫星导航技术培训合作中心等平台，突出跨学科综合优势，加强与教育部卫星导航联合研究中心（应用技术研究分中心）21所成员高校和“北斗翱翔”青少年科技创新教育计划的专家团队、科技教师、企业高管、行业主管人员等的合作，探索将北斗时空智能技术的原理、应用和前景融入基础自然科学和社会人文科学中，培养、激发青少年开展北斗时空智能创新创业的兴趣、热情。

本课程将邀请政、产、学、研、用、资领域专家担任课程讲师和创业导师，通过讲座、考察、观摩、实训、挑战赛等形式，展现科学、技术、工程和商业等各个领域的专家对北斗时空智能技术的理解和创新创业体会。课程注重创新创业实践，以创新创业项目组为培养单元，选择若干个独具创意和产业化前景的时空智能应用领域（兼容芯片与智能终端、泛在定位与位置服务、导遥融合与时空云平台、车联网与智慧交通、安防监管与智慧应急、智能农机与智慧农商、航空导航与生命救援、船联网与智慧海洋、通导融合与智慧康养、时空智能与智慧城市、时空智能产教融合创新等）。优先支持“北斗杯”全国青少年科技创新大赛与“北斗之星”创新创业大赛丝路国际挑战赛获奖项目和双创孵化机构（创投基金）有资助意愿的项目，由双创“三师”（科技教师、科学大师、创业导师）对各项目团队进行针对性指导、训练，并通过挑战赛、项目路演、中外双创资源渠道对接等形式，推动双创团队和创投机构的成果转化与企业孵化合作。

英文简介 (Course Description) :

BeiDou Navigation Satellite System (BDS) is one of the four space-based Global Navigation Satellite Systems (GNSS), along with US's GPS, Russia's GLONASS, and the Europe Union's Galileo. The China homegrown BDS system started to provide global initial service at the end of 2018 and global full operation service at the end of July 2020. Spatiotemporal intelligence, like visual intelligence and acoustic intelligence, belongs to part of artificial intelligence (AI). Precision space-time service has become one of the basic sensed information needed by AI. BDS/GNSS-based Spatiotemporal Intelligence (BDSI) belongs to the intersection field of space technology and artificial

intelligence which, along with energy technology, have been called the world's three most advanced technologies since 1970s.

This course is aimed to integrate the incubation experience for and innovation achievements from participants of the BeiDou Cup China Adolescents Science & Technology Innovation Contest (BD-CASTIC) initiated by Science and Technology Department of the Ministry of Education with related organizations in 2010, and the navigation and location-based service (NLS) discipline initiated by Peking University, so as to provide innovation and entrepreneurship training for college students and other youngsters. The contents of the course include the introductions of basic concepts, development history, key technologies and typical applications of BDSI, and its far-reaching impact on the innovative country construction, and provide a platform for pioneers to fully understand BDS system and spatiotemporal intelligence.

Relying on Peking University Center for Innovation and Entrepreneurship of Global College Students, Engineering Research Center of Earth Observation and Navigation of the Ministry of Education, China-Europe Satellite Navigation Technology Training and Cooperation Center etc., this course strengthens the interdisciplinary advantages and cooperation among the 21 member universities of Joint Center of GNSS of the Ministry of Education, and the organizers and experts of BDSHare Youth Science and Technology Innovation Education Program. Through the co-innovation among team experts, science and technology teachers, and enterprise executives, we wish to explore the principles, applications and prospects of BDSI technology into various natural sciences and social sciences, and cultivate and stimulate the interest and enthusiasm of young people in BDSI innovation and entrepreneurship.

Experts from governmental sectors, universities, institutions, application and investment organizations will be invited to serve as lecturers and entrepreneurship mentors. Through lectures, field surveys, project roadshow, training and challenge competitions, participants will share understanding of BDSI and their innovative and entrepreneurial experience with experts in various fields. The course focuses on the practice of innovation and entrepreneurship, with project team as the training unit. Each team chooses one of the BDSI application fields with unique creativity and industrialization prospects, with incubating support prior to the BD-CASTIC and BDStars (SilkRoad) Innovation and Entrepreneurship Competition award winning projects and those with funding intention from innovation and entrepreneurship incubators. Outstanding science and technology teachers, scientific experts and venture mentors will jointly provide targeted guidance and training to the project teams, so as to strongly promote the cooperation between the team and venture capitalists in achievements incubating and technology transfer.

-End-

课程号 (Course Number) : 01231640

课程名称 (Course Title) : 普通地质实习A/Introduction to Field Geology

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences
学分 (Credits) : 2

授课教师 (Faculty) : 张志诚

先修课程 (Prerequisites) : 《地球科学概论 (二) 》

中文简介:

本次野外教学实习对地球与空间科学学院地质和地球化学专业一年级学生来说是一次地质启蒙教育, 是一次重要的认识实习, 重点强调地质基本概念、基本知识和基本技能训练。通过短期的野外实践使同学们对地质学研究的主要内容和特点有一个比较全面的、概括的了解; 通过野外实习来巩固《地球科学概论》地质学部分的课堂教学内容, 来加深对课程有关内容的理解; 在实习中学习象地质点定点和描述, 罗盘和地形图的使用等地质工作最基本的野外工作方法; 认识基本的地质体和地质现象、学会描述这些地质体和地质现象、分析它们形成的地质作用过程、综合分析北京地区的地质作用过程、了解北京地区地质演化历史、编制简单的实习报告。通过实习培养同学们对大自然的热爱, 陶冶情操, 提高对地质科学研究的兴趣; 同时使同学们充分认识到地质实践对于地质科学的重要性。

英文简介 (Course Description) :

Introduction to Field Geology is the basic experience in many undergraduate geology programs, and is recommended for freshmen of the School of Earth and Space Sciences, Peking University. It is usually taken in the summer following the freshmen year, after completion of An Outline of Earth Sciences. In this course, you will have the opportunity make an all-important transition from classroom theory to real-world understanding. You will begin to be able to acquire an understanding of the fundamentals of the science of geology by learning it and doing it, to evaluate how field data are used to construct the knowledge we have about the Earth and its long geologic history. This course is designed to acquaint you with generic field skills used in geology and related fields and apply these fundamental principles, which can be used in a wide variety of applications. You will learn how to develop skills in surveying and measurement, use outcrop observations and measurements to deduce regional interpretations, produce professional-quality geological stratigraphic sections, interpret geologic history from rock descriptions, geologic relationships, and measured sections, identify common rocks and minerals, read maps, recognize identify landforms, and geological processes and structures. Now that you can combine all of your knowledge and skills to investigate and interpret the geology of the West Hill of Beijing based on your own observations, and write a summary report interpreting the geologic history and significance of the area. You can gain additional life skills, including critical-thinking, problem-solving, team-work, scientific writing, and professionalism. You may be get an appreciation for the complexity and beauty of the Earth as well as the human impact on her processes during the field practice. You will find your study of the science of geology to be stimulating and rewarding, fully understand the importance of geological field trips of Earth Sciences.

-End-

课程号 (Course Number) : 01231641

课程名称 (Course Title) : 普通地质实习A讨论班/Seminar on field geology

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 张志诚

先修课程 (Prerequisites) : 无

中文简介:

普通地质野外教学实习对地球与空间科学学院地质和地球化学专业一年级学生来说是一次地质启蒙教育, 是一次重要的认识实习。除了老师的讲解和指导外, 通过讨论课的形式, 促使每位同学认真思考地质体和地质现象的地质作用过程, 培养同学们独立思考的能力, 努力使学生通过野外实习获得最好的学习和成长体验; 不单纯强调知识和技能的传授, 更加重视激励学生的好奇/自信/激情的内在发展动力与综合素质能力的培养。

英文简介 (Course Description) :

Introduction to Field Geology is the basic experience in many undergraduate geology programs, and is recommended for freshmen of the School of Earth and Space Sciences, Peking University. Except for the teacher's explanation and guidance, through the form of discussion seminar, each student is urged to seriously think about the geological process of geological data, cultivate the students' ability of independent thinking, and strive to make the students obtain the best learning and growth experience through field geology. It does not simply emphasize the knowledge and skills, but pays more attention to the internal development driving force of stimulating students' curiosity / confidence / passion and the cultivation of comprehensive quality and ability.

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课程号 (Course Number) : 01231641

课程名称 (Course Title) : 普通地质实习A讨论班/Seminar on field geology

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 黄宝春

先修课程 (Prerequisites) : 无

中文简介:

普通地质野外教学实习对地球与空间科学学院地质和地球化学专业一年级学生来说是一次地质启蒙教育, 是一次重要的认识实习。除了老师的讲解和指导外, 通过讨论课的形式, 促使每位同学认真思考地质体和地质现象的地质作用过程, 培养同学们独立思考的能力, 努力使学生通

过野外实习获得最好的学习和成长体验；不单纯强调知识和技能的传授，更加重视激励学生的好奇/自信/激情的内在发展动力与综合素质能力的培养。

英文简介 (Course Description) :

Introduction to Field Geology is the basic experience in many undergraduate geology programs, and is recommended for freshmen of the School of Earth and Space Sciences, Peking University. Except for the teacher's explanation and guidance, through the form of discussion seminar, each student is urged to seriously think about the geological process of geological data, cultivate the students' ability of independent thinking, and strive to make the students obtain the best learning and growth experience through field geology. It does not simply emphasize the knowledge and skills, but pays more attention to the internal development driving force of stimulating students' curiosity / confidence / passion and the cultivation of comprehensive quality and ability.

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课程号 (Course Number) : 01231641

课程名称 (Course Title) : 普通地质实习A讨论班/Seminar on field geology

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 许成

先修课程 (Prerequisites) : 无

中文简介:

普通地质野外教学实习对地球与空间科学学院地质和地球化学专业一年级学生来说是一次地质启蒙教育，是一次重要的认识实习。除了老师的讲解和指导外，通过讨论课的形式，促使每位同学认真思考地质体和地质现象的地质作用过程，培养同学们独立思考的能力，努力使学生通过野外实习获得最好的学习和成长体验；不单纯强调知识和技能的传授，更加重视激励学生的好奇/自信/激情的内在发展动力与综合素质能力的培养。

英文简介 (Course Description) :

Introduction to Field Geology is the basic experience in many undergraduate geology programs, and is recommended for freshmen of the School of Earth and Space Sciences, Peking University. Except for the teacher's explanation and guidance, through the form of discussion seminar, each student is urged to seriously think about the geological process of geological data, cultivate the students' ability of independent thinking, and strive to make the students obtain the best learning and growth experience through field geology. It does not simply emphasize the knowledge and skills, but pays more attention to the internal development driving force of stimulating students' curiosity / confidence / passion and the cultivation of comprehensive quality and ability.

-End-

课程号 (Course Number) : 01231641

课程名称 (Course Title) : 普通地质实习A讨论班/Seminar on field geology

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 张元元

先修课程 (Prerequisites) : 无

中文简介:

普通地质野外教学实习对地球与空间科学学院地质和地球化学专业一年级学生来说是一次地质启蒙教育, 是一次重要的认识实习。除了老师的讲解和指导外, 通过讨论课的形式, 促使每位同学认真思考地质体和地质现象的地质作用过程, 培养同学们独立思考的能力, 努力使学生通过野外实习获得最好的学习和成长体验; 不单纯强调知识和技能的传授, 更加重视激励学生的好奇/自信/激情的内在发展动力与综合素质能力的培养。

英文简介 (Course Description) :

Introduction to Field Geology is the basic experience in many undergraduate geology programs, and is recommended for freshmen of the School of Earth and Space Sciences, Peking University. Except for the teacher's explanation and guidance, through the form of discussion seminar, each student is urged to seriously think about the geological process of geological data, cultivate the students' ability of independent thinking, and strive to make the students obtain the best learning and growth experience through field geology. It does not simply emphasize the knowledge and skills, but pays more attention to the internal development driving force of stimulating students' curiosity / confidence / passion and the cultivation of comprehensive quality and ability.

-End-

课程号 (Course Number) : 01231641

课程名称 (Course Title) : 普通地质实习A讨论班/Seminar on field geology

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 董琳

先修课程 (Prerequisites) : 无

中文简介:

普通地质野外教学实习对地球与空间科学学院地质和地球化学专业一年级学生来说是一次地质启蒙教育, 是一次重要的认识实习。除了老师的讲解和指导外, 通过讨论课的形式, 促使每位

同学认真思考地质体和地质现象的地质作用过程，培养同学们独立思考的能力，努力使学生通过野外实习获得最好的学习和成长体验；不单纯强调知识和技能的传授，更加重视激励学生的好奇/自信/激情的内在发展动力与综合素质能力的培养。

英文简介 (Course Description) :

Introduction to Field Geology is the basic experience in many undergraduate geology programs, and is recommended for freshmen of the School of Earth and Space Sciences, Peking University. Except for the teacher's explanation and guidance, through the form of discussion seminar, each student is urged to seriously think about the geological process of geological data, cultivate the students' ability of independent thinking, and strive to make the students obtain the best learning and growth experience through field geology. It does not simply emphasize the knowledge and skills, but pays more attention to the internal development driving force of stimulating students' curiosity / confidence / passion and the cultivation of comprehensive quality and ability.

-End-

课程号 (Course Number) : 01231912

课程名称 (Course Title) : 五台山地区综合地质实习/Geology Excursions in the Wutai Region

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 张贵宾

先修课程 (Prerequisites) : 地球科学概论，普通岩石学，地球化学，构造地质学

中文简介:

五台山综合野外地质实习是在野外地质认知实习及相关专业课室内学习基础上，为训练学生野外地质考察的综合能力及在变质岩区进行岩石和构造研究能力而设置的。每年6月底到7月初在五台山—恒山地区工作1.5周。实习考察8条路线30个观测点。

英文简介 (Course Description) :

The geology excursions in Wutai region is for the undergraduate students, who finished the field training after the "general geology" course. This course will focus on the basic training of geologic investigation, including various types of rocks and structure geology reconstruction, especially in the high grade metamorphic area. All students will stay at Wutai-Hengshan area for ten days, and go across 5 long cross-sections and examine about 30 stops.

-End-

课程号 (Course Number) : 01231913

课程名称(Course Title): 沉积地层古生物综合实习/Geological Excursion on Sedimentology, Paleontology and Biostratigraphy

开课院系 (School/Department): 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits): 2

授课教师 (Faculty): 关平, 孙元林, 薛进庄, 孙作玉

先修课程 (Prerequisites): 普通地质学、结晶矿物学、岩石学、古生物学、地史学等

中文简介:

本课程是在以前的综合地质实习（2020年以前在三峡地区、2020年以后在贵州地区）基础上建立的、为地质学专业学生学习沉积学、地层学和古生物学的野外实践性课程。开设此课程的目的包括：1) 通过实地地质剖面的观察，使学生能更好地通过理论联系实际的方式掌握所学的地质学基础知识；2) 通过对若干条剖面的实地考察，让学生认识主要沉积岩石类型、沉积结构和构造，以及主要的生物化石类型，分析和判定沉积相的类型和地层剖面所展示的地层发育序列和变化，了解和认识华南扬子地块的地质发展演化历史；3) 通过本课程的实践，让学生学习和了解沉积学、地层学和古生物学研究的野外基本工作方法，并锻炼和培养学生进行野外地质工作技能。

英文简介 (Course Description):

This is a practical course for students in majors of geology and geochemistry on sedimentology, paleontology and biostratigraphy, including a 10-day field excursion to visit geological sections ranging from latest Proterozoic to Triassic in South China and the geoparks.

-End-

课程号 (Course Number): 01231914

课程名称 (Course Title): 地球系统野外建模/Earth system investigation and modelling

开课院系 (School/Department): 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits): 3

授课教师 (Faculty): 季建清

先修课程 (Prerequisites): (1) 非本专业的同学，完成大学本科基础学科和通识课程学习（无论是理工人文社科类）；（2）本专业的修课同学，完成地球系统科学，地球系统演化和部分地球科学课程学习。

中文简介:

“八千里路、云和月（科学旅行），八千里山川、冷暖和天地（地球系统）”。课程围绕祁连山东段，用兰州中川-永登-乌稍岭-古浪-武威-金昌-焉支山-山丹-张掖-肃南-扁都口-峨堡-祁连-热水镇-青海湖-拉脊山-积水峡-临夏（和政）-刘家峡-河口古镇-兰州中川，总行程约4000千米闭环科学旅行来实现地球系统科学主题的野外教学。具体包括（1）古生代祁连洋和板块构造，（2）青藏高原东北缘及与蒙古高原的接壤，（3）季风与西风带分界和进退，

(4) 冰川、祁连山、河流、黄土和沙漠戈壁及其生态系统, (5) 地球冷暖(新生代和第四纪)与河西走廊(丝绸之路)兴衰, (6) 临夏(和政)生命庇护所和脊椎生物的盛衰密码, (7) 黄河与文明, “中国”的缘起和演变记录, 综合板块、高原、山脉、冰冻圈、河流、盆地、生命、地貌、全球变化和人类家园、文明文化, 进而落实为地球系统科学的调查和探索实习实践中。

设计教学实习和实验实践路线12条, 落实为36-40个主题, 12个思考命题, 包括野外生存、无人机摄像、地形制图、时间序列建造和地球系统制图等在内的10项技能训练。通过课程, 修课同学一方面饱览祖国河山、西部风光和地球系统演变下的生命荣枯盛衰, 还能够逐步健全地球系统科学系统完整知识体系和培养开展调查探索能力。

英文简介 (Course Description) :

In order to foster a greater understanding of Earth systems science we need to build an understanding of the whole Earth system, and to do that we have to increase our knowledge of the component parts and the ways in which these interact. So we need to know how the Earth works as a planet today and how some components of the systems have evolved over geological time in response to changes in others. We design a 4000-kilometer professional science travel, which covers the eastern Qilian mountain range including Lanzhou, Wuwei, Zhangye, Haibei district(Qilian), Qinghai Lake, Xining, Hainan District and Linxia(Hezheng).

There are 7 main aspects will be involved in the science trip with the overall aim being to produce a holistic approach to understanding the Earth system and to give insights into the complex planet on which we live. a-Oceanic crust and plate tectonics; b-Qingzang Plateau and Mengolia Plateau; c-Monsoon region and westerlies; d- Qilian Mountain range, Cryosphere, rivers, loess, desert, e-Cenozoic global Change (cooling and warming) and the Rise and fall of Hexi corridor; f- Life cradle in Hezhen basin and ecology; g-Huanghe Rivers and Chinese civilization, culture.

The whole course consists of 16 broad, socially relevant and multidisciplinary themes: plate, plateau, mountain, glacier, river, basin, climate, soils, hazards, life, landscape, global change, habitat for humanity, civilization, culture, regional economies and so on. 10 skills, such as field survival, UAV photography, Earth system mapping, time-series construction and analysis, will be brought in the course. A major issue is providing a sufficient depth of information for modelling while still covering a breadth that integrates the components of the system adequately. The aim is to give an understanding of how the world works, not only currently but throughout its history.

-End-

课程号 (Course Number) : 01231915

课程名称 (Course Title) : 冷湖野外联合实习考察/Joint Field Internship Expedition in Lenghu, Qaidam basin

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 张志诚, 郭召杰, 沈冰, 程丰

先修课程 (Prerequisites) : 本课程面向低年级本科生, 建议先修本专业相关必修课, 如生物科学强基班需先修《行星表面过程》。选课同学需要对地质学基础知识有一定了解, 并具备一定的野外实地考察能力与团队合作精神, 对行星科学有浓厚兴趣者优先。

中文简介:

本实习课程旨在通过对柴达木盆地及周边地区的实地考察, 探索其类火星地貌特征, 以深化学员对地质学和行星科学的理解。柴达木盆地位于中国西部, 以其独特的地质景观而闻名, 极端的气候条件和干旱荒漠地貌与火星表面形态相似, 受到了广泛关注。通过本课程的实习, 学员将有机会亲身体验并探索这些神秘而壮丽的地貌景观, 从而加深对地球与行星形成演化的认识。课程将分为室内课堂授课、野外实习考察和室内测试与分析三个环节。课堂授课将重点介绍野外工作方法、柴达木盆地地质概况等内容。野外实习考察将涵盖多条地质路线(如类火星营地、察尔汗盐湖、昆仑山口等), 学员将根据兴趣和专业方向分组设计并开展小型基础科学研究项目, 例如风蚀地貌侵蚀特征、亚洲内陆干旱化、石油开采与废弃城市、极端气候下生命与环境协同作用、冻土消融与碳循环等。室内测试与分析将围绕这些基础科学问题展开。

英文简介 (Course Description) :

This internship course aims to deepen students' understanding of geology and planetary science through field investigations of the Qaidam Basin and its surrounding areas, exploring their Mars-like geological features. Located in western China, the Qaidam Basin is renowned for its unique geological landscape, extreme climatic conditions, and arid desert landforms, which bear similarities to the surface morphology of Mars and have garnered widespread attention. Through this course's internship, students will have the opportunity to personally experience and explore these mysterious and magnificent geological landscapes, thereby deepening their knowledge of Earth and planetary formation and evolution.

The course will be divided into three components: classroom lectures, field internship surveys, and indoor testing and analysis. Classroom lectures will focus on introducing fieldwork methods, the geological overview of the Qaidam Basin, and related topics. Field internship surveys will cover multiple geological routes (such as Mars-like campsites, Chaka Salt Lake, Kunlun Pass, etc.), where students will design and conduct small-scale basic scientific research projects based on their interests and professional orientations, such as erosion features of wind-eroded landforms, aridification in inland Asia, petroleum extraction and abandoned cities, synergistic effects of life and environment under extreme climates, permafrost thawing and carbon cycling, among others. Indoor testing and analysis will revolve around these basic scientific questions.

This course aims to cultivate students' scientific research and analysis capabilities through field investigations and data analysis, expand their knowledge in the fields of geology and planetary science, deepen their understanding of Earth and planetary geological evolution, and lay a solid foundation for future scientific research and

exploration.

-End-

课程号 (Course Number) : 01231916

课程名称 (Course Title) : 五台山地区综合地质实习讨论班/Geology Excursions in the Wutai Region

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 魏春景

先修课程 (Prerequisites) : 与矿物学, 岩石学几构造地质学等相关课程

中文简介:

五台山综合野外地质实习讨论班包括实习讲座及野外实习期间的小班讨论课, 是在野外地质认知实习及相关专业课室内学习基础上, 为训练学生野外地质考察的综合能力及在变质岩区进行岩石和构造研究能力而设置的。每年6月底到7月初在五台山—恒山地区工作1.5周。实习考察8条路线30个观测点。

英文简介 (Course Description) :

Seminar during the geology excursions in Wutai region is for the undergraduate students, who finished the field training after the "general geology" course. This course will focus on the basic knowledge of the field trip and discussion about the observation in the field. This seminar provide basic training of geologic investigation, including various types of rocks and structure geology reconstruction, especially in the high grade metamorphic area. All students will stay at Wutai-Hengshan area for ten days, and go across 5 long cross-sections and examine about 30 stops.

-End-

课程号 (Course Number) : 01231916

课程名称 (Course Title) : 五台山地区综合地质实习讨论班/Geology Excursions in the Wutai Region

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 张进江

先修课程 (Prerequisites) : 与矿物学, 岩石学几构造地质学等相关课程

中文简介:

五台山综合野外地质实习讨论班包括实习讲座及野外实习期间的小班讨论课, 是在野外地质认

知实习及相关专业课室内学习基础上，为训练学生野外地质考察的综合能力及在变质岩区进行岩石和构造研究能力而设置的。每年6月底到7月初在五台山—恒山地区工作1.5周。实习考察8条路线30个观测点。

英文简介 (Course Description) :

Seminar during the geology excursions in Wutai region is for the undergraduate students, who finished the field training after the "general geology" course. This course will focus on the basic knowledge of the field trip and discussion about the observation in the field. This seminar provide basic training of geologic investigation, including various types of rocks and structure geology reconstruction, especially in the high grade metamorphic area. All students will stay at Wutai-Hengshan area for ten days, and go across 5 long cross-sections and examine about 30 stops.

-End-

课程号 (Course Number) : 01231916

课程名称 (Course Title) : 五台山地区综合地质实习讨论班/Geology Excursions in the Wutai Region

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences
学分 (Credits) : 0

授课教师 (Faculty) : 张波

先修课程 (Prerequisites) : 与矿物学，岩石学几构造地质学等相关课程

中文简介:

五台山综合野外地质实习讨论班包括实习讲座及野外实习期间的小班讨论课，是在野外地质认知实习及相关专业课室内学习基础上，为训练学生野外地质考察的综合能力及在变质岩区进行岩石和构造研究能力而设置的。每年6月底到7月初在五台山—恒山地区工作1.5周。实习考察8条路线30个观测点。

英文简介 (Course Description) :

Seminar during the geology excursions in Wutai region is for the undergraduate students, who finished the field training after the "general geology" course. This course will focus on the basic knowledge of the field trip and discussion about the observation in the field. This seminar provide basic training of geologic investigation, including various types of rocks and structure geology reconstruction, especially in the high grade metamorphic area. All students will stay at Wutai-Hengshan area for ten days, and go across 5 long cross-sections and examine about 30 stops.

-End-

课程号 (Course Number) : 01231916

课程名称 (Course Title) : 五台山地区综合地质实习讨论班/Geology Excursions in the Wutai Region

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences
学分 (Credits) : 0

授课教师 (Faculty) : 张贵宾

先修课程 (Prerequisites) : 与矿物学, 岩石学几构造地质学等相关课程

中文简介:

五台山综合野外地质实习讨论班包括实习讲座及野外实习期间的小班讨论课, 是在野外地质认知实习及相关专业课室内学习基础上, 为训练学生野外地质考察的综合能力及在变质岩区进行岩石和构造研究能力而设置的。每年6月底到7月初在五台山一恒山地区工作1.5周。实习考察8条路线30个观测点。

英文简介 (Course Description) :

Seminar during the geology excursions in Wutai region is for the undergraduate students, who finished the field training after the "general geology" course. This course will focus on the basic knowldge of the filed trip and discussion about the observation in the field. This seminar provide basic training of geologic investigation, including various types of rocks and structure geology reconstruction, especially in the high grade metamorphic area. All students will stay at Wutai-Hengshan area for ten days, and go across 5 long cross-sections and examine about 30 stops.

-End-

课程号 (Course Number) : 01231916

课程名称 (Course Title) : 五台山地区综合地质实习讨论班/Geology Excursions in the Wutai Region

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences
学分 (Credits) : 0

授课教师 (Faculty) : 李秋根

先修课程 (Prerequisites) : 与矿物学, 岩石学几构造地质学等相关课程

中文简介:

五台山综合野外地质实习讨论班包括实习讲座及野外实习期间的小班讨论课, 是在野外地质认知实习及相关专业课室内学习基础上, 为训练学生野外地质考察的综合能力及在变质岩区进行岩石和构造研究能力而设置的。每年6月底到7月初在五台山一恒山地区工作1.5周。实习考察8条路线30个观测点。

英文简介 (Course Description) :

Seminar during the geology excursions in Wutai region is for the undergraduate students, who finished the field training after the "general geology" course. This course will focus on the basic knowledge of the field trip and discussion about the observation in the field. This seminar provide basic training of geologic investigation, including various types of rocks and structure geology reconstruction, especially in the high grade metamorphic area. All students will stay at Wutai-Hengshan area for ten days, and go across 5 long cross-sections and examine about 30 stops.

-End-

课程号 (Course Number) : 01231916

课程名称 (Course Title) : 五台山地区综合地质实习讨论班/Geology Excursions in the Wutai Region

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 吕增

先修课程 (Prerequisites) : 与矿物学, 岩石学几构造地质学等相关课程

中文简介:

五台山综合野外地质实习讨论班包括实习讲座及野外实习期间的小班讨论课, 是在野外地质认知实习及相关专业课室内学习基础上, 为训练学生野外地质考察的综合能力及在变质岩区进行岩石和构造研究能力而设置的。每年6月底到7月初在五台山一恒山地区工作1.5周。实习考察8条路线30个观测点。

英文简介 (Course Description) :

Seminar during the geology excursions in Wutai region is for the undergraduate students, who finished the field training after the "general geology" course. This course will focus on the basic knowledge of the field trip and discussion about the observation in the field. This seminar provide basic training of geologic investigation, including various types of rocks and structure geology reconstruction, especially in the high grade metamorphic area. All students will stay at Wutai-Hengshan area for ten days, and go across 5 long cross-sections and examine about 30 stops.

-End-

课程号 (Course Number) : 01231916

课程名称 (Course Title) : 五台山地区综合地质实习讨论班/Geology Excursions in the Wutai Region

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 吴辉

先修课程 (Prerequisites) : 与矿物学, 岩石学几构造地质学等相关课程

中文简介:

五台山综合野外地质实习讨论班包括实习讲座及野外实习期间的小班讨论课, 是在野外地质认知实习及相关专业课堂内学习基础上, 为训练学生野外地质考察的综合能力及在变质岩区进行岩石和构造研究能力而设置的。每年6月底到7月初在五台山—恒山地区工作1.5周。实习考察8条路线30个观测点。

英文简介 (Course Description) :

Seminar during the geology excursions in Wutai region is for the undergraduate students, who finished the field training after the "general geology" course. This course will focus on the basic knowledge of the field trip and discussion about the observation in the field. This seminar provide basic training of geologic investigation, including various types of rocks and structure geology reconstruction, especially in the high grade metamorphic area. All students will stay at Wutai-Hengshan area for ten days, and go across 5 long cross-sections and examine about 30 stops.

-End-

课程号 (Course Number) : 01231917

课程名称 (Course Title) : 沉积地层古生物综合地质实习讨论班/Seminar on Geological Excursions on Sedimentology, Paleontology and Biostratigraphy

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 关平

先修课程 (Prerequisites) : 普通地质学、结晶矿物学、岩石学、古生物学等

中文简介:

本课程是配合"沉积地层古生物综合实习"课程, 为地质学专业学生学习沉积学、地层学和古生物学开设的讨论实践课程、开设此课程的目的包括: 1) 通过实地地质剖面的观察, 使学生能更好地通过理论联系实际的方式掌握所学的地质学基础知识; 2) 通过对若干条剖面的实地考察, 让学生认识主要沉积岩石类型、沉积结构和构造, 以及主要的生物化石类型, 分析和判定沉积相的类型和地层剖面所展示的地层发育序列和变化, 了解和认识华南扬子地块的地质发展演化历史; 3) 通过本课程的实践, 让学生学习和了解沉积学、地层学和古生物学研究的野外基本工作方法, 并锻炼和培养学生进行野外地质工作技能; 了解地质历史上发生过的一些重大地质生物事件。

英文简介 (Course Description) :

It is a seminar for practical course of "Geological Excursions on Sedimentology,

Paleontology and Biostratigraphy” to for students in majors of geology and geochemistry to train their field work skill and expand their knowledge on sedimentology, plaeontology and biostratigraphy.

-End-

课程号 (Course Number) : 01231917

课程名称 (Course Title) : 沉积地层古生物综合地质实习讨论班/Seminar on Geological Excursions on Sedimentology, Paleontology and Biostratigraphy

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences
学分 (Credits) : 0

授课教师 (Faculty) : 孙元林

先修课程 (Prerequisites) : 普通地质学、结晶矿物学、岩石学、古生物学等

中文简介:

本课程是配合”沉积地层古生物综合实习“课程，为地质学专业学生学习沉积学、地层学和古生物学开设的讨论实践课程、开设此课程的目的包括：1) 通过实地地质剖面的观察，使学生能更好地通过理论联系实际的方式掌握所学的地质学基础知识；2) 通过对若干条剖面的实地考察，让学生认识主要沉积岩石类型、沉积结构和构造，以及主要的生物化石类型，分析和判定沉积相的类型和地层剖面所展示的地层发育序列和变化，了解和认识华南扬子地块的地质发展演化历史；3) 通过本课程的实践，让学生学习和了解沉积学、地层学和古生物学研究的野外基本工作方法，并锻炼和培养学生进行野外地质工作技能；了解地质历史上发生过的一些重大地质生物事件。

英文简介 (Course Description) :

It is a seminar for practical course of “Geological Excursions on Sedimentology, Paleontology and Biostratigraphy” to for students in majors of geology and geochemistry to train their field work skill and expand their knowledge on sedimentology, plaeontology and biostratigraphy.

-End-

课程号 (Course Number) : 01231917

课程名称 (Course Title) : 沉积地层古生物综合地质实习讨论班/Seminar on Geological Excursions on Sedimentology, Paleontology and Biostratigraphy

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences
学分 (Credits) : 0

授课教师 (Faculty) : 薛进庄

先修课程 (Prerequisites) : 普通地质学、结晶矿物学、岩石学、古生物学等

中文简介:

本课程是配合”沉积地层古生物综合实习“课程，为地质学专业学生学习沉积学、地层学和古生物学开设的讨论实践课程、开设此课程的目的包括：1) 通过实地地质剖面的观察，使学生能更好地通过理论联系实际的方式掌握所学的地质学基础知识；2) 通过对若干条剖面的实地考察，让学生认识主要沉积岩石类型、沉积结构和构造，以及主要的生物化石类型，分析和判定沉积相的类型和地层剖面所展示的地层发育序列和变化，了解和认识华南扬子地块的地质发展演化历史；3) 通过本课程的实践，让学生学习和了解沉积学、地层学和古生物学研究的野外基本工作方法，并锻炼和培养学生进行野外地质工作技能；了解地质历史上发生过的一些重大地质生物事件。

英文简介 (Course Description) :

It is a seminar for practical course of "Geological Excursions on Sedimentology, Paleontology and Biostratigraphy" to for students in majors of geology and geochemistry to train their field work skill and expand their knowledge on sedimentology, plaeontology and biostratigraphy.

-End-

课程号 (Course Number) : 01231917

课程名称 (Course Title) : 沉积地层古生物综合地质实习讨论班/Seminar on Geological Excursions on Sedimentology, Paleontology and Biostratigraphy

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 孙作玉

先修课程 (Prerequisites) : 普通地质学、结晶矿物学、岩石学、古生物学等

中文简介:

本课程是配合”沉积地层古生物综合实习“课程，为地质学专业学生学习沉积学、地层学和古生物学开设的讨论实践课程、开设此课程的目的包括：1) 通过实地地质剖面的观察，使学生能更好地通过理论联系实际的方式掌握所学的地质学基础知识；2) 通过对若干条剖面的实地考察，让学生认识主要沉积岩石类型、沉积结构和构造，以及主要的生物化石类型，分析和判定沉积相的类型和地层剖面所展示的地层发育序列和变化，了解和认识华南扬子地块的地质发展演化历史；3) 通过本课程的实践，让学生学习和了解沉积学、地层学和古生物学研究的野外基本工作方法，并锻炼和培养学生进行野外地质工作技能；了解地质历史上发生过的一些重大地质生物事件。

英文简介 (Course Description) :

It is a seminar for practical course of "Geological Excursions on Sedimentology, Paleontology and Biostratigraphy" to for students in majors of geology and geochemistry to train their field work skill and expand their knowledge on

sedimentology, palaeontology and biostratigraphy.

-End-

课程号 (Course Number) : 01231918

课程名称 (Course Title) : 地球系统野外建模讨论班/Seminar on Earth system investigation and modelling

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 季建清

先修课程 (Prerequisites) : 地球科学概论等相关地球科学基础课程

中文简介:

课程围绕祁连山东段, 用兰州中川-永登-乌稍岭-古浪-武威-金昌-焉支山-山丹-张掖-肃南-扁都口-峨堡-祁连-

热水镇-青海湖-拉脊山-积水峡-临夏(和政)-刘家峡-河口古镇-兰州中川, 总行程约4000千米闭环科学旅行

来实现地球系统科学主题的野外教学配套的讨论班教学

英文简介 (Course Description) :

We design a 4000-kilometer professional science travel, which covers the eastern Qilian mountain range including Lanzhou, Wuwei, Zhangye, Haibei district (Qilian), Qinghai Lake, Xining, Hainan District and Linxia (Hezheng). In order to foster a greater understanding of Earth systems science we need to build an understanding of the whole Earth system, and to do that we have to increase our knowledge of the component parts and the ways in which these interact. So we need to know how the Earth works as a planet today and how some components of the systems have evolved over geological time in response to changes in others.

-End-

课程号 (Course Number) : 01231918

课程名称 (Course Title) : 地球系统野外建模讨论班/Seminar on Earth system investigation and modelling

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 江大勇

先修课程 (Prerequisites) : 地球科学概论等相关地球科学基础课程

中文简介:

课程围绕祁连山东段，用兰州中川-永登-乌稍岭-古浪-武威-金昌-焉支山-山丹-张掖-肃南-扁都口-峨堡-祁连-热水镇-青海湖-拉脊山-积水峡-临夏（和政）-刘家峡-河口古镇-兰州中川，总行程约4000千米闭环科学旅行来实现地球系统科学主题的野外教学配套的讨论班教学

英文简介 (Course Description) :

We design a 4000-kilometer professional science travel, which covers the eastern Qilian mountain range including Lanzhou, Wuwei, Zhangye, Haibei district (Qilian), Qinghai Lake, Xining, Hainan District and Linxia (Hezheng). In order to foster a greater understanding of Earth systems science we need to build an understanding of the whole Earth system, and to do that we have to increase our knowledge of the component parts and the ways in which these interact. So we need to know how the Earth works as a planet today and how some components of the systems have evolved over geological time in response to changes in others.

-End-

课程号 (Course Number) : 01231918

课程名称 (Course Title) : 地球系统野外建模讨论班/Seminar on Earth system investigation and modelling

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences
学分 (Credits) : 0

授课教师 (Faculty) : 李文博

先修课程 (Prerequisites) : 地球科学概论等相关地球科学基础课程

中文简介:

课程围绕祁连山东段，用兰州中川-永登-乌稍岭-古浪-武威-金昌-焉支山-山丹-张掖-肃南-扁都口-峨堡-祁连-热水镇-青海湖-拉脊山-积水峡-临夏（和政）-刘家峡-河口古镇-兰州中川，总行程约4000千米闭环科学旅行来实现地球系统科学主题的野外教学配套的讨论班教学

英文简介 (Course Description) :

We design a 4000-kilometer professional science travel, which covers the eastern Qilian mountain range including Lanzhou, Wuwei, Zhangye, Haibei district (Qilian), Qinghai Lake, Xining, Hainan District and Linxia (Hezheng). In order to foster a greater understanding of Earth systems science we need to build an understanding of the whole Earth system, and to do that we have to increase our knowledge of the component parts and the ways in which these interact. So we need to know how the Earth works as a planet today and how some components of the systems have evolved over geological time in response to changes in others.

-End-

课程号 (Course Number) : 01231918

课程名称 (Course Title) : 地球系统野外建模讨论班/Seminar on Earth system investigation and modelling

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 何涛

先修课程 (Prerequisites) : 地球科学概论等相关地球科学基础课程

中文简介:

课程围绕祁连山东段, 用兰州中川-永登-乌稍岭-古浪-武威-金昌-焉支山-山丹-张掖-肃南-扁都口-峨堡-祁连-热水镇-青海湖-拉脊山-积水峡-临夏(和政)-刘家峡-河口古镇-兰州中川, 总行程约4000千米闭环科学旅行来实现地球系统科学主题的野外教学配套的讨论班教学。

英文简介 (Course Description) :

We design a 4000-kilometer professional science travel, which covers the eastern Qilian mountain range including Lanzhou, Wuwei, Zhangye, Haibei district (Qilian), Qinghai Lake, Xining, Hainan District and Linxia (Hezheng). In order to foster a greater understanding of Earth systems science we need to build an understanding of the whole Earth system, and to do that we have to increase our knowledge of the component parts and the ways in which these interact. So we need to know how the Earth works as a planet today and how some components of the systems have evolved over geological time in response to changes in others.

-End-

课程号 (Course Number) : 01231919

课程名称 (Course Title) : 冷湖野外联合实习考察讨论班/Seminar on Joint Field Internship Expedition in Lenghu, Qaidam basin

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 张志诚, 郭召杰, 沈冰, 程丰

先修课程 (Prerequisites) : 本讨论班面向低年级本科生, 须同时修《冷湖野外联合实习考察》这门课程; 建议先修本专业相关必修课, 如生物科学强基班需先修《行星表面过程》。选课同学需要对地质学基础知识有一定了解, 并具备一定的野外实地考察能力与团队合作精神, 对行星科学有浓厚兴趣者优先。

中文简介:

本课程为《冷湖野外联合实习考察》的讨论班，旨在通过对柴达木盆地及周边地区的实地考察，探索其类火星地貌特征，以深化学员对地质学和行星科学的理解。柴达木盆地位于中国西部，以其独特的地质景观而闻名，极端的气候条件和干旱荒漠地貌与火星表面形态相似，受到了广泛关注。通过本课程的实习，学员将有机会亲身体验并探索这些神秘而壮丽的地貌景观，从而加深对地球与行星形成演化的认识。课程将分为室内课堂授课、野外实习考察和室内测试与分析三个环节。课堂授课将重点介绍野外工作方法、柴达木盆地地质概况等内容。野外实习考察将涵盖多条地质路线（如类火星营地、察尔汗盐湖、昆仑山口等），学员将根据兴趣和专业方向分组设计并开展小型基础科学研究项目，例如风蚀地貌侵蚀特征、亚洲内陆干旱化、石油开采与废弃城市、极端气候下生命与环境协同作用、冻土消融与碳循环等。室内测试与分析将围绕这些基础科学问题展开。

英文简介 (Course Description) :

This discussion seminar, together with the internship course, aims to deepen students' understanding of geology and planetary science through field investigations of the Qaidam Basin and its surrounding areas, exploring their Mars-like geological features. Located in western China, the Qaidam Basin is renowned for its unique geological landscape, extreme climatic conditions, and arid desert landforms, which bear similarities to the surface morphology of Mars and have garnered widespread attention. Through this course's internship, students will have the opportunity to personally experience and explore these mysterious and magnificent geological landscapes, thereby deepening their knowledge of Earth and planetary formation and evolution.

The course will be divided into three components: classroom lectures, field internship surveys, and indoor testing and analysis. Classroom lectures will focus on introducing fieldwork methods, the geological overview of the Qaidam Basin, and related topics. Field internship surveys will cover multiple geological routes (such as Mars-like campsites, Chaka Salt Lake, Kunlun Pass, etc.), where students will design and conduct small-scale basic scientific research projects based on their interests and professional orientations, such as erosion features of wind-eroded landforms, aridification in inland Asia, petroleum extraction and abandoned cities, synergistic effects of life and environment under extreme climates, permafrost thawing and carbon cycling, among others. Indoor testing and analysis will revolve around these basic scientific questions.

This course aims to cultivate students' scientific research and analysis capabilities through field investigations and data analysis, expand their knowledge in the fields of geology and planetary science, deepen their understanding of Earth and planetary geological evolution, and lay a solid foundation for future scientific research and exploration.

-End-

课程号 (Course Number) : 01231919

课程名称 (Course Title) : 冷湖野外联合实习考察讨论班/Seminar on Joint Field Internship

Expedition in Lenghu, Qaidam basin

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 郭召杰

先修课程 (Prerequisites) : 本讨论班面向低年级本科生, 须同时修《冷湖野外联合实习考察》这门课程; 建议先修本专业相关必修课, 如生物科学强基班需先修《行星表面过程》。选课同学需要对地质学基础知识有一定了解, 并具备一定的野外实地考察能力与团队合作精神, 对行星科学有浓厚兴趣者优先。

中文简介:

本课程为《冷湖野外联合实习考察》的讨论班, 旨在通过对柴达木盆地及周边地区的实地考察, 探索其类火星地貌特征, 以深化学员对地质学和行星科学的理解。柴达木盆地位于中国西部, 以其独特的地质景观而闻名, 极端的气候条件和干旱荒漠地貌与火星表面形态相似, 受到了广泛关注。通过本课程的实习, 学员将有机会亲身体验并探索这些神秘而壮丽的地貌景观, 从而加深对地球与行星形成演化的认识。课程将分为室内课堂授课、野外实习考察和室内测试与分析三个环节。课堂授课将重点介绍野外工作方法、柴达木盆地地质概况等内容。野外实习考察将涵盖多条地质路线 (如类火星营地、察尔汗盐湖、昆仑山口等), 学员将根据兴趣和专业方向分组设计并开展小型基础科学研究项目, 例如风蚀地貌侵蚀特征、亚洲内陆干旱化、石油开采与废弃城市、极端气候下生命与环境协同作用、冻土消融与碳循环等。室内测试与分析将围绕这些基础科学问题展开。

英文简介 (Course Description) :

This discussion seminar, together with the internship course, aims to deepen students' understanding of geology and planetary science through field investigations of the Qaidam Basin and its surrounding areas, exploring their Mars-like geological features. Located in western China, the Qaidam Basin is renowned for its unique geological landscape, extreme climatic conditions, and arid desert landforms, which bear similarities to the surface morphology of Mars and have garnered widespread attention. Through this course's internship, students will have the opportunity to personally experience and explore these mysterious and magnificent geological landscapes, thereby deepening their knowledge of Earth and planetary formation and evolution.

The course will be divided into three components: classroom lectures, field internship surveys, and indoor testing and analysis. Classroom lectures will focus on introducing fieldwork methods, the geological overview of the Qaidam Basin, and related topics. Field internship surveys will cover multiple geological routes (such as Mars-like campsites, Chaka Salt Lake, Kunlun Pass, etc.), where students will design and conduct small-scale basic scientific research projects based on their interests and professional orientations, such as erosion features of wind-eroded landforms, aridification in inland Asia, petroleum extraction and abandoned cities, synergistic effects of life and environment under extreme climates, permafrost thawing and carbon cycling, among others. Indoor testing and analysis will revolve around these basic scientific questions.

This course aims to cultivate students' scientific research and analysis capabilities

through field investigations and data analysis, expand their knowledge in the fields of geology and planetary science, deepen their understanding of Earth and planetary geological evolution, and lay a solid foundation for future scientific research and exploration.

-End-

课程号 (Course Number) : 01231919

课程名称 (Course Title) : 冷湖野外联合实习考察讨论班/Seminar on Joint Field Internship Expedition in Lenghu, Qaidam basin

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) : 沈冰

先修课程 (Prerequisites) : 本讨论班面向低年级本科生, 须同时修《冷湖野外联合实习考察》这门课程; 建议先修本专业相关必修课, 如生物科学强基班需先修《行星表面过程》。选课同学需要对地质学基础知识有一定了解, 并具备一定的野外实地考察能力与团队合作精神, 对行星科学有浓厚兴趣者优先。

中文简介:

本课程为《冷湖野外联合实习考察》的讨论班, 旨在通过对柴达木盆地及周边地区的实地考察, 探索其类火星地貌特征, 以深化学员对地质学和行星科学的理解。柴达木盆地位于中国西部, 以其独特的地质景观而闻名, 极端的气候条件和干旱荒漠地貌与火星表面形态相似, 受到了广泛关注。通过本课程的实习, 学员将有机会亲身体验并探索这些神秘而壮丽的地貌景观, 从而加深对地球与行星形成演化的认识。课程将分为室内课堂授课、野外实习考察和室内测试与分析三个环节。课堂授课将重点介绍野外工作方法、柴达木盆地地质概况等内容。野外实习考察将涵盖多条地质路线(如类火星营地、察尔汗盐湖、昆仑山口等), 学员将根据兴趣和专业方向分组设计并开展小型基础科学研究项目, 例如风蚀地貌侵蚀特征、亚洲内陆干旱化、石油开采与废弃城市、极端气候下生命与环境协同作用、冻土消融与碳循环等。室内测试与分析将围绕这些基础科学问题展开。

英文简介 (Course Description) :

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surveys, and indoor testing and analysis. Classroom lectures will focus on introducing fieldwork methods, the geological overview of the Qaidam Basin, and related topics. Field internship surveys will cover multiple geological routes (such as Mars-like campsites, Chaka Salt Lake, Kunlun Pass, etc.), where students will design and conduct small-scale basic scientific research projects based on their interests and professional orientations, such as erosion features of wind-eroded landforms, aridification in inland Asia, petroleum extraction and abandoned cities, synergistic effects of life and environment under extreme climates, permafrost thawing and carbon cycling, among others. Indoor testing and analysis will revolve around these basic scientific questions.

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-End-

课程号 (Course Number) : 01231919

课程名称 (Course Title) : 冷湖野外联合实习考察讨论班/Seminar on Joint Field Internship Expedition in Lenghu, Qaidam basin

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences
学分 (Credits) : 0

授课教师 (Faculty) : 程丰

先修课程 (Prerequisites) : 本讨论班面向低年级本科生, 须同时修《冷湖野外联合实习考察》这门课程; 建议先修本专业相关必修课, 如生物科学强基班需先修《行星表面过程》。选课同学需要对地质学基础知识有一定了解, 并具备一定的野外实地考察能力与团队合作精神, 对行星科学有浓厚兴趣者优先。

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-End-

课程号 (Course Number) : 01231919

课程名称 (Course Title) : 冷湖野外联合实习考察讨论班/Seminar on Joint Field Internship Expedition in Lenghu, Qaidam basin

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) :

先修课程 (Prerequisites) : 本讨论班面向低年级本科生, 须同时修《冷湖野外联合实习考察》这门课程; 建议先修本专业相关必修课, 如生物科学强基班需先修《行星表面过程》。选课同学需要对地质学基础知识有一定了解, 并具备一定的野外实地考察能力与团队合作精神, 对行星科学有浓厚兴趣者优先。

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课程号 (Course Number) : 01231919

课程名称 (Course Title) : 冷湖野外联合实习考察讨论班/Seminar on Joint Field Internship

Expedition in Lenghu, Qaidam basin

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) :

先修课程 (Prerequisites) : 本讨论班面向低年级本科生, 须同时修《冷湖野外联合实习考察》这门课程; 建议先修本专业相关必修课, 如生物科学强基班需先修《行星表面过程》。选课同学需要对地质学基础知识有一定了解, 并具备一定的野外实地考察能力与团队合作精神, 对行星科学有浓厚兴趣者优先。

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课程号 (Course Number) : 01231919

课程名称 (Course Title) : 冷湖野外联合实习考察讨论班/Seminar on Joint Field Internship Expedition in Lenghu, Qaidam basin

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 0

授课教师 (Faculty) :

先修课程 (Prerequisites) : 本讨论班面向低年级本科生, 须同时修《冷湖野外联合实习考察》这门课程; 建议先修本专业相关必修课, 如生物科学强基班需先修《行星表面过程》。选课同学需要对地质学基础知识有一定了解, 并具备一定的野外实地考察能力与团队合作精神, 对行星科学有浓厚兴趣者优先。

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学分 (Credits) : 0

授课教师 (Faculty) :

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-End-

课程号 (Course Number) : 01231921

课程名称 (Course Title): 阿尔卑斯野外综合地质国际对比实习/Internationally Correlative Geology Excursions in Alps

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 韩宝福, 吴朝东, 江大勇, 孙荣双, 周敏

先修课程 (Prerequisites) : 地球科学概论、普通地质学、构造地质学、岩石学 (变质岩、岩浆岩、沉积岩)、普地实习、三峡和五台综合实习, 以及古生物学、地史学

中文简介:

阿尔卑斯经历了古生代的变质基底形成及之后的沉积作用, 遭受了中生代晚期—新生代早期南北大陆碰撞及造山作用和第四纪的冰川、河流作用的改造, 复杂的地质过程塑造了阿尔卑斯,

赋予了阿尔卑斯地区丰富的地球科学内涵。这里保存了大量经典的地质剖面和丰富的地质现象，记录了特提斯大洋的消亡、南方冈瓦纳大陆的裂解及其与北方欧亚大陆的碰撞、中生代海洋生态系统和海洋生物的演变、第四纪冰期等重要地质过程。作为地质学的起步之地，阿尔卑斯拥有着极高的研究程度，长期的研究积累了丰富的地质资料，其中不乏许多具有广泛意义的世界性理论和模型，堪称世界地质学研究和学习的胜地，早已成为国际上地球科学特别是地质学的经典研究和教学实践地区。

本实习以“为培养国际性地质学创新人才建立全球视野下的地质学研究理念”为目的，以特提斯大洋西段的演化为题，自西向东选择世界自然遗产保护区圣乔治山 (Monte San Giorgio)、意大利国家地质公园和自然保护区蒂麦洛山谷 (Val di Mello) 和马兰科山谷 (Val Malenco)、地质公园格里格纳山 (Grigna Mountain)、以及著名的世界自然遗产保护区多洛米蒂山区 (Dolomite) 等4个地区为实习区域，设计了12条野外地质观察路线 (另外有3条预备路线)，每条路线设置十多个观察点，综合岩石学和沉积学、构造地质学、古生物学和地层学、矿床地质学、第四纪地质和地貌、工程地质学等知识，进行野外地质实习。

英文简介 (Course Description) :

Alps is the typical area records the complicated geological process and geological interactions from Paleozoic to Cenozoic, many famous theories in geology were given rise from the observations in Alps, and this region has become the classic teaching and researching hot spot in geology.

Fieldtrip practice is an essential part of teaching system of geology. After their studying in college, students have finished the fundamental courses and some professional courses, and also some fieldtrip practices. To train international innovative talents for the future geology, to improve students' theoretical knowledge and practice ability, together with developing thinking with expanded global visions, this geology excursion for undergraduate to Alps region plans to focus on the topic of evolution of Tethys. We will have 12 geological routes, from west UNESCO World Natural Heritage Monte San Giorgio, to Grigna, and then to Dolomite. The students will apply the knowledge they studied in Physical Geology, Structure Geology, Petrology, Sedimentology, Paleontology and Stratigraphy, from field geological observation, question and discussion, thinking and practice, by international correlation, to study the geological processes in Alps, to construct the global view on the evolution of Tethys and deep understandings in Geology.

-End-

课程号 (Course Number) : 01233170

课程名称 (Course Title) : 地震概论/Introduction to Seismology

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 赵克常

先修课程 (Prerequisites) : 无

中文简介：

本课程是为全校学生开设的素质教育通识课程，具有典型的自然科学课程的特征。它简明扼要地介绍了地震学的基本概念以及研究的方法，内容包括地震学史、地震仪原理与地震图、地震波的传播理论、地球内部结构、勘探地震学、地震预报、临震措施和地震学最新进展。通过本课程的学习，提升学生的自然科学的素质，增强学生的抗震减灾意识以及提升学生的临震逃生能力。

英文简介 (Course Description) :

As a general education course aimed at all the students at the campus for promoting quality-oriented education, Introduction to Seismology is characterized by its typical natural science features. The course provides a brief introduction to basic concepts and research methods of seismology, which covers Seismology history, seismograph principles and seismogram, seismic waves propagation theories, interior Earth structure, exploration seismology, earthquake prediction, imminent earthquake measures and recent advances in seismology. This course enables the students to promote their quality of natural science, enhance their awareness of earthquake resistance and disaster mitigation and improve their skills for imminent earthquake escape.

-End-

课程号 (Course Number) : 01233660

课程名称 (Course Title) : 地球物理野外实习/Geophysical Field Practice

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 宁杰远

先修课程 (Prerequisites) : 高等数学、普通物理、数学物理方程、地球介质力学、地震学、普通地质学

中文简介：

地球物理学是一门强烈依赖于观测资料的学科，通过对大量观测资料的分析，发现新现象、产生新理论，从而不断发展。本课程的目的是：学生通过野外观测与资料处理的实际操作，加深对理论知识的理解，初步掌握获取资料、处理资料，解释资料的能力，培养发现问题、解决问题的能力，为进一步在地球物理学及相关领域开展科研工作奠定基础。主要内容包括：地表地质现象的考察；地球物理前沿处理技术学习；地震观测台阵的设计及地震观测；地震观测资料处理和解释。

英文简介 (Course Description) :

Geophysics strongly depends on observation data. Based on analysis of the observation

data, finding new phenomena, producing new theories, then achieving continuous development.

The purpose of this course is that by field observation and data processing students deepen their understanding of theoretical knowledge, primarily grasp the ability of data acquiring, processing and explanation, strengthen their capability of finding and solving questions, which are all needed for their future work. Main contents include geology survey, advanced technology study, seismic array design, and seismic data processing and explanation.

-End-

课程号 (Course Number) : 01235260

课程名称 (Course Title) : 3S野外综合实习/Practice on RS, GIS and GPS

开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences

学分 (Credits) : 1

授课教师 (Faculty) : 田原

先修课程 (Prerequisites) : 《地理信息系统概论》; 《遥感概论》; 《地球科学导论》

中文简介:

通过在典型区域的野外综合实习,使学生了解3S综合实践应用的基本方法,培养学生的实际动手能力,帮助其深入理解和掌握所学的理论知识:

走出校门,置身于大自然之中,实地验证课堂上所学的地图学、自然地理基础知识和3S基本理论的过程。

将遥感、地理信息系统和全球定位系统所学的各种方法和理论应用于实际工作中,加深对基本理论知识的理解。

掌握自然地理野外调查的基本技能,培养和锻炼学生的动手和独立工作能力。

掌握综合利用遥感、地理信息系统和全球定位系统进行区域野外调查和专题遥感解译工作的基本方法和技术。

英文简介 (Course Description) :

This mandatory class provides an integral field practice on GIS, RS, and GPS. The main contents of this class are data acquisition, route planning, field exploration, RS image interpretation, GPS navigation, and land survey. The students are required to comprehensively apply what they have learnt in GIS, RS, and GPS classes in practice to fulfill all the tasks, which will improve their understandings and application abilities of the basic knowledge.

-End-

课程号 (Course Number) : 01431440

课程名称 (Course Title) : 珠宝鉴赏与珠宝文化/Jewelry Appreciation and Jewelry Culture
开课院系 (School/Department) : 地球与空间科学学院/School of Earth and Space Sciences
学分 (Credits) : 2
授课教师 (Faculty) : 王长秋

先修课程 (Prerequisites) : 无

中文简介:

珠宝玉石是大自然数百万年孕育并奉献给人类的宝贵精华，是人类认识自然的重要对象之一。本课程利用多媒体等现代教学手段，通过对珠宝玉石主要品种的基本特点、评价鉴别、美学欣赏以及我国玉器发展和玉雕艺术的讲授、讨论，使学生们掌握、了解珠宝玉石的基本概念、主要种类、加工工艺、评价鉴别方法、美学赏析，熟悉古玉器在中国历史文化中的地位、各个历史时期玉器制作的风格、工艺特点及其与历史背景和生产水平发展水平的关系，了解我国玉雕艺术的特点和现代珠宝文化。?

本课程由王长秋博士，崔文元教授，王时麒教授三位老师讲授。

英文简介 (Course Description) :

As a precious essence born in nature for millions of years, jewelry is one of important objects in understanding of human to nature. In this course, using modern teaching means, basic characteristics of main varieties, identification and evaluation, aesthetic appreciation of jewelry and the development of Chinese jade and jade carving art will be taught and discussed, in order to enable students to acquire the basic concepts of jewelry, main gem varieties, processing technology, identification and evaluation methods, aesthetic appreciation, and to understand the historical and cultural position of Chinese ancient jade, style and process characteristics of jade production during each historical period and their relationships to the historical background and the level of development of productive forces, and to know the features of Chinese jade carving art and modern jewelry culture.

-End-

课程号 (Course Number) : 01533300

课程名称 (Course Title) : 城乡地域空间认知实习/Regional Science: Practice of Theories and Models

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 1

授课教师 (Faculty) : 阴劼

先修课程 (Prerequisites) : 无

中文简介:

城乡地域空间认知实习是五年制城市规划专业本科教学的必要环节，是专业评估考察的内容。本实习选取京津冀都市圈作为基地。在启动阶段，以天津市区及滨海新区、北京市、唐山市为主要基地开始系统性的实习教学。在条件成熟时，逐步扩展至石家庄、承德、张家口等城市，形成以京津唐为核心的京津冀都市圈实习基地。

(1) 以京津冀都市圈为教学实习基地，能够充分体现“坚持以地理学为基础的、理工结合的规划教学科研体系”的城市规划专业办学特色，发挥我系在中国城市化、区域研究与规划、创新空间与创新群体、经济地理等城市规划领域的长项研究，通过连续的教学实习，可以达到教学相长的效果。

(2) 京津冀环渤海城市群是中国目前已形成三大城市群之一，天津滨海新区作为全国综合配套改革试验区，起着探索新的区域发展模式、为全国发展改革提供经验和示范的作用。以此区域作为实习基地，有利于学生了解我国城市化进程中的最前沿问题。

(3) 京津冀都市圈内的城市，在性质、规模、产业、历史、文化等方面各有特点，利于根据教学任务的调整组织实习路线。

(4) 京津冀都市圈以北京为中心，远近适宜，交通发达，利于实习的开展。

近年来，我院的城市与区域规划系及城市与经济地理学系等承担了天津大港城市总体规划、土地利用总体规划等工作，也承担了京津冀都市圈其它城市的多项规划研究项目（如：北京市土地利用总体规划、河北迁安城乡一体化规划等）。同时，北京大学与天津签署了积极参与服务天津滨海新区建设的备忘录，为滨海新区的开发开放和可持续发展提供科技和智力支撑，使京津冀都市圈作为我院的实习基地有着良好的基础与前景。

我系已经与天津市规划局、天津经济技术开发区（泰达）就共建教学实习基地达成合作意向。

英文简介 (Course Description) :

N/A

-End-

课程号 (Course Number) : 01535130

课程名称 (Course Title) : 野外生态学/Field Ecology

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 朱彪，唐志尧，吉成均

先修课程 (Prerequisites) : 植物学（下）

普通生态学1

普通生态学2

中文简介:

野外生态学是生态学专业必修的野外实习课程，本课程以河北坝上北京大学生态系统观测站为基地，沿几个重要的地理因子（气候、植被、土壤）的梯度设计了多条线路，旨在通过讲授和实习相结合，培养学生观察野外生态现象，掌握野外调查方法以及提出科学问题的能力

在实习中，学生通过对八条实习路线上的不同地理、植被、土壤格局的观察和相关数据

的获取，深入认识格局的特征及内在机制，提出科学问题和假说，并在条件允许的情况下对这些问题和假说进行回答和验证。在获取的数据的基础上，综合分析实习区的地理和生态现象。在这一过程中，学生需要综合运用知识和数据，对具有地区特色的问题进行思考和分析，并选择合适的题目撰写论文。

英文简介 (Course Description) :

Field Ecology is designated to train students the skills of observing, measuring and recording ecological phenomena, and the ability of putting forward scientific questions. It is obligatory for students majoring in Ecology. The field course is based on the Peking University Saihanba Ecological Observatory in Hebei Province. Eight field routes are designed to following the gradients of four main determinants in this region: climate, vegetation, soil and human disturbance.

The students are required to record vegetation, soil data along the eight routes in groups, leading by the teacher and teaching assistants. The field data are integrated for testing the hypothesis put forward in the field observations. Each student has to submit a final report in the form of academic paper with part of the field data and their knowledges in ecology.

-End-

课程号 (Course Number) : 01537530

课程名称 (Course Title) : 普通地质实习/Field Practice of Physical Geology

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 1

授课教师 (Faculty) : 张家富

先修课程 (Prerequisites) : 普通地质学

中文简介:

地球概论野外实习课是为环境学院本科生和研究生开设的野外实习课。要求选修本课程的学生上个学年(近期)选修过“地球概论”或“普通地质学”。“地球概论”课是为北京大学地理、环境等非地质专业本科生开设的有关地球科学，特别是关于地壳的组成、构造和演化知识的基础课，课程由三部分核心内容构成：(一)地壳的物质组成，讲述矿物和岩石学基本内容，认识重要的常见矿物和岩石；(二)地壳的地质构造，介绍有关地质构造和大地构造的基本知识，重点学习褶皱构造、断层构造，以及板块构造学说；(三)地壳演化简史。

英文简介 (Course Description) :

Field practice of Earth Sciences

-End-

课程号 (Course Number) : 01539340

课程名称 (Course Title) : 地貌实习/Field Practice of Geomorphology

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 张家富

先修课程 (Prerequisites) : 地貌学

中文简介:

实习地区主要包括山西大同盆地、河北秦皇岛地区。大同盆地是我国地貌类型丰富（包括山地、平原、河流、火山、冲积扇、各种黄土地貌和新构造活动形迹及地貌，丰富的新生代沉积类型和良好的露头剖面）、丰富的历史人文景观，同时是我国重要的能源化工基地而又地处我国的生态脆弱地带，具有长期的地貌学研究历史和良好的研究基础，因而是我国最理想的地貌学教学实习地区。秦皇岛地区拥有十分齐全和典型的海岸地貌组合以及典型的滨海平原和具有特色的基岩山地地貌，而且是我国十分重要的港口城市 and 最重要的海滨旅游城市。两个地区包括了属于地貌学研究对象的大部分地貌类型和地貌过程。通过本次实习课程的学习，学生在教师指导下，系统学习和掌握地貌学野外研究的基本方法。包括如何围绕研究目的，收集和相关资料，制定野外考察和研究方案；针对各种宏观和微观的地貌现象，如何观察、测量、分析、研究、描述和记录；资料整理、分析研究、图表绘制、研究报告撰写等。通过实习，还可以对自然地理、经济地理、历史与人文地理、风景旅游、资源开发与环境保护等问题获得较多的感性认识。

英文简介 (Course Description) :

The areas for the field training included Datong Basin in Shanxi Province and Qinhuangdao City in Hebei Province. In Datong Basin there are many types of landforms such as maintains, plain, rivers, alluvial fans, and different types of typical loess landforms. There are also lots of phenomena of neotectonic movements and neoteconic landforms, such as fault scarps, fault grabens or horsts, volcano cones, basaltic lava plateforms or ridges. And there are also many different types of Cenozoic sediments and many good geologic outcrop sections. There are also very rich in historic and cultural scenic spots. The region is one of the most important energy sources and chemical industry of China though it is an ecologically fragile region. The region of Qinhuangdao City is a coastal region, which included almost all types of coastal landforms, typical coastal plain and unusual beautiful mountains. Qinhuangdao City is one of the most important tourist city as well as a famous historical cultural city and an important modern seaport. The two regions included most types of landforms and geomorphologic processes and evolutionary history. There is a long history of geomorphological and Quaternary and geographical research on the regions. So the regions are very idea for field training in geomorphology.

In the training course the students will systematically learn the field research methods of geomorphology, which include how to collect relevant literature materials, maps and other information, draw up a plan for the field investigation and research program, how to observe, measure, analyze, research, descript and to record the results, how

to analyze the materials, draw maps and diagrams, and to write the research report of the regions based on the research purpose and under the guidance of teachers. From the training course the students can also get some perceptual knowledge of physical geography, economic geography, historical and cultural geography, scenery and tourist geography, resource exploitation, environmental and ecological sciences.

-End-

课程号 (Course Number) : 01630580

课程名称 (Course Title) : 人际沟通分析学/Transactional Analysis

开课院系 (School/Department) : 心理与认知科学学院/School of Psychological and Cognitive Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 杨眉(校外)

先修课程 (Prerequisites) : 无

中文简介:

人际沟通分析学 (Transactional Analysis, 又译交互作用分析学) 由美国学者E. 伯恩首倡, 其要点是研究人们在沟通与交流中相互影响的心理规律, 通过分析人们交流中的表现去观察人们, 以找出妨碍人沟通的心理原因, 并从中提取健康的交流和沟通模式。人际沟通分析学不仅可以帮助我们更好地与他人沟通, 而且还向我们提供了与他人实现共同成长的心理方法。目前人际沟通分析学是国际上非常流行的心理学理论之一。这个理论既是一个有效率的心理治疗理论, 同时也是一个非常有效率的心理自助工具, 可以有效促进人的心理健康, 并提升人的生活质量和幸福感。

英文简介 (Course Description) :

Transactional Analysis, founded by American psychiatrist Eric Berne, majorly researches the psychology law of transaction within the interpersonal communication. The theory aims to observe individuals in-depth by analysing their behaviors in the transaction process, in order to reveal the psychological causes obstructive to it and eventually extract constructive and healthy models for communication. Transactional Analysis not only helps people to link-up with others better, but also offers a psychological approach for them to grow together in community.

Transactional Analysis is currently one of the most popular theories of psychology throughout the world. It is an effective theory for psychotherapy as well as an efficient method for psychological self-help, which promotes people's mental health, improves their quality of life and boosts their well-being.

-End-

课程号 (Course Number) : 01630713

课程名称 (Course Title) : 时间与认知/Time and Cognition

开课院系 (School/Department) : 心理与认知科学学院/School of Psychological and Cognitive Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 包燕

先修课程 (Prerequisites) : 普通心理学

中文简介:

时间在认知加工和日常生活中具有不可忽视的重要作用。本课程采用全英文教学方式，通过围绕时序知觉、时距估计、感觉运动同步、主观现在、日节律等一些列专题的介绍与讨论，旨在为学生提供时间与认知相关领域的广阔视角，了解该领域的前沿问题和研究方法，激发学生的好奇心和科学研究热情，为其将来从事相关研究打下坚实基础。

英文简介 (Course Description) :

Time is a fundamental aspect of cognitive processing and daily life. This course is a elective course designed for both undergraduate and graduate students, aiming to provide them broad viewpoints as well as advanced research on time-related essential topics such as temporal order perception, duration estimation, sensorimotor synchronization, subjective present, circadian rhythms etc..

-End-

课程号 (Course Number) : 01630746

课程名称 (Course Title) : 发展认知神经科学/Developmental Cognitive Neuroscience

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 解万泽

先修课程 (Prerequisites) : 无

中文简介:

发展认知神经科学是近年来广受关注的交叉学科。《发展认知神经科学》这门课程将帮助心理学、神经科学等相关专业的学生更好地了解大脑与认知功能发展的特点，以及基因和经验在脑与认知发展过程中扮演的重要角色。本课程的内容将涵盖与社会、认知、情绪发展相关的重要理论及科学问题，并聚焦于神经科学如何帮助我们解答脑与认知发展相关的理论及应用问题。本门课教授的主题包括但不限于：脑发育的理论与机制；发展认知神经科学常用的研究方法；重要认知功能，如注意、语言、记忆以及视觉等发展的神经机制；以及如何利用神经科学的手段对儿童精神病例的预后进行预测。

本课程对学生的基本要求是：了解发展认知神经科学中的前沿理论，明白大脑及重要认知功能发展的规律及机制，掌握常用的神经科学手段的原理与使用方法，包括实验设计及数据分析等。

英文简介 (Course Description) :

This course explores the fascinating and complex puzzle – the developing brain, as well

as how genes and experience interactively contribute to brain development and shape who we are. In this course, we will explore the central concepts of social, cognitive, and emotional development with an emphasis on the role that neuroscience can play in raising and answering theoretical and applied developmental questions, including but is not limited to the following: How does the brain structure develop from childhood to early adulthood? What are the neuroscience tools that researchers use to study the brain in children? What are the neural mechanisms underlying the development of various cognitive functions, such as attention, language, memory, and face perception? Can neuroscience help us to determine who will develop psychopathology? This course will cover development from infancy through adolescence. We will discuss theoretical and empirical work that encompasses both typical and atypical development and emphasizes a translational approach between basic developmental science and clinical applications. The intention is to (a) lay a foundation for the students to comprehend and conduct research in brain and cognitive development and (b) introduce the students to different neuroscience perspectives and approaches used to study development.

-End-

课程号 (Course Number) : 01831990

课程名称 (Course Title) : 跨文化交流学/Inter-cultural Communication

开课院系 (School/Department) : 新闻与传播学院/School of Journalism and Communication

学分 (Credits) : 2

授课教师 (Faculty) : 李臻怡(校外) , 许静

先修课程 (Prerequisites) : 无

中文简介:

当今在“地球村”中，人们生活在跨文化交流日益频繁的社会环境里。跨文化的知识和能力是21世纪大学教育，特别是素质教育的内容之一。

本课的目的是：使选课者掌握“跨文化交流学” (Intercultural Communication)这一传播学分支的基本概念和基本理论，增加中外跨文化交流知识，提高跨文化交流技能，建立跨文化交流意识，培养分析和解决跨文化交流问题能力。

英文简介 (Course Description) :

In today's "Global Village", people are experiencing more frequent interaction across cultures. Knowledge and competence in intercultural communication are essential for 21st century university education, in particular as part of overall character development for the students.

The objective of this course is to equip the students with basic concepts and theories of Intercultural Communication as a branch of communication studies with enhanced knowledge, competence, and awareness, as well as analysis skills to resolve intercultural challenges.

-End-

课程号 (Course Number) : 01832150

课程名称 (Course Title) : 媒体与国际关系/Media and International Relations

开课院系 (School/Department) : 新闻与传播学院/School of Journalism and Communication

学分 (Credits) : 2

授课教师 (Faculty) : 陈开和

先修课程 (Prerequisites) : 不要求先修课程, 但选课同学需阅读并熟悉现当代国际关系历史, 并具有较好的英语阅读能力。

中文简介:

本课程将结合具体案例, 帮助选课学生熟悉有关“媒体与国际关系”的主要理论视角, 媒体在不同国际关系形态中发挥作用的主要方式, 以及媒体在我国对外关系中的影响。

英文简介 (Course Description) :

This course will familiarize students with the basic theoretical perspectives in the field of Media and International Relations. It will also introduce the roles that media play in major international relations formats like war, diplomacy and international public relations. In the final part, the course will discuss the relationship between media and China`s foreign relations.

-End-

课程号 (Course Number) : 01834180

课程名称 (Course Title) : 全球传播的新闻叙事及想象/Global Journalism in a World of Crisis

开课院系 (School/Department) : 新闻与传播学院/School of Journalism and Communication

学分 (Credits) : 2

授课教师 (Faculty) : 吴靖, 许静, 张展(校外)

先修课程 (Prerequisites) : 无

中文简介:

本课旨在跟进学生对国际新闻的认识, 从策略叙事的角度解析新近发生的对地区或世界形势发展, 以及全球新闻业产生较大影响的代表性案例, 并探讨国内媒体对外传播中尚存的不足。希望本课可以激发学生的全球新闻想象, 并形成学生对新媒体环境下国际新闻演变发展的批判思维, 以及对对中国媒体叙事策略的反思。

英文简介 (Course Description) :

This class seeks to deepen students` understanding of narrative analysis, especially strategic narratives in the studies of international news and stimulates students

imagi-nation of the Global Journalism. It focuses on the most critical cases that recently emerged and have significantly impacted the evolution of global journalism as well as China's (mediated) engagement with the world media environment.

The class is composed by four main parts:

Part I. Theoretic Understanding of Narratives in International News and Its De-velopment

This part provides a basic theoretic understanding of media narratives, strategic narra-tives, international news, and the importance of narrative analysis in media and com-munication studies. Responding to the changing news industry that is shaped by the development of digital media ecology, elements such as connectivity, interactivity, re-contextualization of media content, and the complex web of intercultural dynamics are taken into consideration to observe the new Web 2.0 storytelling.

Part II. Emerging Cases of the world of Crisis and the development in narratives

This part will discuss how the news narratives were developed into shaping this world filled with crisis. Emerging critical cases will include: Europe-China Relation after the Eurozone debt Crisis(2009-2014); Brexit and its impact on China(2015); Trump's Greater America and his full-range mediated Campaign(2016); and China's One Belt One Road Initiatives (2014-2017)

Part III. New Trends in Global Journalism: Crisis of Journalism or Challenges?

This part will introduce some of the most trendy phenomenons (e.g. data journalism, networked journalism, fake news) recently leaded the move of the global news indus-try in response to the development of the new media technology and the spread of so-cial network platforms. The discussion will not center "journalism" as business to dis-close the so-called "crisis", but center "journalism" as production of reliable infor-mation and analysis, that we just arrived at its golden time.

Part IV. Where and How is China's Voice?

This part will focus on the performance of Chinese media going out and whether the development of its strategic narratives fit or not yet fit into the global media environ-ment. The current limits of Chinese media narratives of going abroad, and the future improvement that should be learned and prepared for a better narrative version of China's stories will be inspired.

Given the significant challenges facing the World— America (e.g. uncertainties after Trump' s presidency, anti-globalization movement); Europe (e.g., the potential for EU disintegration, the refugee crisis, and right-wing political movements) and China (the slowing growth in the economy, the looming environmental sustainability crisis, and the challenges to China' s public diplomacy), this class unfolds at an especially im-portant time when protectionism, populism and anti-globalization are on the rise, and China' s international role is winning more significance in face of the changing power structures of the global economy and political order. Students will be guided to look at these cases of emerging crisis through the lens of narrative analysis, and guided to un-derstand the challenges posed by new technologies for future news making. The pro-duction of news has already become a never-ending process and web of creating in-formation and fact-checking, we are all in such process and web now as different

nodes in creating, transmitting, updating, or recreating narratives about ourselves and the world.

-End-

课程号 (Course Number) : 01834300

课程名称 (Course Title) : 媒体与中国社会/Media and Society in China

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 陈开和

先修课程 (Prerequisites) : 不要求先修课程。选课同学事先对中国现当代历史应有所了解。

中文简介:

本课程将帮助学生学习和了解中国（包含中国大陆以及香港、台湾等地区）新闻与传播事业的总体情况，以及中国新闻传播政策的演变过程及相关影响因素。此外，课程将分析中国各类媒体（包括印刷媒体、电子媒体以及新兴的网络媒体等）的发展过程及其与中国社会的互动关系，同时探讨中国媒体在海外的影响力，以及海外媒体在中国的情况及对中国社会的影响。课程讲授方式包括教师讲授、以及相关的小组讨论/参观考察等。

英文简介 (Course Description) :

This course offers a general overview of journalism and communications in China, with a focus on the Mainland China. Media in other parts of Greater China, including Hong Kong and Taiwan will also be addressed. It will analyze the features, developments and impact of various media: print, TV, radio, online media, and social media like Weibo and Wechat. Based on an understanding of the development and current media landscape, the course will take a comparative look into the role of the media in Chinese society. It will also look at how China is perceived in and outside China through the prism of the media, as well as how the outside world is covered by Chinese correspondents.

-End-

课程号 (Course Number) : 01834310

课程名称 (Course Title) : 宏观经济报道：理论、问题与新闻评论/Macroeconomic Reporting: Theory, Issues and Opinion Pieces

开课院系 (School/Department) : 新闻与传播学院/School of Journalism and Communication

学分 (Credits) : 2

授课教师 (Faculty) : 俞虹, 陈晋(校外)

先修课程 (Prerequisites) : 无

中文简介:

做经济报道需要一定的知识储备，至少要熟悉经济领域的技术词汇和基本思维框架。这门课程致力于介绍做经济报道所需要的基本经济理论和概念，积累必要的技术知识（这本身就是一门语言），以便学生理解时事、关心时事，并逐渐形成自己的观点。课程通过让学生阅读从英文主要媒体精选的约40篇新闻评论了解世界动向，启发学生思考经济政策和社会现象。课程要求学生选择自己感兴趣的话题，练习用英文表达自己的见解，在边学习、边讨论、边练习的过程中熟悉宏观经济新闻报道与评论的写作过程和基本模式。

英文简介 (Course Description) :

This course is designed to equip students with basic economic concepts and theoretical framework for thinking about some of the important issues of the day, as reported and commented in major English media outlets. By studying more than 40 op-ed pieces by some well known economists, policymakers and journalists, I hope to acquaint students with the best minds of American columnists. These op-ed pieces cover some of today's intensely debated issues: trade wars, internationalization of the RMB, macroeconomic policy adjustments through monetary and fiscal policies. My role will be to help students understand the issues under debate, the purpose of writing, the internal logic of each author's argument, and stimulate students to think about why these pieces are well argued and well written. I will lead students to appreciate the subtleties in these articles which most effectively reflect the author's intentions. Some optional readings are listed at the end of each week's teaching schedule for those students who are interested in more depth of the subject matters. They range from academic papers to policymakers' speeches and to industry research by practitioners.

-End-

课程号 (Course Number) : 01834330

课程名称 (Course Title) : 影像与社会/Images and Society

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 吴靖

先修课程 (Prerequisites) : 社会理论相关

中文简介:

影像是一种传播方式，与文字、声音一起构成了我们社会的表意体系。随着媒介技术的发展，现代社会的重要特征之一就是影像充斥了人们生活的每一个角落，一方面扩大了人们的感知范围与生活经验，另一方面又补充或替代了许多传统的表达方式，比如文字和交谈。与其他各类表意方式相比，影像的诱惑是显而易见的，因为它带给我们直观、感性、轻松和奇观式的表意体验，成为许多社会传播所青睐的媒介，而广告、新闻、宣传、娱乐等活动对视觉符号的偏爱又进一步推动整个社会走向影像爆炸，影像已经超越现象成为一道独特的社会文化景观。

这门课为喜爱和关注影像文化以及影像的社会建构与社会角色的学生设计。课程的重点在于介绍和讨论组成当代社会视觉文化的重要媒介——摄影、电影、电视和数字新媒体——以及这些媒介的技术性、社会性和文化性。本课程主要涵盖三个方面的内容：一是介绍视觉文化理论与社会理论，探讨视觉表意的技巧和方式，人们解读和体验视觉符号的过程，以及观看所造成的社会关系；二是简单介绍上述几种媒介出现、发展和成为重要传播媒介的文化史与社会史，重点在于这些媒介社会使用模式形成的过程和原因，考察技术与社会相互塑造和影响的方式；三是通过案例讨论影像与社会意识之间的互动，考察影像如何维护、质疑或改变现代社会中的一些重要观念，比如性别观念、有关自然和科学的观念、民族意识、阶层意识等。三个方面相互穿插，构成对影像与社会之间关系的批判性考察。

教材：本课程没有单一的教材，每节课都会有相应的阅读材料，推荐阅读的书单在最后列出。

英文简介 (Course Description) :

Image making is an important communicative function in modern societies. With the development of media technologies, visual images are increasingly central to how we represent, make meaning and communicate in the modern world around us. The relationship between new ways of seeing brought about by new visual technologies and the cultural experience of modernity has long been documented by western social theories. This course hopes to explore how visual media played a part in the modernizing experience of 20th and 21st Century China. Chinese modernity is unique in the way that it is less influenced by industrialism than by political and cultural radicalism and dependent ideological conditions. Visual technologies such as printing, photography, film and television, along with other communication media, are important means through which modern ways of life are imagined and modern values mediated. The arrangement of the course is mainly thematic with strong historical perspective. Three themes, namely otherness and identity formation, gender visions and representations and urban/rural imaginations, will be the focus of our discussions in this course. The three themes are closely related to issues of modernity and modern imaginations, and visual cultures associated with the republic, socialist, radical and post socialist eras of Chinese history are discussed in terms of their mediation and creation of Chinese modernity in both its uniqueness and connection to a global pattern.

-End-

课程号 (Course Number) : 01834348

课程名称 (Course Title) : 健康传播研究：理论与方法/Health Communication Research: theories and Methodologies

开课院系 (School/Department) : 新闻与传播学院/School of Journalism and Communication

学分 (Credits) : 1

授课教师 (Faculty) : 许静

先修课程 (Prerequisites) : 无

中文简介：

健康传播作为传播学的一大分支，兴起于上世纪80年代的美国。经过40多年的发展，健康传播已经形成相对较多的研究成果和一定的理论方法。相比之下，国内的健康传播研究起步较晚。2016年，在韩启德院士的倡导下，北京大学与北大医学部创办了国内第一个健康传播专业硕士项目，在致力于跨学科的实践创新型人才培养的同时，也致力于吸收新理论和新方法，构建合理的知识体系，为研究型人才的培养创造条件。

本课程邀请海内外学者，以专题讲座的形式，着重介绍健康传播研究中较具前沿性和代表性的理论和方法，以促进中外学术交流，推动相关研究。

英文简介 (Course Description) :

As a major branch of communication studies, health communication emerged in the United States in the 1980s. After more than 40 years of development, health communication has formed a relatively large number of research results and certain theoretical methods. In comparison, domestic health communication research started relatively late. In 2016, under the advocacy of Academician Qide Han, Peking University and Peking University Health Science Center established the first master's program in health communication in China. While committed to cultivating interdisciplinary, practical, and innovative talents, it also aims to absorb new theories and methods, build a reasonable knowledge system, and create conditions for the cultivation of research talents.

This course invites scholars from home and abroad to focus on the introduction of cutting-edge and representative theories and methods in health communication research through thematic lectures, in order to promote academic exchanges between China and foreign countries and advance related research.

-End-

课程号 (Course Number) : 02031540

课程名称 (Course Title) : 中国古代文化/Ancient Chinese Culture

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 廖可斌

先修课程 (Prerequisites) : 无

中文简介：

本课程拟分若干专题，比较系统地介绍中国古代文化的各个主要方面，使学生对中国古代文化的整体框架、基本特征及当代意义有基本了解。本课程注重介绍中国古代文化相关知识，同时强调问题意识、比较视野、当代视角，即从中国古代文化的历史现象中提炼出若干问题，注重中外文化特别是中欧文化的比较，探讨中国古代文化对中国历史发展的影响及其当代价值。

英文简介 (Course Description) :

This course includes several topics and systematically introduces the main aspects of ancient Chinese culture, aiming to make students get a basic understanding of the framework, characteristics and contemporary significance of ancient Chinese culture. While focusing on knowledge relating to ancient Chinese culture, this course also lays emphasis on problem consciousness, comparative vision and contemporary perspective. Specifically, it emphasizes generalizing several important aspects of ancient Chinese culture from historical phenomena, and comparing Chinese culture with foreign cultures, especially European ones, and exploring how ancient Chinese culture influences Chinese history and what's its contemporary value.

-End-

课程号 (Course Number) : 02034960

课程名称 (Course Title) : 经学通论/General Theory of Classical Confucianism

开课院系 (School/Department) : 中国语言文学系/Department of Chinese Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 顾永新

先修课程 (Prerequisites) : 现代汉语

古代汉语

中文简介:

中国文化以儒家思想为主体，而儒家思想的直接载体就是儒家经典，其书称作经书，其学称作经学。不读经书，就不能了解儒家思想；不了解儒家思想，就无法认识中国文化。所以，认识中国文化须从儒家经典开始。广义的经学，统摄于儒学之下，是儒家学术的正统。它直接表现为一种实践伦理学，同时也是一种政治哲学，推己及人，修身齐家，经世致用。作为狭义的学术范畴，经学包括对儒家经典文本的思想义理的研究，名物典制、章句训诂的研究，经书的文献学研究，以及经学家和经学流派的研究，经学发展、演变的历史的研究，经学与其他学术门类相互之间关系的研究等等。在“五四”以前中国两千多年的历史长河中，所谓学术就是以经学为主干，学人以名列儒林为荣，著述以敷衍经典为贵，派别纷繁，训解浩瀚，构成了中国古代学术史的核心和发展的主线，也是中国古代社会主流意识形态的代表形式，对于学术、文化乃至政治经济、社会生活的发展都有着深刻的影响，也对古代朝鲜、日本等周边国家产生了重大影响。

“经学通论”课程拟从讲授经学范畴的内涵和外延入手，旁及经学史的演进轨迹和经学文献的主干系统（严格辨析经学、经学史和经学文献），以十三经的成书源流、内容构成、思想旨趣及历代整理研究成果为主，辅以经书文本的讲读。

英文简介 (Course Description) :

Chinese culture is generally seen as being rooted in Classical Confucianism, of which the Five Classics are the basic texts. With particular emphasis on the importance of the family and social harmony, the core of Classical Confucianism is humanistic. In

its widest sense, Classical Confucianism is described as an ethics and even a way of governing. In its limited sense, it is a study on Confucian classic texts. It is related to historiography, philology, philosophy and bibliography. It has great impact on Chinese traditional culture, politics and social life. Even Japan and Korea, included in the Chinese cultural sphere, are also strongly influenced by Classical Confucianism. Our course is starting with the introduction of Classical Confucianism, focusing on the texts of Thirteen Classics. We are going to depict the history of how Classical Confucianism has been developing during the last over 2000 years, and discuss how to understand and study Classics.

-End-

课程号 (Course Number) : 02319642

课程名称 (Course Title) : 传统太极拳: 哲学与实践/Traditional Taijiquan: Different Philosophy & Practice

开课院系 (School/Department) : 哲学系/Department of Philosophy

学分 (Credits) : 2

授课教师 (Faculty) : 朱效民

先修课程 (Prerequisites) : 对先修课程没有具体要求
建议最好有学习、练习太极拳的经历

There is no specific request for this class, however it's better for students to have an experience of learning and practising Taijiquan before the class.

中文简介:

Traditional Taijiquan: Philosophy and Practice 传统太极拳: 哲学与实践

随着2020年我国申报的“太极拳”项目，列入联合国教科文组织人类非物质文化遗产代表作名录，太极拳作为中国传统文化的优秀代表越来越受到世界的普遍关注，据相关统计，全世界练习太极拳的人数高达上亿人，是世界上参与人口最广泛的运动之一。中国在许多国家设立了500多家孔子学院以及上千家孔子课堂，太极拳是其中非常重要和富有特色的学习内容，也是外国人学习了解中国传统文化的重要窗口。近年来太极拳是A申请进入奥运会也日益受到普遍的关注。

太极拳被誉为“君子拳”“哲人拳”“文化拳”，其理念和智慧对当今运动、健身，以及修身养性都具有重大参考价值和现实实践价值。但是，目前太极拳的传播、发展、研究、教学等在国内外可以说是良莠不齐，问题多多，有的地方甚至乱象丛生，以讹传讹。其主要原因一方面在于传统太极拳的保守(传内不传外)、难练(“代不数人”)、小众化、独特的思想使其很难被现代社会所认知、理解和接受，另一方面，太极拳的巨大魅力和声望又使得参与者众多，认知理解五花八门，使太极拳的发展扭曲变形，越来越偏离传统正道，为此太极拳名家李

雅轩曾言：“99%的练习者都练错了”。以太极拳的一些独特理念和观点为例，如“外三合（手与脚合、肘与膝合、肩与胯合），内三合（心与意合，意与气合，气与力合）”“以无法为有法”“实非全然占煞，虚非全然没有”“极柔软然后极坚刚”等几乎不可能仅仅通过字面的理解和翻译进行有效的沟通，需要有一个文化上的范式转换。

本课程重点围绕“如何理解传统太极拳”，计划从哲学理念和实践感悟两个角度进行考察和探讨。

在哲学理念方面，深入挖掘传统太极拳自身的特殊概念（如内气）、方法（如怎么舒服怎么打拳）、思路（如舍己从人）、理论体系（如以心行意、以意导气、以气运身），溯本求源，恢复太极拳的本来面貌，避免当前学术界、体育界用西方的哲学框架、现代科学、运动原理过度解释太极拳，同时引入中西比较的视野，探讨中西哲学的交流和互动，如“功夫哲学”对西方哲学的借鉴和启发。

在实践感悟方面，太极拳是“用身体感受中国传统文化”，借助现场教学互动，将具体形象地展示传统杨式太极拳和武氏太极拳的一些具有代表性的基本功、单式、套路、推手等的单人练习、双人配合练习，体验内气、合力、引进落空等太极拳作为内家拳的真实感觉，让学生用身心感知传统太极拳的魅力。学生通过身体力行、身心结合深入、实际地了解和感受中国传统文化。

本课程的主要讨论议题如下：1 什么是传统太极拳：独特的理念和思想；2 太极拳的历史与发展：传统与“现代”；3 太极拳的主要分类与相互差异：“十人十太极”；4传统太极拳当前面临的困境和挑战：太极拳能不能打？5传统太极拳的表达：口诀与暗喻；6太极拳的文化交流：现代沟通与中西翻译；7太极拳的哲学：东方功夫哲学与西方理性认知；8太极拳的“体操化”与“舞蹈化”：现代创新还是传统丧失？9太极拳的健身：身心一体、修心养性；10如何练好太极拳：传统师傅的教诲；11太极拳与李小龙的截拳道；12太极拳的“神功”：武林逝去还是历史迷雾？13太极是A入奥：柔道、跆拳道、瑜伽的启示；14太极拳与中医药：范式的转化与保留；15太极拳如何走向世界：自我与他者；16传统太极拳的未来：表达自我、开拓世界。

曾有人言，十字架是西方基督教的标志，新月是中东伊斯兰教的标志，而太极阴阳图正越来越被认可是中华文明的一个标志性符号。尽管目前传统太极拳遭遇不少现代社会的挑战和非议，但太极思想在中国的历史长河中绵延数千年而不绝，至今仍焕发出无穷的魅力和生命力，其养生与技击的独特理念在当今全球化时代依然具有哲学范式转换的重大参考意义和个人具体的实践价值。本课程将具体生动地在传统太极拳的哲学和实践两个方面进行深入探讨。

英文简介 (Course Description) :

Traditional Taijiquan: Philosophy and Practice

Taijiquan is also called as Tai-chi-chuan or Shadowboxing. In Dec. 2020, Taijiquan was selected on The Representative List of the Intangible Cultural Heritage of Humanity, UNESCO, which certainly will attract more and more people all over the world to recognize and enjoy the Taijiquan. It is said that more than 100 million people are practising Taijiquan frequently, which makes Taijiquan as one of the most popular sports in the world. Chinese government has already set up more than 500 Confucian Colleges and more than 1000 Confucian Classes in different countries, in which Taijiquan is an outstanding representative symbol of Chinese culture. And whether Taijiquan should be a part of

Olympics is also a hot topic in the international society.

In China Taijiquan is also presented as "gentleman boxing" or "philosopher boxing", the thinking and wisdom of Taijiquan are very unique for the sports, health, and cultivation of people. However, there are a lot of problems and distortions in the practising, teaching, international communication and research of Taijiquan mainly due to two reasons, one is that the traditional Taijiquan is quite conservative (only communicate in the families), it's too hard to master ("There are only a few real masters in every generation" by Yang Luchan), modern people can't accept Taijiquan's special thinking, the other reason is that although more and more people are learning Taijiquan today, but "99% practitioners are playing wrong Taijiquan" (by Li Yaxuan who's a famous master of Yang style Taiji) as they don't know and have no right feeling of traditional Taijiquan. For example, nowadays many of both foreign and Chinese people in fact don't understand the traditional Taijiquan and often misunderstand Taijiquan as only a gymnastics or dancing due to their western thinking ways. And indeed, many ideas of traditional Taijiquan couldn't be translated by modern philosophy, western science or even literal words.

This class will focus on the topic of "how to understand the traditional Taijiquan", and both philosophical and practical perspectives will be discussed by mind and felt by body.

On the philosophical side, the Taijiquan's special concepts (inner Qi - inner energy), methods ("If you feel comfortable then you are right"), thinking way (forget yourself and just follow your opponent), theory system (get a will by your mind, get Qi by your will, to move by your Qi) will be discussed to show a panoramic view of traditional Taijiquan, which also with the comparative discussion between Chinese "Gongfu (kung fu) philosophy" and western philosophy.

On the practical side, Taijiquan is a culture which is felt by the body, as a result the class will teach students some typical basic gongfu, single moments, routines and push hands to help student feel their own inner Qi, and the real sense of Taijiquan.

Main topics are: 1 what is the traditional Taijiquan? 2 the history of Taijiquan; 3 the main kinds of Taijiquan; 4 whether Taijiquan can fight or not? 5 the expression of traditional Taijiquan: poem and metaphor; 6 the communication and translation of Taijiquan; 7 philosophy of Taijiquan: gongfu and rationality; 8 the gymnastics of Taijiquan; 9 Taijiquan to the health; 10 how to practise Taijiquan; 11 Taijiquan and Bruce Lee's Jeet Kune Do; 12 the miracle feat of Taijiquan; 13 Taijiquan and Olympics; 14 Taijiquan and the traditional Chinese medicine; 15 Taijiquan and the world; 16 The future of Taijiquan

The thinking of Taijiquan is the soul of Chinese culture which still has deep influence on today's Chinese people, by recognizing and learning Taijiquan one can surely get a better understanding of traditional Chinese health preservation, medicine, philosophy, literature, art and daily life, etc.

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课程号 (Course Number) : 02334141

课程名称 (Course Title) : 科学哲学前沿/Summer School on Philosophy of Science

开课院系 (School/Department) : 哲学系/Department of Philosophy

学分 (Credits) : 2

授课教师 (Faculty) : 陆俏颖, DON A. HOWARD(校外) , Peter Takacs(校外)

先修课程 (Prerequisites) : No Prerequisite. Open to any undergraduate student interested in the philosophy of science.

中文简介:

这门课程提供了对物理学和生物学哲学基础的跨学科探索,旨在阐明它们的概念框架和方法论。通过整合物理学哲学和生物学哲学的见解,学生将深入了解这些科学领域内的基本问题、假设和争论。

课程的第一周将探讨物理学哲学,审视空间、时间、因果关系和物理定律等基础概念。学生将批判性地分析量子力学、相对论和热力学等理论对我们对现实、决定论和科学知识界限的理解的影响。

第二周的焦点将转向生物学哲学,学生将探索生命的本质、演化、复杂性以及在生物系统中目的论的作用。主题可能包括物种的定义、自然选择机制、基因与性状之间的关系,以及遗传学发展的哲学意义。

整个课程将关注物理学和生物学之间的交叉点,包括对涌现、还原主义和科学统一性的讨论。学生将培养批判性思维能力,并对物理学和生物学的哲学基础有着细致的理解。他们将能够对科学理论进行批判性评估,阐明自己的哲学立场,并欣赏不同科学学科之间的相互联系。

英文简介 (Course Description) :

This course offers an interdisciplinary exploration of the philosophical underpinnings of both physics and biology, aiming to elucidate their conceptual frameworks, methodologies, and implications. By integrating insights from the philosophy of physics and the philosophy of biology, students will gain a deep understanding of the fundamental questions, assumptions, and debates within these sciences.

The first week of the course delves into the philosophy of physics, examining foundational concepts such as space, time, causality, and the nature of physical laws. Students will critically analyze the implications of theories such as quantum mechanics, relativity, and thermodynamics on our understanding of reality, determinism, and the limits of scientific knowledge.

In the second week, the focus shifts to the philosophy of biology, where students will explore the nature of life, evolution, complexity, and the role of teleology in biological systems. Topics may include the nature of species, the mechanisms of natural selection, the relationship between genes and traits, and the philosophical implications of developments in genetics and synthetic biology.

Throughout the course, attention will be given to the intersections between physics and biology, including discussions on emergence, reductionism, and the unity of science. Students will have developed critical thinking skills and a nuanced understanding of the philosophical foundations of both physics and biology. They will be equipped to critically evaluate scientific theories, articulate their own philosophical positions, and appreciate the interconnectedness of different scientific disciplines.

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课程号 (Course Number) : 02335200

课程名称 (Course Title) : 庄子哲学/Philosophy of Zhuang Zi

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 郑开

先修课程 (Prerequisites) : 无

中文简介:

庄子是中国哲学史上最特色的人物之一。其独特的关于人生和世界的思考，以及生活方式的选择，在中国历史上留下了浓墨重彩的一笔。本课程以庄子内七篇为主，将系统介绍庄子以生命为中心的哲学思考，其中包括对世界、权力、财富、功名等的理解。在讲授的过程中，希望借助于庄子和儒家对比的方式，展现两种不同的生命形象。

英文简介 (Course Description) :

Zhuangzi is one of the most distinctive figures in history of Chinese philosophy. His special meditation on life, world, and choice on lifestyle, has produced a deep and long-reaching influence on Chinese history. This course will focus on the inner chapter of zhuangzi, and attempts to introduce the philosophical thoughts centering on life systematically, including the understanding of world, power, wealth and fame. During the course, I hope to show you two kinds of different life forms by means of comparing Zhuangzi and Confucianism..

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课程号 (Course Number) : 02432090

课程名称 (Course Title) : 本土视野下的中国外交与国际事务/Chinese Perspective on International and Global Affairs

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 陈长伟

先修课程 (Prerequisites) : 无

中文简介:

本课程将在本土视野之下介绍中国外交与国际事务的互动关系，分析中国如何通过全面参与国际和全球事务为国内经济与社会发展营造有利的外部环境，以及该过程如何影响了中国自身的政治和外交行为。本课程分导论、主体和结论三部分。导论部分将介绍中国外交与国际事务研究的主要学习方法，主体部分讨论当代中国对外关系的主要理论与现实问题，包括中国对外关系的历史背景、民族主义和公众舆论对中国对外政策的影响、中国对外政策的决策机制、主要决策者及其风格分析、中国和全球治理、中国和世界经济、中国的软实力建设和公共外交、中国的周边外交战略、以及学术界关于中国对外政策分析中的若干理论争鸣。结论部分则尝试对中国未来的国际地位进行前瞻性的讨论。

英文简介 (Course Description) :

This undergraduate lecture course is designed to survey major topics of the international relations of the People's Republic of China with a specific focus on Chinese perspective. With a brief introduction of major theoretical perspective on foreign policy studies, the main body of the course is organized around special topics of Chinese foreign policies, including the Chinese historical legacy and its impact on China's foreign policy, nationalism and public opinion in contemporary China, mechanism of China's foreign-policy decision-making, leaders and their styles, China's attitudes towards global governance, the economic dimension of China's interactions with the outside world, public diplomacy and China's soft power and China's policy towards peripheral countries, (in particular, the Northeast Asia and the South China Sea). This course pays attention to the application of different international relations theories to the problems under study. The course aims to acquaint students with knowledge of China's involvement in world affairs in historical and contemporary perspectives and train them with an analytical understanding of the dynamics of China's foreign policy.

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课程号 (Course Number) : 02432140

课程名称 (Course Title) : 中国政治与公共政策/Chinese Politics and Public Policy

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 雷少华

先修课程 (Prerequisites) : 无

中文简介:

这门课是针对本科生，尤其是本科留学生特点开设。课程将全面介绍当代中国政治以及公共决策过程。这门课强调中国政治结构，国家与社会的关系。学生将初步了解当代中国政府、政治与社会，并理解当代中国政治与社会各种决策以及社会问题的背景以及处理方法。例如社会运动、环境保护、计划生育、经济改革、政治发展等不同领域。通过这门课的学习，学生全面了

解中国政治与社会。

英文简介 (Course Description) :

This course is an introduction to contemporary political system of China, with a special focus on the policy making process in contemporary China. The emphasis is on China's political structure, state and society relations. This course aims to provide students with a background on major political events in modern China, and then to investigate the current political issues in China today—environmental civil society activity, problems and benefits associated with continuing economic liberalization, and discourse from within the CCP on political reform.

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课程号 (Course Number) : 02532600

课程名称 (Course Title) : 经济学原理/Principle of Economics

开课院系 (School/Department) : 经济学院/School of Economics

学分 (Credits) : 3

授课教师 (Faculty) : 张元鹏

先修课程 (Prerequisites) : 微积分、线性代数

中文简介:

经济学包括微观经济学和宏观经济学。本课程主要讲授微观经济学的有关内容。其研究对象是单个家庭、单个企业、单个市场。主要研究消费者行为，生产者行为，市场均衡以及垄断等问题，它还试图说明现代经济中市场机制的政府的作用。

英文简介 (Course Description) :

Economics includes microeconomics and macroeconomics. This course mainly teaches the fundamentals of microeconomics. Topics include consumer theory, producer theory, the behavior of firms, market equilibrium, monopoly, and the role of the government in the economy.

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课程号 (Course Number) : 02533710

课程名称 (Course Title) : 会计学原理/Principle of Accounting

开课院系 (School/Department) : 经济学院/School of Economics

学分 (Credits) : 3

授课教师 (Faculty) : 张元鹏

先修课程 (Prerequisites) : 在学习《会计学原理》之前，学生们最好能先修《经济学原理》、

《金融学原理》等主干课。

中文简介：

会计学原理主要讲述会计概论、会计科目与复式记账，会计凭证，会计账簿，流动资产，长期资产，负债，所有者权益，费用与成本，收入与利润，财务报表，会计管理等内容，结合中国资本市场上市公司的案例，尽量做到生动有趣。

英文简介 (Course Description) :

Accounting principles mainly about accounting introduction, accountant course and double entry accounting, and accounting vouchers, account books, current assets, long-term assets, liabilities, owner`s equity, expenses and costs, income and profits, financial statements, accounting management content, with China`s capital market of the listed company of case, try to be lively and interesting.

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课程号 (Course Number) : 02534380

课程名称 (Course Title) : 应用经济计量/Applied Econometrics

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 秦雪征

先修课程 (Prerequisites) : This course is intended for the upper undergraduate students in Economics, Business or other social science majors. Graduate students are also welcome. Prior training in Introductory Econometrics or Statistics is required. The main focus of the course is to use econometric tools to solve real-world problems, and thus we will not spend much time on the mathematical derivation of basic models.

中文简介：

本课程旨在系统介绍计量经济学的常用研究方法，并培养学生独立运用计量经济模型及计算机软件分析解决实证经济问题的能力。课程主要涵盖以下内容：线性回归和函数形式的选取，异方差和序列相关性，基础和高级时间序列模型，混合横截面和面板数据模型，离散选择模型，内生性和工具变量估计，联立方程模型等。实现以上模型所需要的计算机编程技术（SAS软件）也将在课上讲授。同时，学生将有机会独立使用现实经济数据进行项目研究，从而提高自己的科研能力。

英文简介 (Course Description) :

This course provides you with a general understanding of the econometric modeling tools that are frequently used in the empirical economic studies. The topics covered include linear regressions and the selection of functional forms, heteroskedasticity and serial correlation, basic and more advanced time series techniques, pooled cross-sectional and panel data models, models for binary choice and limited dependant

variables, endogeneity and instrumental variable estimation, simultaneous equation models, etc. The computer programming techniques that are needed to implement the above models will also be taught using SAS software. In addition, you will get a taste of empirical research using the real-world data by conducting an independent research project.

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课程号 (Course Number) : 02535030

课程名称 (Course Title) : 企业全面风险管理/Enterprise Risk Management

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 陈凯

先修课程 (Prerequisites) : Risk Management, Finance, Calculus, Probability

中文简介:

Enterprise Risk Management在国内被翻译为全面风险管理或企业全面风险管理。本课程在讨论企业全面风险管理的框架基础上,介绍企业全面风险管理在实务中的需要和应用。本课程将分别从企业全面风险管理的概念、改革、模型、应用和未来进行阐述,要求同学们在了解企业全面风险管理的概念和框架的同时,掌握其模型和应用。同学会被要求以小组为单位解决一些实务问题,并给出课题报告。

英文简介 (Course Description) :

Enterprise risk management is a complex yet critical issue that all companies must deal with as they head into the twenty-first century. It empowers you to balance risks with rewards as well as people with processes. But to master the numerous aspects of enterprise risk management, you must first realize that this approach is not only driven by sound theory but also by sound practice.

This course is based on the framework of Enterprise Risk Management. It also introduces the models and applications of Enterprise Risk Management. The scheme of the course is followed by introduction, reform, model, application and future of Enterprise Risk Management.

It requires students not only to understand the concepts and framework of Enterprise Risk Management, but also to master the risk management model and applications in the real world. Students are required to finish a group project and present the report at the end of the course.

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课程号 (Course Number) : 02535290

课程名称 (Course Title) : 量化历史研究/Research on Quantitative History

开课院系 (School/Department) : 经济学院/School of Economics

学分 (Credits) : 2

授课教师 (Faculty) : 管汉晖

先修课程 (Prerequisites) : 经济学原理

中文简介:

中文简介:

已有的大多数历史研究过于定性，停留在史料整理和描述性层面，即使对历史事实背后的因果关系下结论，也只是猜测性的，很少从统计意义上进行严谨的逻辑推论，做排他性实证论证，这种研究方法的不足是明显的。历史研究中一手史料整理、描述性工作极其重要，但那是整个研究过程中的第一步，不是全部。研究的最终目的还是希望从历史经历中领悟到、学到一般性的道理，学到对现时和未来人类社会都有价值的规律知识。本课程立足于用社会科学的方法分析历史变迁，由此探寻人类社会长期发展的源流和脉络，阐释历史演变的规律，并为今天的经济、社会发展和经济政策提供某些借鉴。

英文简介 (Course Description) :

英文简介 (Course Description) :

Most of the existing historical researches, due to the absence of rigorous logical inference with statistical methods such as solid empirical evidence, only produce speculative conclusions on causal relationships behind historical facts. Thus, even though qualitative research method dominates the field of modern historical research, its weakness in deriving general theory is obvious.

To locate and analyze the primary evidence is only the start of the historical research process, the ultimate goal of every historical research should be to derive illuminating patterns and general truths that enable us to make sense of the present in terms of the past, and the past in terms of the present.

In this course, we will explore various social, cultural, and political processes and their implications for today's economy and society with scientific method. By analyzing these historical processes, we would be able to better grasp the origins and the repeating patterns of the long-term development of the human society.

-End-

课程号 (Course Number) : 02535510

课程名称 (Course Title) : 新结构智库实践/NSE Academic Think Tank Practice

开课院系 (School/Department) : 经济学院/School of Economics

学分 (Credits) : 3

授课教师 (Faculty) : 于佳

先修课程 (Prerequisites) : 《新结构经济学导论》

中文简介:

《新结构智库实践》课程是面向本科生和研究生所开设的政策研究实践课程，该课程秉承“知成一体”的理念，旨在为学生在掌握新结构经济学基本理论的基础上，创造认识世界、改造世界一体的实践机会。该课程基本目标是运用新结构经济学理论工具和实践方法论，从现象出发，获取对现实世界经济结构变迁和政策方案的最大化理解。

英文简介 (Course Description) :

This course introduces NSE academic think-tank practice to senior undergraduate and graduate students. It consists of a theory section that introduces methodology for think-tank practice based on New Structural Economics and a practice section that provides students with opportunities to participate in actual think-tank consulting projects. The course aims to help students to obtain a deeper understanding of issues related to development and structural transformation in the real world economy.

-End-

课程号 (Course Number) : 02535620

课程名称 (Course Title) : 新结构经济学国际实践/International Practice from the Perspective of the New Structural Economics

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 于佳

先修课程 (Prerequisites) : 无，对发展经济学尤其是一带一路国家发展实践感兴趣的学生都可以报名。

中文简介:

本课程为学生解读“一带一路”倡议以及新结构经济学视角下的国际实践。在引入新结构经济学“增长甄别与因势利导框架”的基础上，分析非洲、亚洲工业园区发展的实践和经验，并提出“一带一路”建设需要第三方合作，包括与发达国家和国际组织的合作。“一带一路”建设中需要秉持绿色发展理念，推动基础设施绿色、低碳化，加强生物多样性保护和应对气候变化。在全球化重构形势下，“一带一路”建设面临新的挑战 and 机遇，需要在新结构经济学指导下推动“基础设施+制造业+服务业”的新模式。

课程包括以下八个单元:

- 一、全球化背景下“一带一路”倡议与新结构经济学：“华盛顿共识”的失败，新结构经济学成为发展中国家的可行选项
- 二、新结构经济学“增长甄别与因势利导框架”和工业园区建设的利益相关方分析 (GROW model)
- 三、案例分析：非洲工业园区发展的实践，包括埃塞俄比亚的成功经验以及新结构国际智库团队在贝宁、尼日利亚等国家的具体实践案例
- 四、案例分析：亚洲国家承接中国产业转移的实践，包括中巴经济走廊的得失分析

五、案例分析：“一带一路”对接金砖机制、亚投行，“一带一路”发展中国家不仅需要优惠资金，更需要新的发展理念和最佳实践

六、“一带一路”建设中的第三方合作，包括与发达国家和国际组织的合作

七、“一带一路”建设与绿色发展，包括应对气候变化、光伏产能转移的潜力评估

八、全球化重构形势下“一带一路”建设的挑战和机遇：全球产业链的区域化、多元化正在加速，部分“一带一路”发展中国家特别是非洲面临边缘化，需要推动“基础设施+制造业+服务业”新模式

英文简介 (Course Description) :

This course will help students to understand the “belt and road initiatives” (BRI) and the international practice from the perspective of new structural economics, as well as the application of Growth Identification and Facilitation Framework (GIFF tool). The course assess the experience and lessons learnt from the industrial park development in selected African and Asian countries. The BRI needs third party cooperation, including cooperation with developed countries and international organizations. BRI also needs to uphold the concept of green development, promote green and low carbon infrastructure, strengthen biodiversity conservation and address climate change. Given the new trend of regionalization in the global supply chain, BRI is facing new challenges and opportunities, it is proposed to promote the new mode of “infrastructure + manufacturing + service” under the guidance of new structural economics. The course includes the following eight units:

- 1) BRI in the era of globalization: failure of “Washington consensus” while new structure economics becomes a viable option for developing countries.
- 2) New structural economics “Growth Identification and Facilitation Framework, GIFF) and stakeholder analysis of industrial park development (GROW model).
- 3) Case analysis: industrial park development in Africa, including the successful experience of Ethiopia; the INSE think tank team’s practice in Benin, Nigeria, and other African countries.
- 4) Case analysis: Asian countries undertaking China’s industrial transfer, including assessment of China Pakistan Economic Corridor.
- 5) Case study: BRI vs. BRICS mechanism (including New Development Bank) and AIIB. The developing countries in BRI need concessional resources but more on new development concept and best practices.
- 6) BRI and third party cooperation, including cooperation with developed countries and international organizations.
- 7) BRI and green development, including the assessment of the potential of responding to climate change and relocation of solar photovoltaic capacity from China to other

developing countries.

8) The challenges and opportunities of BRI under the new trend of globalization: The regionalization of supply chain has been accelerating and some developing countries, African countries in particular, are facing marginalization. Therefore, in the implementation of BRI, a new model of "infrastructure + manufacturing + service" should be adopted.

-End-

课程号 (Course Number) : 02830731

课程名称 (Course Title) : 当代中国社会/Contemporary Chinese Society

开课院系 (School/Department) : 光华管理学院/Guanghua School of Management

学分 (Credits) : 2

授课教师 (Faculty) : 谢宇, 於嘉

先修课程 (Prerequisites) : 无

中文简介:

北京大学-普林斯顿大学第五期“当代中国社会”暑期项目 (Global Seminar on Contemporary Chinese Society) 将于2024年7月11日-25日于北京大学举办。该项目由北京大学社会研究中心与美国普林斯顿大学当代中国研究中心共同主办, 在光华管理学院开设课程, 现面向光华管理学院及其他院系的本科生进行招生。项目同时也得到了北京大学国际合作部的大力支持。

第五期“当代中国社会”暑期项目由美国科学院院士、普林斯顿大学和北京大学教授谢宇主持, 计划在北京大学招收10名本科生, 将和来自于普林斯顿大学的14名本科生一起同堂学习。在为期2周的课程中, 来自中美两校的学生将一起全方位地了解当代中国社会, 并基于中国的历史、文化、政治和经济背景来理解中国的社会现象, 在学习和交流中共同进步成长。

英文简介 (Course Description) :

The 5th Global Seminar on "Contemporary Chinese Society" summer project of Peking University & Princeton University will be held at Peking University from July 11th to 25th, 2024. This project is jointly organized by the Center for Social Research, Peking University and the Center on Contemporary China, Princeton University. It offers courses at Guanghua School of Management and is currently open to all of the undergraduate students at PKU. The project has also received strong support from the Office of International Relations of PKU.

The project is hosted by Xie Yu, an academician of the American Academy of Sciences, a professor at both Peking University and Princeton University. The plan is to enroll 10 undergraduate students at Peking University and study together with 14 undergraduate students from Princeton University. In the two-week course, students from both China and the United States will gain a comprehensive understanding of contemporary Chinese

society, and understand Chinese social phenomena based on China's historical, cultural, political, and economic background.

-End-

课程号 (Course Number) : 03033950

课程名称 (Course Title) : 信息伦理与隐私保护/Information Ethics and Privacy Protection

开课院系 (School/Department) : 信息管理系/Department of Information Management

学分 (Credits) : 2

授课教师 (Faculty) : 夏汇川

先修课程 (Prerequisites) : 无

中文简介:

信息伦理与隐私保护问题在大数据和智能时代日益凸显，比如数据标签与分类隐藏的种族歧视、数据画像对隐私的滥用、智能系统对人的替代与超越、政治中的选举操控、物联网涉及的隐私侵犯等。本门课程，将向学生们介绍各类信息伦理与隐私保护问题，并与学生们一起探讨这些问题可能带来的商业、政治、社会、与个人方面的影响。这门课旨在锻炼并提升学生独立思考能力，让学生们掌握一些批判性思维方法去考虑大数据与智能时代的信息伦理与隐私保护问题，使其学生们能够对这些问题进行一定深度上的思考与反省

英文简介 (Course Description) :

Information ethics and privacy problems are becoming increasingly significant in the Big Data and Artificial Intelligence (AI) era, such as the racial discrimination hidden in the data categorization, privacy intrusion by data profilization, AI's substitution and superiority over humans, data manipulation in political campaigns, and privacy violations in the Internet of Things (IoT). This course aims to introduce various Information ethics problems to students and discuss with them about the impacts and consequences of these problems on commerce, politics, society, and personal lives. This course will strengthen students' independent thinking and train them with the methods to critique and reflect on information ethics in the Big Data and AI era

-End-

课程号 (Course Number) : 03034020

课程名称 (Course Title) : 数据可视化导论/Introduction to Data Visualization

开课院系 (School/Department) : 信息管理系/Department of Information Management

学分 (Credits) : 2

授课教师 (Faculty) : 步一

先修课程 (Prerequisites) : 最好先修《计算概论》或会使用Python。

中文简介:

数据可视化旨在借助于图形化手段,清晰有效地传达与沟通信息。本课程讲授不同数据可视化方法的原理,特别强调要根据不同数据类型来选择不同的可视化方法。本课程理论与实践并重,具体包括三个模块:(1)数据可视化理论和实践基础;(2)不同类型数据的可视化;(3)可视化的交互与评测。与课号为03033940的《数据可视化》课程不同,本门课为公选课,讲授内容更为基础和通识,涉及代码要求将较低,与03033940不能互相替代。

英文简介 (Course Description) :

From dashboards in a car to cutting-edge scientific papers, we extensively use a visual representation of data. As our world becomes increasingly connected and digitized and as more decisions are driven by data, data visualization is becoming a critical skill for every knowledge worker. In this course, we will learn the fundamentals of data visualization and create visualizations that can provide insights into complex datasets. There are three modules in this course, namely (1) theoretical and methodological foundations of data visualizations, (2) data visualization for different data types, and (3) interactions and evaluations of data visualizations. This course is different from 03033940 "Data Visualization" course in that the former covers more fundamental and basic pieces of stuff while the latter is more technical-oriented.

-End-

课程号 (Course Number) : 03034030

课程名称 (Course Title) : 非关系型数据库技术与应用/NoSQL Database Technology and Application

开课院系 (School/Department) : 信息管理系/Department of Information Management

学分 (Credits) : 2

授课教师 (Faculty) : 邱韞哲

先修课程 (Prerequisites) : 数据科学导论、数据库基础、Python数据分析

中文简介:

大数据时代的到来,让物联网、区块链、人工智能技术得到空前发展,随之而来的是更庞大的数据量与更复杂的数据关系。在此背景下,传统关系型数据库显得力不从心,非关系型数据库技术的应用愈发广泛。作为大数据管理与应用本科生专业任选课,本课程扎根大数据时代发展背景,响应数字中国、数字经济、数据治理的规划和建设,充分考虑本专业人才培养目标中对大数据相关领域和场景中数据收集与整理、分析与研究、管理与应用的要求,为今后的学习与工作培养现代工具的使用能力。本课程通过对非关系型数据库的理论介绍与相关工具的实操,帮助学生建立大数据输入、存储、梳理、输出知识体系。基于具体应用场景事例,本课程还将培养学生自主学习能力,通过理论结合实践的方法,了解主流非关系型数据库的典型特征,从而掌握主流NoSQL数据库技术与方法,包括Neo4j图数据库、MongoDB文档数据库、Redis键值数据库、Cassandra列族数据库等,并了解其合适的应用场景。

英文简介 (Course Description) :

The arrival of the big data era has led to the unprecedented development of the Internet of Things, blockchain, and artificial intelligence technologies, and with it comes a larger volume of data and more complex data relationships. In this context, traditional relational databases appear to be overwhelmed, and the application of non-relational database technology is becoming more and more widespread. As a compulsory course for undergraduates in big data management and application, this course is rooted in the background of the development of the big data era, responding to the planning and construction of digital China, digital economy and data governance, taking into full consideration the requirements of data collection and organization, analysis and research, management and application in big data-related fields and scenarios in the training objectives of this major, and cultivating the ability to use modern tools for future study and work. Through the theoretical introduction of non-relational databases and the practical operation of related tools, this course helps students to establish the knowledge system of big data input, storage, sorting and output. Based on specific application scenarios examples, this course will also cultivate students' independent learning ability to understand the typical features of mainstream non-relational databases and condense their usage scenarios through the method of combining theory with practice, so as to master the mainstream NoSQL database technologies and methods, including Neo4j graph database, MongoDB document database, Redis key-value database, Cassandra Columnar databases, etc.

-End-

课程号 (Course Number) : 03139110

课程名称 (Course Title) : 死亡的社会学思考/Sociological Perspectives of Dying and Death

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 陆杰华

先修课程 (Prerequisites) : 无

中文简介:

《死亡的社会学思考》课程是为全校跨专业的本科生专门设置的通选课程之一。目前,国内高校开设与死亡社会学相关的课程并不多见,死亡社会学的相关教材也相对较少。为此,本门课程重点从社会学视角审视在中国社会经济转型背景下,尤其人口老龄化加速的宏观背景下与临终、死亡与丧亲关怀相关的重点议题。课程涉及的主要内容包括死亡社会学产生的现实背景、学科研究对象、相关理论基础、学科研究方法等方面,重点从跨学科(尤其是社会学)和跨文化对死亡教育、死亡过程、死亡类型、临终关怀、死亡应对等议题进行学理性的诠释。

英文简介 (Course Description) :

The sociological perspective of dying and death is one of the courses that are specially set for the undergraduate at the university. At present, there are few studies about the course of the sociology of dying and death in domestic universities, and there are relatively few related teaching materials about the sociology of dying and death. To this end, this course focuses on the social and economic background of China's social and economic transformation from the perspective of sociology, especially in the macro background of population aging and the key issues related to death, death and loss of pro. The contents of the course include realistic background, research object, study of death society related theories, research methods and other aspects, the focus from the interdisciplinary (especially Sociology) and cross culture on death education, death process, causes of death and hospice care type to deal with issues such as rational interpretation.

-End-

课程号 (Course Number) : 03631990

课程名称 (Course Title) : 速成法语 (零起点) /French for Reading from scratch

开课院系 (School/Department) : 外国语学院/College of Foreign Languages

学分 (Credits) : 2

授课教师 (Faculty) : 孙凯

先修课程 (Prerequisites) : 无

中文简介:

本课程旨在用32学时使零起点学生了解法语的发音规则, 熟练掌握重要语法知识, 全面领会基础语法, 能够应用常见词汇和实用句型, 在借助字典的情况下具备中、高级法语阅读能力以及初级听、说、写、译的能力, 并能够从事一般性国际文化交流及科研工作。

英文简介 (Course Description) :

This course is designed to enable students from the starting point to learn French pronunciation rules, acquire important grammar knowledge, fully understand the basic grammar, apply common vocabulary and practical sentences within 32 hours. Through training, students can acquire intermediate and advanced French reading ability with the help of dictionaries, and have the ability of primary listening, speaking, writing and translating, as well as being able to engage in general international cultural exchange and scientific research.

-End-

课程号 (Course Number) : 03633331

课程名称 (Course Title) : 西班牙语及西班牙文化/Introduction to the Spanish Language and Culture

开课院系 (School/Department) : 外国语学院/College of Foreign Languages

学分 (Credits) : 2

授课教师 (Faculty) : 宋扬

先修课程 (Prerequisites) : 无。学生无需具有西班牙语基础。

中文简介:

“西班牙语及西班牙文化（初级）”是2013年开设的“西班牙文化纵览”的升级版。较旧版课程，“西班牙语及西班牙文化（初级）”加入了西班牙语语言的学习，帮助零起点学员掌握西班牙语基本知识及常用表达方式。课程秉持“语言为骨、文化为魂”的理念，在语言方面，旨在指导学生准确掌握西班牙语的发音方法与拼读规则，大体了解西班牙语的语法体系，能够使用餐饮、购物、旅游、交友等领域常用语句。在文化方面，课程以美食、节日、人文遗产等具体文化形式为主线，带领学员走进西班牙，引导他们细致、深刻地了解西班牙人的思维方式、民族特性，为今后有可能赴西班牙留学、工作，抑或短期旅游、访问，甚至与西班牙人有工作往来的学员打开一扇新的大门。

英文简介 (Course Description) :

This course of Peking University is aimed at students of Chinese nationalities who want to learn Spanish language and culture. The Spanish culture –its art and architecture, its different regional traditions, its traditional dances and fiestas, its history and so on– is so rich that it is impossible, here, to describe all the aspects of Spanish culture our courses cover. We look at Picasso and Dalí, regional dances and music (like flamenco), the Easter processions and San Fermin, the Spanish gastronomy, the universities... By learning this course, the students will be able to avoid conflict and unpleasantness during Contacts with Spanish people.

-End-

课程号 (Course Number) : 03835100

课程名称 (Course Title) : 西方人文英语/English Through Western Culture

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 马小琦

先修课程 (Prerequisites) : 无

中文简介:

作为一门最大限度排除西方意识形态偏见的西方文明史课程，“西方人文英语”通过培养学生英语读写能力和批判性思维能力，力图使他们在不断深化提高英语语言水平的同时，对西方的社会历史和人文思想有个较为系统的掌握。全课程从西方文化史中精选了80篇500-600字的选篇，覆盖了从两河文明起源、古埃及、古希腊、古罗马，经过文艺复兴、宗教改革、启蒙运动、工业革命，一直到20世纪的西方思想文化史。学生通过历时系统的西方人文知识和思想的建构，

建立一个系统的，提纲挈领式的西方文化知识体系，为未来的学业和事业打下历史、社会和人文思想的基础。本课程沿着西方人文思想的脉络前行，从人类文明起源开始直到进入20世纪文化多元化社会。教学基本思路是：以内容为先导，内容带动形式，文化学习带动语言学习。课程教学中有中华文化的参与，同西方文化形成对比、碰撞和呼应，在历史过程和跨文化交流的活动中，激发学生兴趣，增强学生对西方思想文化的了解和批判意识，同时也提高学生传播中国文化的的历史线索基础上，使之在更大的文化语境中产生意义。本课程将意义生成优先于语言结构，思想文化优先于语言形式。这样，学生的人文知识在系统的建构中将对语言形式的习得起到积极的作用，这对他们未来的学业将有着积极的铺垫和促进作用。课程教学中以西方人文思想文化史为纵线，选取其中最有代表性和构成影响力的思想家和文学家，截取其典型的思想作品篇章，构成相对完整的文化知识体系向导，使学生在学英文的同时对西方文化整体有个相对基本的把握。

英文简介 (Course Description) :

English Through Western Culture introduces the Western cultural history and thoughts in a systematic and critical way, going from as far back as the beginning of western civilization to the highly developed plural society of the twentieth century. The eighty articles selected (about 500-600 words each) stand as milestones in the western cultural system, which can help students get a contour picture of the development of western culture through centuries. Meanwhile ideas and thoughts in Chinese culture are added to the class instruction to create cultural contrasts between the two cultures as well as to stimulate students' interest in the course, enlarging their vision and raising their awareness of the importance of developing critical thinking capacity into western thoughts and ideas. In addition, many thought-provoking questions are presented for students' in-depth discussion so that they can look at today's world in new perspectives.

-End-

课程号 (Course Number) : 03835100

课程名称 (Course Title) : 西方人文英语/English Through Western Culture

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 马小琦

先修课程 (Prerequisites) : 无

中文简介:

作为一门最大限度排除西方意识形态偏见的西方文明史课程，“西方人文英语”通过培养学生英语读写能力和批判性思维能力，力图使他们在不断深化提高英语语言水平的同时，对西方的社会历史和人文思想有个较为系统的掌握。全课程从西方文化史中精选了80篇500-600字的选篇，覆盖了从两河文明起源、古埃及、古希腊、古罗马，经过文艺复兴、宗教改革、启蒙运动、工

业革命，一直到20世纪的西方思想文化史。学生通过历时系统的西方人文知识和思想的建构，建立一个系统的，提纲挈领式的西方文化知识体系，为未来的学业和事业打下历史、社会和人文思想的基础。本课程沿着西方人文思想的脉络前行，从人类文明起源开始直到进入20世纪文化多元化社会。教学基本思路是：以内容为先导，内容带动形式，文化学习带动语言学习。课程教学中有中华文化的参与，同西方文化形成对比、碰撞和呼应，在历史过程和跨文化交流的活动中，激发学生兴趣，增强学生对西方思想文化的了解和批判意识，同时也提高学生传播中国文化的的能力。这门课的教学目的是：本课程将词汇和语言结构的习得建立在文化意义和人文历史线索基础上，使之在更大的文化语境中产生意义。本课程将意义生成优先于语言结构，思想文化优先于语言形式。这样，学生的人文知识在系统的建构中将对语言形式的习得起到积极的作用，这对他们未来的学业将有着积极的铺垫和促进作用。课程教学中以西方人文思想文化史为纵线，选取其中最具有代表性和构成影响力的思想家和文学家，截取其典型的思想作品篇章，构成相对完整的文化知识体系向导，使学生在学英文的同时对西方文化整体有个相对基本的把握。

英文简介 (Course Description) :

English Through Western Culture introduces the Western cultural history and thoughts in a systematic and critical way, going from as far back as the beginning of western civilization to the highly developed plural society of the twentieth century. The eighty articles selected (about 500-600 words each) stand as milestones in the western cultural system, which can help students get a contour picture of the development of western culture through centuries. Meanwhile ideas and thoughts in Chinese culture are added to the class instruction to create cultural contrasts between the two cultures as well as to stimulate students' interest in the course, enlarging their vision and raising their awareness of the importance of developing critical thinking capacity into western thoughts and ideas. In addition, many thought-provoking questions are presented for students' in-depth discussion so that they can look at today's world in new perspectives.

-End-

课程号 (Course Number) : 03835360

课程名称 (Course Title) : 英汉口译/Consecutive Interpretation

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 方舒琼

先修课程 (Prerequisites) :

中文简介:

《英汉口译》是北京大学外国语学院英语系大学英语教研室开设的专题课，介绍口译基本理论和技巧，进行英汉、汉英互译训练，以使学生初步了解口译基本理论和技巧，掌握口译记忆方法和笔记方法，能够比较准确、流畅地完成一般性材料的汉英互译。

英文简介 (Course Description) : 无

-End-

课程号 (Course Number) : 03835360

课程名称 (Course Title) : 英汉口译/Consecutive Interpretation

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 方舒琼

先修课程 (Prerequisites) : 无

中文简介:

《英汉口译》是北京大学外国语学院英语系大学英语教研室开设的专题课，介绍口译基本理论和技巧，进行英汉、汉英互译训练，使学生初步了解口译基本理论和技巧，掌握口译记忆方法和笔记方法，能够比较准确、流畅地完成一般性材料的汉英互译。

英文简介 (Course Description) : 无

-End-

课程号 (Course Number) : 03835520

课程名称 (Course Title) : 英美文学概况/Introduction to British & American Literature

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 马小琦

先修课程 (Prerequisites) : 无

中文简介:

本课程由外教授课，主要内容包括英美文学发展史及代表作家的简要介绍和作品选读。从英美两国历史、语言发展角度出发，简要介绍英美两国各个重要时期的主要历史背景，文学流派，主要作家的文学生涯、创作思想、艺术特色及其主要代表作品，包括诗歌、小说、散文等。本课程从课堂表现，课堂报告以及考试等方面评定学生成绩。

英文简介 (Course Description) :

This course will give a survey of the major movements in English literature. Students will read pieces of famous literature and discuss the ideas and style of these works. We will have examples of major authors from poetry, fiction and nonfiction, and cover both classic and modern literature.

Students will be evaluated based on class participation, a presentation, and exam.

-End-

课程号 (Course Number) : 03835520

课程名称 (Course Title) : 英美文学概况/Introduction to British & American Literature

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 马小琦

先修课程 (Prerequisites) : 无

中文简介:

本课程由外教授课, 主要内容包括英美文学发展史及代表作家的简要介绍和作品选读。从英美两国历史、语言发展角度出发, 简要介绍英美两国各个重要时期的主要历史背景, 文学流派, 主要作家的文学生涯、创作思想、艺术特色及其主要代表作品, 包括诗歌、小说、散文等。本课程从课堂表现, 课堂报告以及考试等方面评定学生成绩。

英文简介 (Course Description) :

This course will give a survey of the major movements in English literature. Students will read pieces of famous literature and discuss the ideas and style of these works. We will have examples of major authors from poetry, fiction and nonfiction, and cover both classic and modern literature.

Students will be evaluated based on class participation, a presentation, and exam.

-End-

课程号 (Course Number) : 03835544

课程名称 (Course Title) : 学术英语写作/Academic English Writing

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 方艳

先修课程 (Prerequisites) : 大学英语教研室开设的B类课程

中文简介:

英语作为一门国际语言, 在各级教育中一直备受重视。本课程是针对北京大学非英语专业本科生开设的学术英语写作课程。根据《大学英语教学指南》在写作方面对非英语专业本科生的要求, 本课程的教学目标是希望大学本科生能够在熟练掌握英语学术词汇和语法体系的基础上, 通过教师指导学生阅读不同类型的英语学术文章, 了解学术写作的基本知识和要求, 逐渐培养学生使用英语进行综合分析、逻辑思考的能力。通过系统学习英语写作的方法与技巧, 实现灵活运用、实现功能性输出, 使学生在大学毕业前能够写作语法正确、表意清楚、语言流畅的英语应用文, 并在此基础上培养用英语书写其它体裁文章的感觉与兴趣。此外, 从学术写作规范的层面, 本课程还要求学生学会正确地引用学术文献和他人的观点, 提出并组织恰当、有力的论据, 避免产生破坏学术规范、违背学术道德的行为。

本课程可以帮助学生提高学生的英语运用和表达水平，锻炼学生的逻辑思维能力，激活学生的外语知识的输入输出效率，养成良好的学术写作习惯，培养良好的学术道德，从本科阶段开始就可以为高水平、研究型大学的学生奠定扎实的英语学术写作基础。

英文简介 (Course Description) :

English is an international language. Academic reading & writing is a premise for students' graduation. Despite the great diversity within and between different academic disciplines, several common themes are associated with the experience of reading & writing in academia. This course aims to identify and explore those common themes and to help you, the academic reader & writer, to address and resolve the paradoxes for yourself.

It will do this in a way that can also help you to become a more productive, effective reader & writer with healthier, more positive approaches to what it means to be a successful writer of English, and more particularly what it means to be a writer of academic text. The overall goal is to provide you key techniques, guidelines and suggestions to improve your academic written communication. You will be introduced to several writing genres such as descriptive essays, process essays, comparison-contrast essays, cause-effect essays, and argumentative essays.

You will develop the writing skills necessary to meet a range of anticipated writing tasks that you will encounter during your academic career. In the future whether you are writing your academic papers, planning a journal article, struggling with reviewers' comments, or drafting a research proposal, this course will help you to make more effective progress. Hopefully it will also help you to devise a strategy that will reach beyond any individual writing task and to develop an integrated approach to your life and work as a successful academic writer.

-End-

课程号 (Course Number) : 03835544

课程名称 (Course Title) : 学术英语写作/Academic English Writing

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 方艳

先修课程 (Prerequisites) : 大学英语教研室开设的B类课程

中文简介:

英语作为一门国际语言，在各级教育中一直备受重视。本课程是针对北京大学非英语专业本科生开设的学术英语写作课程。根据《大学英语教学指南》在写作方面对非英语专业本科生的要求，本课程的教学目标是希望大学本科生能够在熟练掌握英语学术词汇和语法体系的基础上，通过教师指导学生阅读不同类型的英语学术文章，了解学术写作的基本知识和要求，逐渐培养学生使用英语进行综合分析、逻辑思考的能力。通过系统学习英语写作的方法与技巧，实现灵

活运用、实现功能性输出，使学生在大学毕业前能够写作语法正确、表意清楚、语言流畅的英语应用文，并在此基础上培养用英语书写其它体裁文章的感觉与兴趣。此外，从学术写作规范的层面，本课程还要求学生学会正确地引用学术文献和他人的观点，提出并组织恰当、有力的论据，避免产生破坏学术规范、违背学术道德的行为。

本课程可以帮助学生提高学生的英语运用和表达水平，锻炼学生的逻辑思维能力，激活学生的外语知识的输入输出效率，养成良好的学术写作习惯，培养良好的学术道德，从本科阶段开始就可以为高水平、研究型大学的学生奠定扎实的英语学术写作基础。

英文简介 (Course Description) :

English is an international language. Academic reading & writing is a premise for students' graduation. Despite the great diversity within and between different academic disciplines, several common themes are associated with the experience of reading & writing in academia. This course aims to identify and explore those common themes and to help you, the academic reader & writer, to address and resolve the paradoxes for yourself.

It will do this in a way that can also help you to become a more productive, effective reader & writer with healthier, more positive approaches to what it means to be a successful writer of English, and more particularly what it means to be a writer of academic text. The overall goal is to provide you key techniques, guidelines and suggestions to improve your academic written communication. You will be introduced to several writing genres such as descriptive essays, process essays, comparison-contrast essays, cause-effect essays, and argumentative essays.

You will develop the writing skills necessary to meet a range of anticipated writing tasks that you will encounter during your academic career. In the future whether you are writing your academic papers, planning a journal article, struggling with reviewers' comments, or drafting a research proposal, this course will help you to make more effective progress. Hopefully it will also help you to devise a strategy that will reach beyond any individual writing task and to develop an integrated approach to your life and work as a successful academic writer.

-End-

课程号 (Course Number) : 03835620

课程名称 (Course Title) : 美国华人移民的历史与文化/History and Culture of Chinese Immigrants in America

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : Tian Xiaofeng(校外)

先修课程 (Prerequisites) : n/a

中文简介:

通过阅读当代文学及其他作品和欣赏电影，探索美国华人移民的历史与文化问题。主要探讨的

论题包括华人移民美国的历史、华人移民的文化和传统、以及中国文化在美国与其他文化的融合问题。

学生将发现在美国华人移民的历史和文化探讨中的一些主要问题，同时对当前教育和文化领域现存的一些问题有一定的了解。

本课程旨在通过阅读当代作品提高英语程度。通过阅读和讨论，学生提高语言能力，而且能够在美国华人的历史和文化问题上拓宽视野。

英文简介 (Course Description) :

Exploration of the history and culture of Chinese immigrants in the U. S. through reading of literary and other cultural texts and appreciation of movies. Topics include the history of Chinese immigration in America, the culture and tradition of Chinese immigrants and the interaction of Chinese culture with other cultures in America. Students identify some main issues involved in the discussion of the history and culture of Chinese in America and gain an understanding of the current issues in education and cultural realms.

Designed to enhance English proficiency through reading of contemporary works. Through reading and discussion, students develop language skills, in addition to gain new perspectives of history and culture of Chinese America.

-End-

课程号 (Course Number) : 03835730

课程名称 (Course Title) : 美国文化概览/Introduction to American Culture

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 马小琦

先修课程 (Prerequisites) : 无

中文简介:

本课程是为非英语专业学生基础阶段开设的文化专题课，课程类别为本科必修，由外教授课。本课程的目标在于：通过重点介绍美国的历史文化、风土人情、风俗习惯和语言发展等，帮助学生拓展有关这些英语国家文化历史发展的知识，提高阅读英文书刊和同英语国家人士交往的能力，从而激发他们的学习兴趣，为进一步学习打下基础；培养学生辩证唯物主义的历史观，增强学生的跨文化意识，从而进一步增强学生的跨文化交际能力。

英文简介 (Course Description) :

This course is taught by American professors. Students will have a brief understanding of American culture through teachers' instruction, classroom discussion, group work and after-class assignments. It is designed to cover the basics of American history and development, culture and customs. The course aims to develop students' intercultural communicative skills by broadening their understanding of American culture

-End-

课程号 (Course Number) : 03835730

课程名称 (Course Title) : 美国文化概览/Introduction to American Culture

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 马小琦

先修课程 (Prerequisites) : 无

中文简介:

本课程是为非英语专业学生基础阶段开设的文化专题课, 课程类别为本科必修, 由外教授课。本课程的目标在于: 通过重点介绍美国的历史文化、风土人情、风俗习惯和语言发展等, 帮助学生拓展有关这些英语国家文化历史发展的知识, 提高阅读英文书刊和同英语国家人士交往的能力, 从而激发他们的学习兴趣, 为进一步学习打下基础; 培养学生辩证唯物主义的历史观, 增强学生的跨文化意识, 从而进一步增强学生的跨文化交际能力。

英文简介 (Course Description) :

This course is taught by American professors. Students will have a brief understanding of American culture through teachers' instruction, classroom discussion, group work and after-class assignments. It is designed to cover the basics of American history and development, culture and customs. The course aims to develop students' intercultural communicative skills by broadening their understanding of American culture

-End-

课程号 (Course Number) : 03835770

课程名称 (Course Title) : 商务沟通与表达/Business English and Communications

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 马小琦

先修课程 (Prerequisites) : 无

中文简介:

本课程旨在介绍商务环境下的英语沟通技巧, 帮助学生提高商务英语沟通能力。

英文简介 (Course Description) :

This course is meant to be an introduction to the communicating effectively in a business setting. Communicating in a professional business environment is different than in an academic setting. This course is designed for students who want to improve their business

English/communication skills, both oral and written.

-End-

课程号 (Course Number) : 03835770

课程名称 (Course Title) : 商务沟通与表达/Business English and Communications

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 马小琦

先修课程 (Prerequisites) : 无

中文简介:

本课程旨在介绍商务环境下的英语沟通技巧，帮助学生提高商务英语沟通能力。

英文简介 (Course Description) :

This course is meant to be an introduction to the communicating effectively in a business setting. Communicating in a professional business environment is different than in an academic setting. This course is designed for students who want to improve their business English/communication skills, both oral and written.

-End-

课程号 (Course Number) : 03835860

课程名称 (Course Title) : 英语公众演讲/English Public Speaking

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 马小琦

先修课程 (Prerequisites) : 大学英语模块化课程

中文简介:

本课程系统地介绍和讨论英语公众演讲所涉及到的各个环节，并辅助学生完成自我介绍性，说明性，和劝说性的演讲任务，旨在首先提高学生口头演讲的表达与沟通能力，其次改善学生演讲稿件的写作能力。此外，本课程在一定程度上培养学生对口头讲演和演讲稿件的批判性思维能力，以及利用网络和图书馆进行信息查询，收集，和整理的能力。

本课程把英语口语表达训练与书面写作练习有机地联系在一起，加强学生对英语主动产出能力的综合运用训练，为学生在将来实际工作中的英语应用做好铺垫。

英文简介 (Course Description) :

n/a

-End-

课程号 (Course Number) : 03835860

课程名称 (Course Title) : 英语公众演讲/English Public Speaking

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 马小琦

先修课程 (Prerequisites) : 大学英语模块化课程

中文简介:

本课程系统地介绍和讨论英语公众演讲所涉及到的各个环节，并辅助学生完成自我介绍性，说明性，和劝说性的演讲任务，旨在首先提高学生口头演讲的表达与沟通能力，其次改善学生演讲稿件的写作能力。此外，本课程在一定程度上培养学生对口头讲演和演讲稿件的批判性思维能力，以及利用网络和图书馆进行信息查询，收集，和整理的能力。

本课程把英语口语表达训练与书面写作练习有机地联系到一起，加强学生对英语主动产出能力的综合运用训练，为学生在将来实际工作中的英语应用做好铺垫。

英文简介 (Course Description) :

n/a

-End-

课程号 (Course Number) : 03835950

课程名称 (Course Title) : 高级英语口语/Advanced Oral English

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 马小琦

先修课程 (Prerequisites) : 无

中文简介:

本课程为外教授课，旨在通过课堂讨论，小组活动，口语交流等多种多样的活动提高学生在实际生活中的英语口语应用能力。本课程不仅为学生创造良好的口语交流环境，同时也丰富了学生的文化体验，使学生充分锻炼在各种场景中的英语会话与交际能力。

英文简介 (Course Description) :

This class is a dynamic oral English class designed to develop and strengthen language skills through practical in-class discussions, activities, and dialogues. These in-class exercises are complemented by an intensive audio-visual-oral computer program

designed to reinforce English communication skills. The purpose of the class is two-fold: to provide students a stimulating environment in which to practice oral English and to allow them the opportunity to interact and gain cultural experience from a native English teacher. With a special emphasis on interactive learning, the overall objectives are for students to improve pronunciation and their ability to express ideas clearly in both formal and informal settings.

One important aspect of the class is that the students get to know each other well, so they can more comfortably communicate in a second language. Through various group and individual activities, students build relationships of trust that allow them to not only increase their second language proficiency, but gain valuable communication skills. Because the class provides students an opportunity to work in groups, they build a foundation in teamwork. This empowers them with an understanding of how effective interdependence contributes to a successful work environment. environment.

-End-

课程号 (Course Number) : 03835950

课程名称 (Course Title) : 高级英语口语/Advanced Oral English

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 马小琦

先修课程 (Prerequisites) : 无

中文简介:

本课程为外教授课,旨在通过课堂讨论,小组活动,口语交流等多种多样的活动提高学生在实际生活中的英语口语应用能力。本课程不仅为学生创造良好的口语交流环境,同时也丰富了学生的文化体验,使学生充分锻炼在各种场景中的英语会话与交际能力。

英文简介 (Course Description) :

This class is a dynamic oral English class designed to develop and strengthen language skills through practical in-class discussions, activities, and dialogues. These in-class exercises are complemented by an intensive audio-visual-oral computer program designed to reinforce English communication skills. The purpose of the class is two-fold: to provide students a stimulating environment in which to practice oral English and to allow them the opportunity to interact and gain cultural experience from a native English teacher. With a special emphasis on interactive learning, the overall objectives are for students to improve pronunciation and their ability to express ideas clearly in both formal and informal settings.

One important aspect of the class is that the students get to know each other well, so they can more comfortably communicate in a second language. Through various group and individual activities, students build relationships of trust that allow them to

not only increase their second language proficiency, but gain valuable communication skills. Because the class provides students an opportunity to work in groups, they build a foundation in teamwork. This empowers them with an understanding of how effective interdependence contributes to a successful work environment. environment.

-End-

课程号 (Course Number) : 03835983

课程名称 (Course Title) : 世界英语与英语世界/World Englishes and the English World

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 徐志长(校外)

先修课程 (Prerequisites) : 大学英语C级课程

中文简介:

本课程主要介绍“世界英语”(World Englishes)这门学科的发展现状,以及理论与实践。课程内容主要包括英国英语、美国英语、澳大利亚英语、以及其它国家和地区(包括东南亚各国和中国)的英语发展和使用。本课程的目的是使学生能够了解世界英语的基本理论和在英语世界(the English world)的本土化发展和使用。本课程的教学要求是,学生具有本科以上的英语基础,并了解一些各国英语变体(例如英国英语,美国英语和中国英语)之间的差异和相似之处。

英文简介 (Course Description) :

This course introduces the developments of the discipline of World Englishes, and relevant theories and practices. It covers British English, American English, Australian English, and other Englishes, including major Southeast Asian Englishes and Chinese English, in terms of their use and development. The major objective of this course is to enable students to understand fundamental theories of World Englishes and how they are nativised and used in local contexts. The requirement for taking the course is that students should have an English proficiency at or above the tertiary level, and a basic understanding of the variations and similarities among major English varieties (e.g., British English, American English and Chinese English).

-End-

课程号 (Course Number) : 03835983

课程名称 (Course Title) : 世界英语与英语世界/World Englishes and the English World

开课院系 (School/Department) : 英语语言文学系/English Language and Literature

学分 (Credits) : 2

授课教师 (Faculty) : 徐志长(校外)

先修课程 (Prerequisites) : 大学英语C级课程

中文简介:

本课程主要介绍“世界英语”(World Englishes)这门学科的发展现状,以及理论与实践。课程内容包括英国英语、美国英语、澳大利亚英语、以及其它国家和地区(包括东南亚各国和中国)的英语发展和使用。本课程的目的是使学生能够了解世界英语的基本理论和在英语世界(the English world)的本土化发展和使用。本课程的教学要求是,学生具有本科以上的英语基础,并了解一些各国英语变体(例如英国英语,美国英语和中国英语)之间的差异和相似之处。

英文简介 (Course Description) :

This course introduces the developments of the discipline of World Englishes, and relevant theories and practices. It covers British English, American English, Australian English, and other Englishes, including major Southeast Asian Englishes and Chinese English, in terms of their use and development. The major objective of this course is to enable students to understand fundamental theories of World Englishes and how they are nativised and used in local contexts. The requirement for taking the course is that students should have an English proficiency at or above the tertiary level, and a basic understanding of the variations and similarities among major English varieties (e.g., British English, American English and Chinese English).

-End-

课程号 (Course Number) : 04031313

课程名称 (Course Title) : 学年论文(马院) /Term Thesis

开课院系 (School/Department) : 马克思主义学院/Marxism Institute

学分 (Credits) : 1

授课教师 (Faculty) : 宋朝龙

先修课程 (Prerequisites) : 无

中文简介:

面向大钊班和马克思主义理论专业学生开设,要求大钊班学生大四开学前(暑期)选课,学生在导师指导下确立研究主题,开展研究,大四开学前提交论文,通过答辩。

英文简介 (Course Description) :

Senior students are required to take this course and finish term thesis before senior year begins. Students are encouraged to write in the guidance of professor specialized in relative field of work.

-End-

课程号 (Course Number) : 04130126

课程名称 (Course Title) : 体美/Physical and Aesthetic course
开课院系 (School/Department) : 体育教研部/Section of Physical Culture
学分 (Credits) : 1
授课教师 (Faculty) : 秦朗
先修课程 (Prerequisites) : 无

中文简介:

“体美融合”是当下高校教学改革中的创新一环，笔者所开设的体美课程主要以肢体语言为表现手段，经过科学有效的基本功训练以及具有美学渲染的表现力训练，结合中国民族民间舞种、中国古典身韵、即兴与命题编创等知识点和训练内容，力争达到增强学生身心素质、提升学生审美意识、开拓学生创新思维等体美融合的新教育理念，同时在核心教学理念上将更加注重让学生们在课堂上、理论上、锻炼中、实践中“享受乐趣、增强体质、健全人格、锤炼意志。”体美课是以人体为表现媒介，用运动中的人体抒发人们内在精神的外在形式，是一种和谐的体育艺术，既锻炼身体，又净化心灵，是表现人们浓缩而升华了的情感为追求目标的社会活动。它是人体造型上“动的艺术”，是藉着人体“动的形象”表现出各种“形态化”了的运动，它的本质具有“生命性”，人体本身作为一个具有生命性的复杂物体，一方面体现于人体本身，另一方面则体现于生物机体自然且规律的运动——呼吸。体美课正是注重运动中每一环节、每一动作、每一形态的“呼吸”，加之配合节奏、音乐、韵律等外部媒介融为一体的学习过程，让学生充分尝试、体会以及感悟到体育美育这一融合创新的课程形式，初步达到具有“形神兼备、身心并用、内外统一”的体美修养与素质。

英文简介 (Course Description) :

The “Fusion of Physical Education and Aesthetic Education” is an innovative part of current educational reform in universities. Body language is the main expression adopted in the physical and aesthetic course as established by the author. Through the basic skill training in a scientific and effective manner and through the expression training with esthetics, learning points and training contents such as classic ballet, Chinese classical body rhyme, impromptu and creation and proposition are combined in the course. The author strives to achieve the main objectives in the new education philosophy of “Fusion of Physical Education and Aesthetic Education”, including the enhancement of physical and mental quality of students, the promotion of aesthetic consciousness of students, the extension of innovative thinking of students; in the mean time, it is important to make the students “have fun, enhance physical quality, perfect the personality and exercise the willpower” in the class, in theoretical study, in training as well as in practice, all of which are emphasized in the core education philosophy. Human body is the expression medium of the physical and aesthetic course, and in the course, the human body in motion will be the external form to express the internal spirit of people, which is a harmonious athletics art. Such art is able to exercise the body as well as purify the heart, such art is a type of social activity to express the concentrated and distilled sentiment. It is the “art of motion” in term of human body modeling. It will display different types of motion in different “forms”, by means of “dynamic image” of human body. Its essence is of “life”. Human body, as a living and sophisticated object, is embodied in human body itself on one hand, and is embodied in the natural and regular movement (i.e. breathing) of living organisms on the other

hand. The learning process of physical and aesthetic course emphasizes the “breathing” in the state of motion, in every link, in every movement and in every form, together with the external medium such as tempo, music and rhythm. The students can fully attempt, experience and comprehend the concept of “Physical Education and Aesthetic Education”, in the integrated and innovative form of physical and aesthetic course. Through the learning of physical and aesthetic course, the students can achieve the following accomplishments and qualities at a preliminary stage, which are “the unity of both form and spirit”, “the use of both body and mind”, and “the unity of both the internal and the external”.

-End-

课程号 (Course Number) : 04130126

课程名称 (Course Title) : 体美/Physical and Aesthetic course

开课院系 (School/Department) : 体育教研部/Section of Physical Culture

学分 (Credits) : 1

授课教师 (Faculty) : 秦朗

先修课程 (Prerequisites) : 无

中文简介:

“体美融合”是当下高校教学改革中的创新一环，笔者所开设的体美课程主要以肢体语言为表现手段，经过科学有效的基本功训练以及具有美学渲染的表现力训练，结合中国民族民间舞种、中国古典身韵、即兴与命题编创等知识点和训练内容，力争达到增强学生身心素质、提升学生审美意识、开拓学生创新思维等体美融合的新教育理念，同时在核心教学理念上将更加注重让学生们在课堂上、理论上、锻炼中、实践中“享受乐趣、增强体质、健全人格、锤炼意志。”体美课是以人体为表现媒介，用运动中的人体抒发人们内在精神的外在形式，是一种和谐的体育艺术，既锻炼身体，又净化心灵，是表现人们浓缩而升华了的情感为追求目标的社会活动。它是人体造型上“动的艺术”，是藉着人体“动的形象”表现出各种“形态化”了的运动，它的本质具有“生命性”，人体本身作为一个具有生命性的复杂物体，一方面体现于人体本身，另一方面则体现于生物机体自然且规律的运动——呼吸。体美课正是注重运动中每一环节、每一动作、每一形态的“呼吸”，加之配合节奏、音乐、韵律等外部媒介融为一体的学习过程，让学生充分尝试、体会以及感悟到体育美育这一融合创新的课程形式，初步达到具有“形神兼备、身心并用、内外统一”的体美修养与素质。

英文简介 (Course Description) :

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The author strives to achieve the main objectives in the new education philosophy of “Fusion of Physical Education and Aesthetic Education”, including the enhancement of physical and mental quality of students, the promotion of aesthetic consciousness of students, the extension of innovative thinking of students; in the mean time, it is important to make the students “have fun, enhance physical quality, perfect the personality and exercise the willpower” in the class, in theoretical study, in training as well as in practice, all of which are emphasized in the core education philosophy. Human body is the expression medium of the physical and aesthetic course, and in the course, the human body in motion will be the external form to express the internal spirit of people, which is a harmonious athletics art. Such art is able to exercise the body as well as purify the heart, such art is a type of social activity to express the concentrated and distilled sentiment. It is the “art of motion” in term of human body modeling. It will display different types of motion in different “forms”, by means of “dynamic image” of human body. Its essence is of “life”. Human body, as a living and sophisticated object, is embodied in human body itself on one hand, and is embodied in the natural and regular movement (i.e. breathing) of living organisms on the other hand. The learning process of physical and aesthetic course emphasizes the “breathing” in the state of motion, in every link, in every movement and in every form, together with the external medium such as tempo, music and rhythm. The students can fully attempt, experience and comprehend the concept of “Physical Education and Aesthetic Education”, in the integrated and innovative form of physical and aesthetic course. Through the learning of physical and aesthetic course, the students can achieve the following accomplishments and qualities at a preliminary stage, which are “the unity of both form and spirit”, “the use of both body and mind”, and “the unity of both the internal and the external”.

-End-

课程号 (Course Number) : 04130721

课程名称 (Course Title) : 骑行老北京城: 探索千年古都回响/cycling in ancient Beijing city: Exploring the echo of one-thousand-year old capital

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 卢福泉

先修课程 (Prerequisites) : 面对外国和境外本科生和研究生, 没有先修课程要求, 但要求选课学生会骑车, 掌握基本骑行技术和技巧, 且身体体能能应对较长距离的骑行。

Undergraduates and graduates who prefer field trip to indulge Beijing’s history and culture, as a stranger to the city. Cycling skills and average fitness level to ride a long distance are pre-requisites.

中文简介:

课程简介

本课程是通过骑行，探索老北京城作为近千年的历史文化古都的课程。在北京城规划6条具有代表性的骑行路线每条线路包含宫殿、博物馆、寺庙、公园、剧院，河流和湖泊等数十处值得游览的景点，探索北京古城作为金元尤其是明清都城一共869年的悠久历史和丰富多彩的文化。这些线路包括：

探索北京城二环：故宫及明清都城外城
觉醒的红色征途：北大在新民主主义革命初期的贡献
梨园之旅：京剧文化之旅
东城胡同行宫、府邸、历史名人故居之旅
西城寻根之旅：金元遗迹
北京中轴线之旅：最佳风水线路

先决条件/目标受众

课程面对更喜欢实地考察的本科生和研究生，愿意沉迷于北京的历史和文化的城市访客。骑自行车的技能和中等健康水平是先决条件。

课程进行

课程为期4周，每天4小时（周二和周五下午，可能会有变动），每周两次，共计32课时。校园第一节课和最后一节课，其他6节课是骑自行车实地考察和讨论。

作业（论文或其他形式）

在每次单车旅程中，学生可能需要提前做研究，对骑行停靠点的历史和文化进行陈述。

每个学生期末完成一个小论文，对历史和文化的反思和想法将印在论文集中。

每个学生/学生小组将被指派在路线的其中一个地点做一个简短的介绍。

每名学生需提交3-5张照片打印骑行旅程相册。

评价详情

自行车实地考察完成、自行车路线停靠点历史文化的称述，成占总分的60%。40% 的分数用于课堂上的论文展示。

英文简介（Course Description）：

course introduction

This course is a course to explore the old Beijing city as an ancient capital with prefunded history and culture for nearly a thousand years through cycling. listening the echo of ancient Beijing City, as the Capital of Jin, Yuan, especially Ming and Qing Dynasty of 869 years, by planning 6 representative cycling routes in which contains dozens of worth visiting places including palace, museums, temples, parks, theaters, rivers and lakes. these routes listed as below:

Exploring the Beijing city 2nd ring: Forbidden City and outer city of Ming and Qing

Dynasty Capital

The Awakening Red Journey: The contribution of beida at the early of New democratic revolution

the journey of Liyuan: the Beijing opera culture tour.

Journey of palace, Mansion, and historical celebrity former residence in Dongche Hutong

The journey of in searching of origin in Xicheng: the ruins of Jin and Yuan Dynasty

The journey of Central Axis Tour of Beijing city: the Best Feng Shui line

Pre-requisites /Target audience

Undergraduates and graduates who prefer field trip to indulge Beijing' s history and culture, as a stranger to the city. Cycling skills and average fitness are pre-requisites.

Proceeding of the Course

The course is a four-week course, 4 hours each day (on Tuesday and Friday afternoon, might be subjected to change.) , twice a week and totally 32 teaching hours. The first and last class in campus, the other 6 are cycling field trip journeys.

Assignments (essay or other forms)

During every cycling journey, presentation of assigned stop point was required to be made.

Essay will be assigned upon each student and reflections and thoughts will be printed in essay collection.

Each student/students' group will be assigned to make a short presentation on one of the spots of the routes.

Each students are required to submit 3-5 photos to print the photo album of the cycling journey.

Evaluation Details

Cycling field trips made, cycling routes stop point presentation done account for 60% of the total score. 40% of the score goes to the essay presentation at the lass class.

-End-

课程号 (Course Number) : 04130721

课程名称 (Course Title) : 骑行老北京城: 探索千年古都回响/cycling in ancient Beijing city: Exploring the echo of one-thousand-year old capital

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 卢福泉

先修课程 (Prerequisites) : 面对外国和境外本科生和研究生, 没有先修课程要求, 但要求选课学生会骑车, 掌握基本骑行技术和技巧, 且身体体能能应对较长距离的骑行。

Undergraduates and graduates who prefer field trip to indulge Beijing's history and culture, as a stranger to the city. Cycling skills and average fitness level to ride a long distance are pre-requisites.

中文简介:

课程简介

本课程是通过骑行, 探索老北京城作为近千年的历史文化古都的课程。在北京城规划6条具有代表性的骑行路线每条线路包含宫殿、博物馆、寺庙、公园、剧院, 河流和湖泊等数十处值得游览的景点, 探索北京古城作为金元尤其是明清都城一共869年的悠久历史和丰富多彩的文化。这些线路包括:

- 探索北京城二环: 故宫及明清都城外城
- 觉醒的红色征途: 北大在新民主主义革命初期的贡献
- 梨园之旅: 京剧文化之旅
- 东城胡同行宫、府邸、历史名人故居之旅
- 西城寻根之旅: 金元遗迹
- 北京中轴线之旅: 最佳风水线路

先决条件/目标受众

课程面对更喜欢实地考察的本科生和研究生, 愿意沉迷于北京的历史和文化的城市访客。 骑自行车的技能和中等健康水平是先决条件。

课程进行

课程为期4周, 每天4小时 (周二和周五下午, 可能会有变动), 每周两次, 共计32课时。 校园第一节课和最后一节课, 其他6节课是骑自行车实地考察和讨论。

作业 (论文或其他形式)

在每次单车旅程中, 学生可能需要提前做研究, 对骑行停靠点的历史和文化进行陈述。

每个学生期末完成一个小论文, 对历史和文化的反思和想法将印在论文集中。

每个学生/学生小组将被指派在路线的其中一个地点做一个简短的介绍。

每名学生需提交3-5张照片打印骑行旅程相册。

评价详情

自行车实地考察完成、自行车路线停靠点历史文化的称述, 成占总分的60%。 40% 的分数用于课堂上的论文展示。

英文简介 (Course Description) :

course introduction

This course is a course to explore the old Beijing city as an ancient capital with

prefunded history and culture for nearly a thousand years through cycling. listening the echo of ancient Beijing City, as the Capital of Jin, Yuan, especially Ming and Qing Dynasty of 869 years, by planning 6 representative cycling routes in which contains dozens of worth visiting places including palace, museums, temples, parks, theaters, rivers and lakes. these routes listed as below:

Exploring the Beijing city 2nd ring: Forbidden City and outer city of Ming and Qing Dynasty Capital

The Awakening Red Journey: The contribution of beida at the early of New democratic revolution

the journey of Liyuan: the Beijing opera culture tour.

Journey of palace, Mansion, and historical celebrity former residence in Dongche Hutong

The journey of in searching of origin in Xicheng: the ruins of Jin and Yuan Dynasty

The journey of Central Axis Tour of Beijing city: the Best Feng Shui line

Pre-requisites /Target audience

Undergraduates and graduates who prefer field trip to indulge Beijing' s history and culture, as a stranger to the city. Cycling skills and average fitness are pre-requisites.

Proceeding of the Course

The course is a four-week course, 4 hours each day (on Tuesday and Friday afternoon, might be subjected to change.) , twice a week and totally 32 teaching hours. The first and last class in campus, the other 6 are cycling field trip journeys.

Assignments (essay or other forms)

During every cycling journey, presentation of assigned stop point was required to be made.

Essay will be assigned upon each student and reflections and thoughts will be printed in essay collection.

Each student/students' group will be assigned to make a short presentation on one of the spots of the routes.

Each students are required to submit 3-5 photos to print the photo album of the cycling journey.

Evaluation Details

Cycling field trips made, cycling routes stop point presentation done account for 60% of the total score. 40% of the score goes to the essay presentation at the lass class.

-End-

课程号 (Course Number) : 04334017

课程名称 (Course Title) : 美索不达米亚艺术与文明/Mesopotamian Art and Civilization

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 贾妍

先修课程 (Prerequisites) : 无

中文简介:

本课程在世界文明发展史的大背景基础上,通过对古代美索不达米亚(两河流域)艺术与建筑的起源、发展、风格特点及历史流变的讲解和考察,引导学生理解作为“人类文明摇篮”的古代美索不达米亚特有的视觉与物质文化。课程力图突破西方传统“东方学”框架下的文明视野,以中华文明为观想本体和潜在的比较对象,在美索不达米亚文明的盛衰中引导学生思考人类文明面临的普遍问题,在全球化的语境下提升文明对话的意识与能力。方法论层面,课程致力于在讲授中引入艺术史学科的一些基本研究路径,即从视觉材料入手,结合文献记载和考古材料,通过对“图”与“物”的观看、解读和阐释,探索其背后独特的文明形态与文化传统。

英文简介 (Course Description) :

This is an introductory course of the art and civilization of ancient Mesopotamia. Through the survey of the origins, developments, continuity and changes of styles of the three thousand years of art history, this course intends to introduce to the students a visual and material culture unique to ancient Mesopotamia, “the cradle of human civilization.” With a cross-cultural comparative perspective, however, observing with a vision of Chinese civilization for potential cultural comparison, this course seeks to break through the framework of Eurocentric “orientalism” in the Near Eastern studies, and to promote a dialogue of the two ancient cultures of Mesopotamia and China in the context of globalization. This course also encourages students to think about some universal problems faced by human civilizations, in the birth and death, rise and fall of the long dead Mesopotamian culture. At the methodological level, the course will include a survey of archaeological data as well as some basic art-historical approaches available for analysis of ancient monuments.

-End-

课程号 (Course Number) : 04830810

课程名称 (Course Title) : 可编程逻辑电路设计(I)/Digital Design Using PLD (I)

开课院系 (School/Department) : 信息科学技术学院/School of Electronics Engineering and Computer Science

学分 (Credits) : 2

授课教师 (Faculty) : 蒋伟

先修课程 (Prerequisites) : 数字逻辑电路

中文简介:

通过课程的学习,使学生熟悉可编程逻辑器件的结构和原理,掌握可编程逻辑器件的开发方法和工具,学习硬件描述语言,锻炼设计和实现数字系统的综合能力,培养学生的团队合作、交流和表达能力。

英文简介 (Course Description) :

By studying and practicing in this course, we wish our students can make progress in the following aspects: getting familiar with the basic structure of the programmable devices, grasping the developing tools and process of a digital design using programmable logic devices (PLD), studying the hardware description language(HDL), enhancing the ability of designing and realizing a digital design, developing the ability of cooperation, communication and lecturing.

-End-

课程号 (Course Number) : 04833310

课程名称 (Course Title) : 集成电路逻辑综合实验/logic synthesis labs

开课院系 (School/Department) : 信息科学技术学院/School of Electronics Engineering and Computer Science

学分 (Credits) : 2

授课教师 (Faculty) : 贾嵩, 崔莹莹

先修课程 (Prerequisites) : 数字逻辑电路

中文简介:

逻辑综合是数字集成电路设计优化的重要手段,逻辑综合通过RTL源代码转换成门级网表的过程实现数字设计向工艺库的映射。

在综合过程中,优化进程完成库单元的配置组合,使电路能最好地满足设计的功能、时序和面积的要求。逻辑综合为约束驱动(constraint driven),给定的约束条件是综合的目标。约束一般是在对整个系统进行时序分析得到的,综合工具会对电路进行优化以满足约束的要求。

本课程安排10个实验,通过实验内容,学习掌握逻辑综合的基本知识和实际操作。通过课程学习,学生可以掌握逻辑综合的基本方法、工具使用、优化技巧等知识。

本课程的先修课为数字逻辑电路。

本课程为实验课,上课时间安排在两周,一共10次课,每次上机4小时。

英文简介 (Course Description) :

Logic synthesis is an important method to design a digital integrated circuits. The process will translate the RTL code to gate level netlist and map the design to technology library.

Logic synthesis is the transformation of an idea into a manufacturable device to carry out an intend function. This involves three main steps:

*Design is broken down into sets of timing paths

*The delay of each path is calculated

*All path delays are checked to see if timing constraints have been met.

There are ten labs in the class. Students will learn the process and skill of logic synthesis.

The students are expected to have studied "logic circuits" before.

-End-

课程号 (Course Number) : 04833360

课程名称 (Course Title) : 情感智能机器人引论/Introduction to Affective Intelligent Robotics

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 王韬

先修课程 (Prerequisites) :

中文简介:

强人工智能是人们长久以来孜孜以求的一个理想，智能机器人是这个理想的实物寄托，以各种形态出现在众多科幻文学、影视作品当中。智能机器人能够理解人类语言，听懂人的心声；能够看着人的眼睛，认知周围的环境；有感觉，更有反应和思考，还能够通过学习获得经验和成长。而情感能力对于智能机器人至关重要。如果缺乏情感理解和表达的能力，将很难使智能机器人与人自然交互，更不能主动识别人的负面情感并做出积极反应。

本门课程对情感智能机器人加以介绍，展示机器人的运动、感知、控制、智能以及体系结构，讲解情感的作用、表达、识别、调节与心理学基础，讨论机器人通过各种感知方式对人类的情感识别模型，最后探索机器人的情感调节方法。本门课程还包含搭建机器人的实践环节。

本门课程是面向全校本科生开设的一门引论课程，并不涉及复杂的数学、物理推理与运算，也不要求过高的计算机程序设计技能。主要探讨情感智能机器人的概念、原理、模型、实现，希望选课同学能够对情感智能机器人有全面及较深入的了解，为进一步学习或进行相关应用打下坚实的基础。

本门课程采用平时课堂成绩与期末论文相结合的方式进行考核。

英文简介 (Course Description) :

Strong artificial intelligence is one of the long-cherished dream of human being, while intelligent robots are its ideal physical sustenance, which have been presented in various forms in a number of science fiction literatures and films. Intelligent robots can understand the human language, understand the human voice; can look at people's eyes, cognize around the environment; can feel, react and think; and can also gain experience and grow through learning. The ability of handling affect is critical to intelligent robots. When lack of understanding and express affect, it will be difficult for intelligent robots to do natural interaction with human beings, difficult to take the initiative to identify people's negative emotions and make a positive response.

This course conducts an introduction to affective intelligent robotics, introduces the movement, perception, control, intelligence and architecture of the robot, explains the role, expression, identification, adjustment of the affect, and the corresponding psychology foundation. This course also discusses the recognition models of human affect through various sensing methods, and finally explores the ways of doing affect adjustment. This course also includes the practice of building robots.

This course is an introductory course for undergraduate students. It does not involve complex mathematics, physical reasoning and computing, and does not require too much computer programming skills. This course mainly discusses the concept, principle, model and realization of affective intelligent robotics. Hope that the involved students can have a comprehensive and deep understanding of affective intelligent robotics, lay a solid foundation for further study or related applications.

The course employs a combination of the usual classroom performance and the grade of the essay to evaluate the final score of a student.

-End-

课程号 (Course Number) : 04833730

课程名称 (Course Title) : 集成电路的物理设计实验/Place and route labs

开课院系 (School/Department) : 信息科学技术学院/School of Electronics Engineering and Computer Science

学分 (Credits) : 2

授课教师 (Faculty) : 贾嵩, 叶乐

先修课程 (Prerequisites) : 数字逻辑电路

中文简介:

物理设计是数字集成电路设计实现过程, 通常称为布局布线(Place-and-Route), 通过将门级网表进行布局布线等过程, 实现数字设计由门级向物理版图的映射。随着集成电路工艺的不断展, 深亚微米集成电路物理设计给设计者提出了新的挑战, 比如在时序收敛、电压降、串扰分析等方面带来设计挑战。

集成电路的物理设计的输入文件是逻辑综合之后的门级网表, 经过布图规划、布局、时钟树综合、布线、版图检查等过程, 输出用于半导体加工的版图数据。

布图规划阶段: 布图规划主要包括芯片的大小 (area)、输入输出I / O单元的规划、宏模块的规划和电源规划等;

布局阶段: 布局的任务主要是对标准单元和宏模块的布局。为了更好地实现时序收敛需要采用时序驱动的布局方式。此外, 还包括对版图进行拥塞分析;

时钟树综合: 时钟网络在所有信号网络中负载最大、走线最长、要求最苛刻, 因此时钟树综合的质量直接影响芯片的性能。时钟树综合包括设置、综合、优化等过程;

布线阶段: 布局和时钟树综合完成后, 就需要各个模块和单元通过具体的互连线连接起来, 完

成所有信号的互联，从而才可实现芯片的功能。具体的实施包括全局布线、详细布线和布线修正等部分，布线的效果依赖于布局的方案以及工具本身的算法。

本课程安排10个实验，通过实验内容，学习掌握集成电路物理设计的基本知识和实际操作。通过课程学习，学生可以掌握布局布线的基本方法、工具使用、优化技巧等知识。

本课程的先修课为数字逻辑电路。

本课程为实验课，上课时间安排在两周，一共10次课，每次上机4小时。

英文简介 (Course Description) :

Physical design is the implementation process for digital ICs. It is also referred as Place-and-Route. The design process will map the gate-level netlist to layout. As the semiconductor scales down, new challenges, such as timing closure, IR drop and crosstalks arise for physical designs.

In physical design, the netlists are put in and the design is processed by floorplanning, placing, clock-tree synthesizing, routing. The layout data is outputted for fabrication.

Floorplanning: The process will handle the area, the position of IOs and macros and the planning of power rails;

Placement: The process will place the standard cells and macros. The process is often driven by timing to meet timing closure. Congestion is also analyzed.

Clock-tree synthesis: The clock network is the most loaded and longest net in the design. The network should be optimized by synthesis for better timing.

Routing: All the cells and macros will be connected in the process by global routing, detail routing and repair.

The class will arrange ten labs for students to understand the physical design knowledge. Students will learn the basic methods, the tool application and skills for place-and-route.

The Digital Circuit is suggested as a pre-arranged class for the class.

The class will be taught in labs in 2 weeks. There are four class hours every day.

-End-

课程号 (Course Number) : 04834500

课程名称 (Course Title) : 量子信息技术概论/Introduction to Quantum Information Technology

开课院系 (School/Department) : 信息科学技术学院/School of Electronics Engineering and Computer Science

学分 (Credits) : 2

授课教师 (Faculty) : 吴腾

先修课程 (Prerequisites) : 本课程主要面向信科、物理、元培等其他相近专业低年级本科学学生，无特别先修课程要求。如具备线性代数、原子物理、光学、量子力学等相关课程的初步知识，则更好。

中文简介：

本课程主要讲授与量子信息技术有关的基础知识、发展现状和未来趋势，以期拓展学生在量子信息技术领域的知识面，培养学生对量子信息技术的兴趣。本课程采用专题讲座式教学方式，授课形式以幻灯片为主、辅以一定的黑板板书。本课程包括 16 个专题讲座，内容涵盖：量子信息技术的概念和历史、与量子信息技术有关的基本概念、量子计算、量子保密通信、量子精密测量、核磁共振等前沿量子信息技术的发展现状及未来趋势。

英文简介 (Course Description) :

This course introduces the basics, the current status and the future of the quantum information technology, and aims at broadening the students' knowledge and cultivating their interests in this field. The course consists of 16 talks, the topics of which include but not limited to the history of the quantum information technology, some basic conceptions such as wave-particle duality, entanglement, atomic structure, and the current status and future of quantum computing, quantum communication, quantum precision measurement and some other typical and important quantum information technologies.

-End-

课程号 (Course Number) : 04834710

课程名称 (Course Title) : 自旋与超导量子技术导论/Introduction to Spintronic and Superconducting Quantum Technology

开课院系 (School/Department) : 信息科学技术学院/School of Electronics Engineering and Computer Science

学分 (Credits) : 2

授课教师 (Faculty) : 王润声

先修课程 (Prerequisites) : 本课程主要面向信息科学（电子、微电子/集成电路、计算机、人工智能等）、物理、材料等其他相近专业二三年级本科生，无特别先修课程要求。但需要具备一点编程的基本知识（如Python/Matlab/Mathematica等）。如具备线性代数、量子物理等相关课程的初步知识，则更好。

中文简介：

本课程介绍自旋电子学和量子信息科学中的基本概念、器件技术、电路及算法应用。该课程包括课堂讲授和有关动手学习仿真工具的补充教程。希望学生通过动手作业（使用仿真工具）展示运用基本原理理解自旋电子学和超导量子技术的能力。本课程将邀请香港科技大学邵启明教授联合讲授。

英文简介 (Course Description) :

This course introduces concepts, devices, and applications in spin electronics and quantum information science. The course includes lectures and supplemental tutorials

for hands-on learning tools. Students are expected to demonstrate the capability of applying fundamental principles to understand spintronic and superconducting quantum devices through hands-on homework projects. The course will be co-instructed by Prof. Qiming Shao of Hong Kong University of Science and Technology.

-End-

课程号 (Course Number) : 04835270

课程名称 (Course Title) : 自动驾驶技术赏析/Self-driving Technology Appreciation

开课院系 (School/Department) : 信息科学技术学院/School of Electronics Engineering and Computer Science

学分 (Credits) : 2

授课教师 (Faculty) : 赵卉菁

先修课程 (Prerequisites) : 无

中文简介:

自动驾驶技术 (Autonomous driving; Self-driving) 是一个综合了移动机器人、人工智能、计算机视觉、传感器等学科的高新技术, 在交通运输、物流服务、工业自动化等领域有着重要的应用。自动驾驶技术是当前科技研究的热点, 近年来有着迅猛的发展, 受到社会各界的广泛关注。本课程充分发挥自动驾驶技术发展的特点, 利用相关的视频演示、媒体报道、主题演讲、技术分析、学术论文等多媒体材料, 以自动驾驶系统典型案例的技术欣赏和分析入手, 由浅入深地教授自动驾驶相关的理论知识, 引导学生理解自动驾驶技术的主要思路与挑战。本课程分6个专题教授自动驾驶相关的理论知识, 包括自动驾驶系统、架构与关键技术、自动驾驶地图、标准与测试、自动驾驶与社会、应用场景, 最后通过专题研讨, 使得学生在获得理论知识的基础上, 具备对自动驾驶技术现状与挑战的综合分析与评价能力。

英文简介 (Course Description) :

Autonomous driving technology is a high-tech that integrates mobile robotics, artificial intelligence, computer vision, sensors and other disciplines, and has important applications in transportation, logistics services, industrial automation and other fields. Autonomous driving technology is the current hot spot of scientific and technological research, with rapid development in recent years, receiving wide attention from all walks of life. This course is designed to exploit the characteristics of the fast development of autonomous driving technology and uses relevant video demonstrations, media reports, keynote speeches, technical analysis, academic papers and other multimedia materials to teach the theoretical fundamentals related to autonomous driving from shallow to deep, starting with technical appreciation and analysis of typical cases of autonomous driving systems, and guiding students to understand the main ideas and challenges of autonomous driving technology. This course teaches theoretical knowledge related to autonomous driving in six topics, including autonomous driving systems, architecture and key technologies, autonomous driving maps,

standards and testing, autonomous driving and society, scenarios, and finally, through thematic seminars, enables students to acquire theoretical knowledge and have the ability to comprehensively analyze and evaluate the current situation and challenges of autonomous driving technology.

-End-

课程号 (Course Number) : 04835290

课程名称 (Course Title) : 模拟集成电路设计方法、工具与流程/Analog Integrated Circuits Design Method、Tools and Flow

开课院系 (School/Department) : 信息科学技术学院/School of Electronics Engineering and Computer Science

学分 (Credits) : 2

授课教师 (Faculty) : 叶乐

先修课程 (Prerequisites) : 高等数学

电路原理/电路分析

模拟电子电路/模拟集成电路设计

数字电子电路/数字集成电路设计

线性代数、概率论

信号与系统

微电子学或半导体物理学

C 语言编程

中文简介:

模拟集成电路设计不仅需要依赖扎实的基础理论知识体系,还需要充分掌握模拟EDA工具以设计流程。本课程通过2周的实训,可使参加实训的学生快速提升模拟集成电路设计的实践能力,弥补理论知识课程与实际IC工程实践要求之间的脱钩问题,为培养满足实际需要的模拟 IC 设计人才打下坚实基础。

本课程具有以下亮点:与传统基于美国EDA工具进行实验教学有所不同的是,本课程将使用国产EDA 全流程设计软件,来进行模拟集成电路设计的教学和实践训练。课程完整囊括了模拟 IC 设计的所有环节,包括:电路图原理设计、原理图仿真、波形分析调试、多工艺角分析和蒙特卡洛分析、Schematic Driven Layout、版图设计、DRC/LVS 物理验证、寄生参数提取、后仿真以及数模混合设计和仿真的全流程,从而可以系统化、立体化地培养学生的模拟 IC 设计能力。此外,本课程还包括了丰富的实际案例的教学内容,包含:电路原理讲解、案例分析、以及大量的动手实验。由一个在模拟 IC 项目中最常用的典型电路项目贯穿,将知识点融入项目原理、设计、开发、优化全过程中,实现做中学。

本课程邀请华大九天技术专家共同授课,华大九天是我国EDA龙头企业,其模拟集成电路设计流程EDA工具,已经完成了全体系的国产自主可控,保障了我国在模拟芯片、数模混合芯片等领域的EDA自主可控和产业链安全,部分指标甚至局部超越美国EDA巨头公司;然而现有绝大多数集成电路设计的学生培养,绝大多数均是依赖于美国EDA三巨头的软件工具所展开的,随时面临着被卡脖子的风险;开展基于国产EDA工具进行模拟集成电路设计方法、工具和流程的培养,对于培养能够支撑国家芯片产业安全和自主可控的高素质人才,具有十分重要的意义。

英文简介 (Course Description) :

Analog integrated circuit design not only needs to rely on a solid theoretical knowledge system, but also needs to fully master the analog EDA tools to design the process. Through two weeks of training, this course can enable students participating in the training to quickly improve the practical ability of analog integrated circuit design, make up for the decoupling problem between the theoretical basic knowledge course and the practical requirements of actual IC engineering, and lay a solid foundation for training analog IC design talents to meet the actual needs.

This course has the following highlights: Different from the traditional experimental teaching based on American EDA tools, this course will use domestic EDA full-process design software to carry out the teaching and practical training of analog integrated circuit design. The course covers all aspects of analog IC design, including circuit diagram schematic design, schematic diagram simulation, waveform analysis and debugging, multi-process angle analysis and Monte Carlo analysis, Schematic Driven Layout, layout design, DRC/LVS physical verification, parasitic parameter extraction, post-simulation, and the whole process of digital-analog hybrid design and simulation, so as to systematically and stereoscopically cultivate students' analog IC design ability. In addition, this course also includes rich teaching contents of practical cases, including circuit principle explanation, case analysis, and a large number of hands-on experiments.

Through a typical circuit project that is most commonly used in analog IC projects, knowledge points are integrated into the whole process of project principle, design, development and optimization to achieve learning by doing.

This course invites technical experts from Huada Jiutian to teach together. Huada Jiutian is a leading EDA enterprise in China, and its analog integrated circuit design process EDA tools have completed the entire system of domestic independent control, ensuring the EDA autonomy and industry chain security in the fields of analog chips, digital analog hybrid chips, and other fields in China, with some indicators even partially surpassing the EDA giants in the United States; However, the vast majority of existing integrated circuit design students' training relies on the software tools of the three EDA giants in the United States, and they are at risk of being stuck at any time; Developing the training of analog integrated circuit design methods, tools, and processes based on domestic EDA tools is of great significance for cultivating high-quality talents capable of supporting the safety and autonomous control of the national chip industry.

-End-

课程号 (Course Number) : 04835300

课程名称 (Course Title) : 人工智能前沿/Frontiers of Artificial Intelligence

开课院系 (School/Department) : 信息科学技术学院/School of Electronics Engineering and

Computer Science

学分 (Credits) : 1

授课教师 (Faculty) : 王乐业, 董豪, 仇尚航

先修课程 (Prerequisites) : 人工智能基础/引论

中文简介:

人工智能前沿课程将探讨最新的人工智能技术和发展趋势。本课程将从机器学习、深度学习、自然语言处理、计算机视觉、强化学习等人工智能研究领域出发, 涵盖自动驾驶、人机交互、机器人、医疗保健、金融科技等领域的应用案例。学生将学习如何应用人工智能解决实际问题, 并了解人工智能的前沿领域, 发展趋势及其对社会和工作的影响。

英文简介 (Course Description) :

The frontiers of artificial intelligence course will explore the latest AI technologies and trends. This course will introduce fundamental concepts such as machine learning, deep learning, natural language processing, computer vision, and reinforcement learning, and cover application cases in fields such as autonomous driving, human-machine interaction, robotics, healthcare, and fintech. Students will learn how to apply AI to solve real-world problems and understand the development trends of AI and its impact on society and work.

-End-

课程号 (Course Number) : 04835490

课程名称 (Course Title) : 计算机科学高级专题/Advanced Topics in Computer Science

开课院系 (School/Department) : 信息科学技术学院/School of Electronics Engineering and Computer Science

学分 (Credits) : 2

授课教师 (Faculty) : 周明辉, 刘先华, 边凯归, 罗国杰, 熊英飞, 张大庆, 施柏鑫, 王乐业, 董豪, 吴文斐, 金鑫, 李彤阳, 仇尚航

先修课程 (Prerequisites) : 无。

中文简介:

本课程涉及计算机学科多个领域, 由北大计算机学院的多位知名教授共同讲授, 课程内容包括程序设计语言概览、算法设计与复杂性理论、计算机视觉、操作系统、智能视频传输、计算影像学、人工智能系统实践、具身智能、软硬件协同设计优化、网络计算与分布式系统、开源数据分析以及普适计算和情境感知。课程理论和实践并重, 将设置多个实验和操作环节。通过本课程的学习, 学生基本掌握编程语言发展、量子算法、深度学习应用、操作系统原理、视频传输优化、计算影像学基本概念、人工智能系统构建、智能机器人原理、软硬件设计协同优化、现代自适应计算、网络计算技术、开源数据分析以及普适计算的愿景和无线传感技术应用等计算学科各个领域的核心原理与方法, 获得相关领域的实践经验, 提高创新意识和实践能力。本课程的各部分内容概要介绍如下:

1. 程序设计语言概览：介绍编程语言的发展、技术、未来方向。
2. 算法设计与复杂性理论：涉及传统算法、量子计算趋势下的算法设计，联结理论计算机科学与量子计算的研究，并探讨其与机器学习和优化的关系。
3. 计算机视觉：介绍重要模型与算法，深度学习在其中的应用，以及面对开放环境的计算机视觉挑战，包括大量数据域偏移和新类别动态出现。
4. 操作系统：概述操作系统，讨论核心概念、原理以及最新发展和前沿，课程实践包含操作系统编程作业。
5. 智能视频传输：探讨提升视频流服务与体验质量的关键技术，如预测视频内容流行度、网络带宽动态变化表征、对象检测等，为 5G 时代视频内容消费者提供更好服务。
6. 计算摄像学：介绍计算摄像学的基本概念、研究趋势、数字图像形成以及数码相机工作原理，并包含与成像基本原理相关的课程实践练习。
7. 人工智能系统实践：涵盖问题建模、数据获取、预处理、调参、部署和维护等技术，通过现实人工智能系统实例展示系统构建全流程所需的关键知识和工具。
8. 具身智能：介绍具身智能或智能机器人的基本概念和关键要素，涵盖感知、决策、执行等方面，以及相关技术趋势和未来发展。
9. 软硬件协同设计优化：探讨硬件和软件组件的协同设计原则，强调提高性能和效率，学生将参与实践项目设计系统。
10. 现代自适应计算：介绍现代自适应计算的芯片架构、编译技术、编程接口等，以及其作为系统原型研究平台的典型案例。
11. 网络计算与分布式系统：介绍在网络计算的原语，降低网络流量和时延，提升系统效率的设计、管理、应用编程模型等。
12. 开源数据分析：讨论开源软件及其开发复杂性，以及挖掘数据揭示开源规律的量化分析技术和建立智能工具控制复杂系统及其开发的方法。
13. 普适计算和情境感知：介绍普适计算的愿景、历史、研究原则和情境感知计算，涵盖无线传感作为新的情境感知计算研究领域。

英文简介 (Course Description) :

Students will explore programming language development, traditional and quantum algorithm design, deep learning applications in computer vision, challenges in open-world computer vision, operating system core principles, video streaming optimization techniques, computational photography concepts, AI system construction, embodied intelligence principles, hardware-software co-design principles, adaptive computing, network computing, open-source software complexities, and the vision of ubiquitous computing with wireless sensing applications. The course includes practical experiments and hands-on activities to master core principles and methods, enhance practical skills, and foster innovation.

1. An Overview of Programming: Introducing the evolution, technologies, future directions of programming languages, and the related professors at Peking University.
2. Algorithm Design and Complexity Theory: A Modern Perspective: Covering traditional and quantum algorithm design, bridging theoretical computer science with quantum computing, and exploring its relations with machine learning and optimization.
3. Computer Vision in the Open World: Presenting important models, algorithms, and deep learning applications in computer vision, addressing challenges in open environments, including data domain shifts and emerging categories.

4. Operating Systems: Overviewing core concepts, principles, recent developments, and including an operating system programming assignment.
5. Video Streaming with AI: Exploring key technologies enhancing video streaming services, such as predicting video content popularity, dynamic bandwidth characterization, object detection, to deliver better services in the 5G era.
6. Computational Photography: Introducing fundamental concepts, research trends, digital image formation, and the working principles of digital cameras, including course practice exercises related to imaging fundamentals.
7. Artificial Intelligence System Practice: Covering techniques in problem modeling, data acquisition, preprocessing, tuning, deployment, and maintenance, showcasing real-world AI system examples to demonstrate the required knowledge and tools for system construction.
8. Embodied Intelligence: Introduces the fundamental concepts and essential components of embodied intelligence or intelligent robots, encompassing aspects like perception, decision-making, execution, and discussing related technological trends and future developments.
9. Software/Hardware Codesign & Optimization: Explores the principles of collaborative design between hardware and software components, emphasizing the enhancement of performance and efficiency. Students will engage in practical projects to design systems.
10. Tutorial on Modern Adaptive Computing: Introduces modern adaptive computing chip architectures, compilation techniques, programming interfaces, and illustrates typical use cases as a platform for system prototyping and research
11. Accelerating Distributed Systems with In-Network Computing: Presents the primitives of network computing, focusing on reducing network traffic and latency, improving system efficiency through the design, management, and application of programming models in network computing.
12. Open-source Data Analytics: Explores the complexities of open-source software development, quantitative analysis techniques to reveal patterns in open-source systems, and establishes intelligent tools to control complex system development through data mining.
13. Ubiquitous Computing and Context Awareness: Outlines the vision, history, research principles of ubiquitous computing, emphasizing context-aware computing, including wireless sensing as a novel research field in context-aware computing.

-End-

课程号 (Course Number) : 04835500

课程名称 (Course Title): 大模型: 从基础到前沿/Large Models: From fundamental to frontier

开课院系 (School/Department) : 信息科学技术学院/School of Electronics Engineering and Computer Science

学分 (Credits) : 2

授课教师 (Faculty) : 邓志鸿

先修课程 (Prerequisites) : 高等数学 (或者数学分析)、线性代数 (或高等代数)、计算概论。

中文简介:

近年来,大模型的出现极大地促进了人工智能的发展,并把人工智能引入新的发展阶段,这其中人机对话系统ChatGPT是一个标志性事件。本课程涵盖了神经网络与深度学习基础、注意力机制与Transformer、语言大模型、视觉与多模态大模型、大模型微调技术、提示工程(Prompting)与上下文学习和课程项目实践等内容。在本课程中,学生将掌握最基本的基础理论知识,了解并接触最前沿的技术。通过课程内容讲授、课外作业和课程项目实践等多种教学方式相结合,学生能掌握设计和实现基于大模型的应用系统所必须的基本原理和技术,并对自己实现的系统有深入的理解,建立起对大模型全面而深入的认识。

英文简介 (Course Description) :

In recent years, Large Models have emerged and greatly promoted the development of Artificial Intelligence and bring Artificial Intelligence to a new stage, where ChatGPT is a milestone example. This course provides a thorough introduction to basic technologies and cutting-edge research in Large Models, including the fundamental of neural networks and deep learning, attention mechanism, Transformer, large language model, large vision and multimodal model, fine-tuning technology for Large Models, Prompting, In-Context Learning, and practice. Through lectures, assignments and a course project, students will develop systems based on Large Models and learn the necessary skills to design, implement, and understand their own models, and finally establish a comprehensive and in-depth understanding of large models.

-End-

课程号 (Course Number) : 04835510

课程名称 (Course Title) : 量子硬件技术:从量子比特到量子计算机/Quantum hardware technology: from qubits to quantum computers

开课院系 (School/Department) : 信息科学技术学院/School of Electronics Engineering and Computer Science

学分 (Credits) : 1

授课教师 (Faculty) : 孙仲

先修课程 (Prerequisites) : 大学物理 (或电磁学)

中文简介:

本次课程由米兰理工大学 (Politecnico di Milano) 的Daniele Ielmini教授讲授,授课语言为英语,授课内容为量子计算的底层硬件技术,包括自旋量子比特、超导量子比特,以及量子门与量子系统。

英文简介 (Course Description) :

This course will be delivered in English, by Prof. Daniele Ielmini from Politecnico di Milano. He will lecture on the underlying hardware technology of quantum computing, including spin qubits, superconducting qubits, as well as quantum gates and quantum systems.

-End-

课程号 (Course Number) : 06239083

课程名称 (Course Title) : 经济学社会实践/Field Work in Economic Study

开课院系 (School/Department) : 国家发展研究院/National School of Development

学分 (Credits) : 2

授课教师 (Faculty) : 徐晋涛, 蒋少翔

先修课程 (Prerequisites) : 经济学原理

中文简介:

本课程以教师指导学生进行企业参访和实习, 田野调研等多种形式开展。引导学生走出校门、接触社会、了解国情与民生, 使理论与实践相结合, 让学生在企业和乡间走访过程中, 了解社会状况, 指导学生利用调查实践中的数据和信息进行科学研究, 撰写研究论文, 并加深对科学研究成果的理解。此外, 还可以培养学生增强大学生服务社会意识。

英文简介 (Course Description) :

This course is carried out in various forms, such as teachers guiding students to conduct enterprise visits and internships, field research, etc. Guide students to go out of school, get in touch with society, understand national conditions and people's livelihood, combine theory and practice, let students understand social conditions during company and rural visits, guide students to use data and information in survey practice for scientific research and write research Papers, and deepen the understanding of scientific research results. In addition, students can be trained to enhance their sense of serving society.

-End-

课程号 (Course Number) : 06239139

课程名称 (Course Title) : 量化金融专题/Topics in Quantitative Finance

开课院系 (School/Department) : 国家发展研究院/National School of Development

学分 (Credits) : 2

授课教师 (Faculty) : Tai

先修课程 (Prerequisites) : 微积分, 线性代数, 概率论, 随机过程

中文简介：

本课程旨在介绍及探讨与量化金融相关的数学，经济及物理模型。课题着重于投资组合的建构，波动率估计与建模，利率相关产品与建模，以及最佳执行策略。基于应用所需，本课程前一小段将着重于随机控制理论与统计学习相关知识的简介。学生修完成课程应具备量化金融模型的基础知识及其与应用相关的技术。

英文简介 (Course Description) :

The course aims at introducing quantitative models in finance from economics, mathematics, and physics viewpoints. Financial problems covered in the course include portfolio management, volatility estimation and modeling, optimal order execution under price impact, and interest rate related products and their modeling. In order to prepare the student into the core, part of the course offers a crash course on stochastic control theory in discrete time and the theory of statistical learning. Upon completion, students are expected to understand the quantitative models covered in the course and possess basic skills to implement the models.

-End-

课程号 (Course Number) : 06732040

课程名称 (Course Title) : 经济学视角下的教育世界/Economics of Education

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 马莉萍

先修课程 (Prerequisites) : 无

中文简介：

教育政策是世界范围内教育领域的重要研究课题。过去二十年来，世界各国的经济学家致力于教育政策的研究，并做出了重要贡献。本课程旨在帮助学生在掌握经济学基本原理和主要分析方法的基础上，理解经济学家如何思考教育政策的制定、实施和评估，并建立分析教育政策的经济学思维及方法体系。

本课程以专题研讨的形式组织，在每一专题下，选取一到两项在国内外具有重要影响的教育政策或改革项目，梳理政策的起源和发展，分析经典实证研究，讨论可能的解决思路、评估方案及发展方向。学生通过本课程的学习，将能够系统了解教育经济领域的前沿研究，并熟练地运用经济学的思维和方法分析研究现实中的教育政策，为将来从事社会科学研究奠定一定的理论和方法基础。

英文简介 (Course Description) :

Over the past twenty years economics has made a number of contributions to understanding the role of education in the wider economy and the effectiveness of various education policies. This course provides a broad overview of the different issues in education

that economists study. Through readings and discussion we will study the various aspects of the intersection of economics and education policy.

The goal for this course is to provide you with a broad understanding of the issues that arise at the intersection of education and economic policy, to be able to make judgments about the effectiveness of various education policies based on current research, and to be able to make cogent and effective arguments about appropriate policy recommendations. Thus upon completion students should be capable of thoroughly reading and criticizing research papers using econometric techniques in applications and to know when it is appropriate to apply such techniques to their own research.

This course will cover topics in the economics of education policy through reading and discussion of seminal papers and latest research. Specific topics chosen will be determined by the instructor with input from the students and may include, but are not limited to, school choice, peer effects, class size, teacher incentives, online education, college access, financial aid, college graduates' employment etc.

-End-

课程号 (Course Number) : 06733020

课程名称 (Course Title) : 游戏化创新思维/The innovation thinking of Gamification

开课院系 (School/Department) : 教育学院/Graduate School of Education

学分 (Credits) : 2

授课教师 (Faculty) : 尚俊杰

先修课程 (Prerequisites) : 如果学过游戏设计等相关课程, 会有帮助, 但不是必需的。

中文简介:

所谓游戏化 (Gamification), 指的是将游戏或游戏元素、游戏设计和游戏理念应用到一些非游戏情境中。比如在市场营销中应用游戏或游戏理念。游戏化目前在教育培训、产品设计、人力资源管理、市场营销等领域都有广阔的应用, 比如微信红包等案例。

游戏化其实有很长的研究历史, 但是2010年在商业领域流行开以后, 引起社会广泛关注。沃顿商学院的凯文·韦巴赫也在Coursera上开设了《游戏化》课程, 非常受欢迎。

本课程负责人尚俊杰老师长期研究游戏化学习, 对于游戏化有丰富的研究经验, 在之前面向研究生、本科生开设的课程中也涉及到了相关内容。本次希望引导同学进行更加深入的探讨, 将采用项目学习方式, 通过讲授、案例分析、小组讨论和项目设计等, 希望让同学们全面了解游戏化的概念、内涵、应用领域、应用方法和策略等内容, 同时也希望能够借此促进当前的创新创业教育。

英文简介 (Course Description) :

Gamification is the application of game, game-design elements and game principles in non-game contexts. Gamification in marketing is a typical case to apply game and game concepts in business. Nowadays, gamification has been widely applied in educational training, product design, human resource management and marketing, such as the Red Envelop in Wechat.

Gamification has a very long history, but it attracted great attention after 2010 when gamification became popular in business. Kevin Werbach from Wharton School provided a course Gamification in Coursera, which has achieved a huge success.

Prof. Junjie Shang, the leading lecturer of this course, has continuously been devoted to the study of game-based learning, and based on his rich study experiences, Prof. Shang has introduced the concept of gamification during the courses for undergraduate and graduate students. This course will encourage students get engaged and make in-depth discussions in the project-based learning through lectures, case study, group work and product design, and expects students to develop a deep understanding of the concepts, meaning, application and strategies of gamification, which will also contribute to the innovation education.

-End-

课程号 (Course Number) : 06733030

课程名称 (Course Title) : 教育与人工智能/Education and Artificial Intelligence

开课院系 (School/Department) : 教育学院/Graduate School of Education

学分 (Credits) : 2

授课教师 (Faculty) : 贾积有

先修课程 (Prerequisites) : 计算机基础

中文简介:

最近,以各个AlphaGo战胜围棋世界冠军等重大事件为代表的人工智能的重大突破,对于教育而言具有三种含义。首先这是教育的胜利,其次将对教育教学产生正面的促进作用、提高教学的产出和投入比,第三将挑战现有的教育制度和教师工作。本课程将从教育学、教育技术、教育经济学、人工智能、技术哲学等多学科的视角、全方位介绍教育、教育技术与人工智能的复杂关系,分析人工智能在教育领域的应用案例,探讨前沿技术在教育领域应用的可能性。

英文简介 (Course Description) :

This undergraduate course is designed to help students to understand the multilateral relationship among education, educational technology and artificial intelligence, to explore the potential of applying the emerging technology of artificial intelligence in education. The broad range of topics covers each of the areas in the field of artificial intelligence, and presents the current thinking in this discipline. As an

introduction to artificial intelligence and educational technology, the topics include the nature of natural intelligence and artificial intelligence, the education system and its components, knowledge presentation in education, educational data mining, natural language processing and education, and an intelligent computer supported language learning system CSIEC.

-End-

课程号 (Course Number) : 12631310

课程名称 (Course Title): 环境科学野外综合实习/Field Practice of Environmental Sciences

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 李喜青

先修课程 (Prerequisites) : 无

中文简介:

该项暑期课程突出将课堂基础教学、模拟效果演示与野外现场实践、动手操作活动相结合。选课学生在各相关专业教师具体指导下,在前期课堂理论、原理学习与基础操作技能培训的基础上,课程后期在代表性的野外现场亲身参与综合实习活动,具体包括:大气、水体、土壤、沉积物和生物等多介质环境样品的采集(包括器具、装备的准备和使用;目标区域选择、样点布设和定位)、各类样品前处理(分离、提取、净化、浓缩等)和检测工作,最终完成翔实、科学的实习报告。本课程与环境监测与实验、水环境化学、土壤环境化学、环境毒理学、环境风险评价等相关课程相互衔接和补充,通过多介质环境的综合性实验设计,培养学生针对环境科学问题进行综合分析、研究的思路和方法,理解和掌握探讨环境污染来源与产生、迁移/转化等归趋行为、及其生态毒理学效应的定性定量研究的技术和手段,以及实验分析数据的获取、处理方法,加深对环境科学的认识,提高学生综合分析问题和解决问题的能力。在课程中还会带领学生了解环境污染和各类疾病的关系,学习流行病学知识和疾病控制与预防等方面知识。另外,课程还将纳入劳动实践和思政等内容和环节。

英文简介 (Course Description) :

The course is highlighted by combination of class teaching and simulation show with field practice and operation. Students, under the instruction by the specific tutors and on the basis of previous study and training on theories, principles and manipulative skills in class, will participate in various sampling and pretreatment activities in the field. The practices include collection of atmospheric, water, soil and biotic samples (involving preparation and use of different devices and appliances, selection of target area, assignment and localization of sampling sites), pretreatment of different samples (such as separation, extraction, purification, concentration and so on) and preliminary measurements, and then finish the final summary reports. The course is connected and supplied with other courses, for example, environmental monitor and

experiment, aquatic environmental chemistry, soil environmental chemistry, ecotoxicology and risk assessment. By multidisciplinary experiment design in multimedia environments, the students will receive the training for comprehensively analyzing and studying the environmental problems by different ways and routes, and understand and handle the qualitative and quantitative technologies for the fate (e.g., source, formation, transport and transform) of various pollutants and their ecotoxicological effects, as well as the acquirement and compile means for data. Accordingly, course studying will deepen the knowledge of environmental sciences, and enhance the ability for analyzing and resolving the real problems. In addition, students will get to first-hand knowledge of relationships between pollutants and health, epidemiology, and disease control and prevention.

-End-

课程号 (Course Number) : 12632140

课程名称 (Course Title) : 生态学控制实验野外实习/Field Experiments in Global Change Ecology

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 贺金生

先修课程 (Prerequisites) : 植物学

中文简介:

本课程为实践类课程。

在《普通生态学I, II》基础理论学习的基础上,通过野外实习,掌握生态学实验设计的基本原理,实地了解国际上先进的生态学控制实验设施及运行,实习野外仪器的操作、实验数据的收集过程。通过野外的实习、讨论,深度参与到生态学科学实验的主要过程。

英文简介 (Course Description) :

This is a practical field course. After the study of "General Ecology I", and "General Ecology II", this course provides students the opportunity to learn the basic principles of design of ecological experiments, to understand and practice the operation processes of advanced ecological field experimental facilities, practice field instruments, data collection process. Through field practice and discussion, they will be deeply involved in the main process of ecological experiments.

-End-

课程号 (Course Number) : 12633070

课程名称 (Course Title) : 自然地理综合实习/Integrated Practice of Physical Geography

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 蒙吉军, 许学工

先修课程 (Prerequisites) : 无

中文简介:

自然地理综合实习选择黄河下游的黄河三角洲和中游的郑州-开封段,开展大尺度空间分异规律的实习及局地尺度自然综合体的实习,从流域的角度,通过水分循环将自然地理环境中格局与过程结合起来,建设从点到面的、综合性野外实习基地,为学生开展野外自然地理实践提供平台。通过实习,使学生得到综合的自然地理野外训练。实习内容包括地质、地貌、气候、水文、土壤、植被、景观及土地利用方面,在以往部门地理(地貌、土壤、植被)实习的基础上,分析自然地理各要素之间的关系,建立自然地理环境整体性的思维,加深对综合自然地理课堂教学内容的理解,加强理论与实践的结合,培养学生的地理思维及分析问题、解决问题的能力,为学生从事科研工作奠定良好的野外工作能力。

英文简介 (Course Description) :

Comprehensive practice of physical geography is carried out in the delta in lower Yellow River and part of middle Yellow River from Zhengzhou to Kaifeng to illustrate the rule of spatial differentiation in large scales and the natural complex in local scales. From the perspective of river basin, it combines the physical geography pattern and process by means of hydrologic cycle, constructs a comprehensive field practice base from point to surface, aiming at providing a comprehensive physical geography field training for students. This course contains aspects such as geology, topography, climate, hydrology, soil, vegetation, landscape and land use, analyzes the relationship between the various physical geography elements on the previous basis of sectorial geography. Through the course, students can get an integrated thinking of natural geographical environment, understand the content of integrated physical geography taught in class more deeply, strengthen the combination of theory with practice, and form a geographic thinking as well as the ability to analyze and solve problems, also can develop good field work ability for future scientific research.

-End-

课程号 (Course Number) : 12633130

课程名称 (Course Title) : 陆面过程模型和植被遥感实习/practice of land surface model application and vegetation remote sensing

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 朱丹

先修课程 (Prerequisites) : 建议选修本课程的学生上个学年(近期)选修过“地表过程模拟和监测”，“遥感原理与应用”和“古气候与古环境”。

中文简介:

陆面过程模型和植被遥感实习是为城市与环境学院自然地理专业或其他对陆面过程模型和植被遥感实践操作感兴趣的本科生和研究生开设的实习课程。课程主要包括三部分的核心内容：(1) 陆面过程模型与遥感软件的运行环境，包括学习操作系统和作业调度系统的使用、认识编译和连接、学习使用脚本与模型交互 (2) 陆面过程模型(ORCHIDEE)的应用实践，包括学习ORCHIDEE模型的基本构架、光合作用和土壤温度模块的基本原理、在站点和区域尺度上运转ORCHIDEE模型 (3) 植被遥感的应用实践，包括学习植被遥感数据处理的基本流程、认识植被光能利用率模型、在区域尺度上分析植被光合作用的变化及其驱动因素。

英文简介 (Course Description) :

The “Practice of land surface model and vegetation remote sensing” is the practice course designed for undergraduate and postgraduate students majoring in physical geography or students interested in working on land surface models and vegetation remote sensing. There are three core components of the course: 1) the environment of operating land surface model and remote sensing, including the operation system and the job distribution system; 2) the practice of the land surface model (ORCHIDEE), including the model structure, the formulation of photosynthesis and soil temperature, and the guidance on running site and regional simulations; 3) application of vegetation remote sensing, including the working flow of remote sensing data processing, the formulation of light use efficiency based photosynthesis model, and the guidance on analyzing spatio-temporal variations in vegetation photosynthesis.

-End-

课程号 (Course Number) : 12634070

课程名称 (Course Title) : “一带一路”综合实习/“The Belt and Road” Comprehensive Practice

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 刘鸿雁, 戴林琳

先修课程 (Prerequisites) : 人文地理学

中文简介:

本课程为区域城乡综合发展与城乡生态环境认知学习的综合性实习课程。授课对象为城市与环境学院本科高年级学生。目的在于通过实习，让学生认识不同地理环境、不同发展阶段、不同

发展类型的国家和地区，在城乡发展中的资源利用、经济社会活动的空间组织、城乡发展建设规划管理等方面的特征和问题、机制和规律、对策和经验。

结合“一带一路”倡议，每年在相关国家的典型地区中选择实习地点，通过综合实习促进学生对不同地区发展状况的认识，开展比较研究，加深理论认识，提高专业学术水平，锻炼综合分析问题的能力。

该课程实习地点为日本东京都市圈地区。针对该地区的特点，主要教学内容包括：

- (1) 大都市圈空间发展与产业转型升级
- (2) 超大城市交通空间组织
- (3) 大都市地区历史文化风貌保护与利用
- (4) 大都市地区郊区化与空间重构
- (5) 新城新区的发展路径及成效（筑波科学城）
- (6) 港口城市转型升级（横滨）

英文简介 (Course Description) :

This course is a comprehensive practical course for the recognition and learning of regional comprehensive development and ecological environment of urban and rural areas. The subjects of the lecture are senior undergraduates of the college of urban and environmental sciences. The purpose is to enable students to understand different geographical environment, stages of development and development types of countries and regions through the practice. The purpose is also to make students understand the characteristics, problems, mechanisms, rules, countermeasures and experiences of resources utilization, spatial organization of economic and social activities, and planning and management of urban and rural development and construction in countries and regions with different geographical environments, different stages of development and different types of development.

According to "The Belt and Road" initiative, we choose the practice place annually in the typical area of relevant countries, through the comprehensive practice to promote students' understanding of the development of different regions. Through comparative study, students can deepen their theoretical understanding, improve the professional academic level and exercise the ability of comprehensive analysis.

The course is carried out in the metropolitan area of Tokyo, Japan. According to the characteristics of the area, the main teaching contents include:

- (1) Spatial development and industrial transformation and upgrading of metropolitan area
- (2) Super city traffic space organization
- (3) Protection and utilization of historical and cultural features in metropolitan areas
- (4) The suburbanization and spatial reconstruction of metropolitan areas
- (5) Development path and effectiveness of new town and district (Tsukuba Science City)
- (6) Transformation and upgrading of port cities (Yokohama)

-End-

课程号 (Course Number) : 12634080

课程名称 (Course Title): 人文地理专业综合实习/Comprehensive Practice of Human Geography

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 1

授课教师 (Faculty) : 冯健

先修课程 (Prerequisites) : 人文地理, 经济地理学, 城市地理学, 产业地理学, 城市社会学

中文简介:

本课程面向人文地理与城乡规划专业已完成专业基础课学习和部分专业课学习的学生, 属于专业综合实习类课程。课程集中7-10天时间考察城乡发展中的资源利用、典型业态、城乡聚落发展中的人文地理现象。学生在综合了解城乡区域空间发展的基础上, 选择典型要素或典型地域发展作为研究对象, 独立完成实习报告。

英文简介 (Course Description) :

This course is taught to the senior students (the end of year 2). It is a core course for human and urban and rural planning major. The course lasts 60 teaching hours mainly in 7-10 days with field work. The field investigations include urban and rural planning and urban development, non-agriculture and agriculture industries development, the use and protection of resources during regional development, the distribution and development of town and villages under the contest of urbanization, etc. Each student should submit a practice report combined with field investigation and independent research.

-End-

课程号 (Course Number) : 12634090

课程名称 (Course Title) : 人文地理综合社会实践实习/Social and Professional Practice of Human Geography

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 1

授课教师 (Faculty) : 冯健

先修课程 (Prerequisites) : 人文地理, 经济地理系, 城市地理学, 产业地理学, 计量地理与规划系统工程学, 区域分析与区域规划,

中文简介:

本课程面向人文地理与城乡规划专业高年级学生, 属于综合实践实习类课程。课程以在暑期开

展为主，学生分组参与老师主持的理论和实践类科研项目，参与项目整体讨论，并承担具体的科研工作任务。通过实践实习，综合了解城乡发展实践中的地理现象和空间规律，了解运用人文地理理论方法参与社会服务的基本程序和方法。

英文简介 (Course Description) :

This course is taught to the senior students (the end of year 3). It is a core course for human and urban and rural planning major. The course lasts about two months for every students by attending theory or practice projects about urban and rural development managed by teacher. Students should attend the discussion about the project and complete some specific task of the project. Students should learn to use the theory and methodology of Human Geography to analyze the issues in urban and rural development practice.

-End-

课程号 (Course Number) : 12635390

课程名称 (Course Title) : 美术实习/Practice of Fine Arts

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 沈文权

先修课程 (Prerequisites) : 美术: 素描与色彩

中文简介:

美术实习目的在于培养城乡规划专业学生认识和表现城市空间的能力，提高造型艺术修养，锻炼手绘技能。实习内容以城市建筑和风景园林写生为主。实习地点在北京市城区和近郊。

英文简介 (Course Description) :

This course of art practice is set up for the major of urban and rural planning. The purpose is to cultivate the ability of students to cognize and express urban space, exercise hand-painted skills and improve formative art cultivation. The practice mainly focuses on urban, architecture and landscape painting.

The practice sites are generally in the urban and suburban areas of Beijing.

-End-

课程号 (Course Number) : 12639010

课程名称 (Course Title) : 综合社会实践实习/Comprehensive Social Practice Practicum

开课院系 (School/Department) : 城市与环境学院/College of Urban and Environmental Sciences

学分 (Credits) : 1

授课教师 (Faculty) : 林坚

先修课程 (Prerequisites) : 本科三年级结束后的城市规划专业学生

中文简介:

城市规划是理论与实践紧密结合的学科, 综合社会实践实习课, 要求学生直接参与教师的具体研究或实践的课题工作, 使学生在本专业相关实践中运用所学的理论知识, 加深课堂知识的理解, 初步掌握相关研究和实践的调研、资料查阅、数据分析、图件绘制等基本方法。

该课程由城市与区域规划系、城市与经济地理系全体教师共同承担, 各位老师根据自己的科研项目, 安排实习同学的实习内容。两系教师的研究方向涵盖了人文地理和城市规划的各相关领域。

英文简介 (Course Description) :

Urban planning is a subject which connects theory with practice closely. This course, Comprehensive Social Practice Practicum, requires students to participate in the specific research or projects of their teachers directly so that the students will use their professional knowledge in practice. This course will help students understand the knowledge in lecture deeply and have initial grasp of the basic methods of research and practice on investigation, data collection, data analysis, map drawing, etc.

-End-

课程号 (Course Number) : 12739040

课程名称 (Course Title) : 环境综合实习一/Environmental Integrated Fieldwork One

开课院系 (School/Department) : 环境科学与工程学院/College of Environmental Sciences and Engineering

学分 (Credits) : 1

授课教师 (Faculty) : 刘兆荣

先修课程 (Prerequisites) : 实习环节安排在《环境问题》课程之后, 学生对可持续发展的环境保护概念有了初步认知。

中文简介:

本课程为认知实习, 是为环境科学与工程专业本科生安排的首次系统的、综合性的实践环节。本实习环节安排在《环境问题》课程之后, 学生对可持续发展的环境保护概念有了初步认知。通过现场参观、访谈等环节, 引导学生在实践中了解环境问题的由来和针对环境问题所采取的措施, 认识人类活动与环境变迁的相互影响、相互依存的关系, 体会可持续发展的重要性和必要性。通过认识环境保护工作的重要性, 加深对本专业的了解, 增强学习兴趣。

本实习环节立足东南沿海高新区, 以珠海为中心建立实习基地, 以环境保护、生态多样性保护、城市可持续发展与环境保护为主线, 组织学生对自然生态环境和城市环境进行全方位的考察, 包括河流、湖泊、水库等水体环境, 从给水到排水的整体流程, 从大气环境背景到城市区域空气环境的质量监测, 从废物产生到储运、处置的全过程监督, 从政府监管到企业参与环境保护,

从城乡建设到经济与生态共赢，实地了解环境保护、环境监测、污染处置、城乡建设工作的意义和价值。

实习内容以主题线路串连，实习过程以观察、讲解、访谈和讨论方式展开，本着“且行且思且学”的原则，学生在考察中“看到”环境问题所在，“思考”环境问题发生的根由和解决之道，“学习”其中包含的环境科学与工程的专业知识，体会环境保护和可持续发展的重要性和必要性。

英文简介 (Course Description) :

This course is the cognitive practice. It is the first systematic, integrated practice session for the environmental science and engineering undergraduates.

The practice sessions scheduled after "environmental issues" course. Students had got the initial concept of sustainable development awareness. Through site visits, interviews and other sectors, this course should guide students to understand the origin and measures taken for environmental issues, environmental problems in practice, understanding the interaction and interdependence between human activities and environmental changes, and appreciate the importance of sustainable development necessity. By recognizing the importance of environmental protection, the students should get a better understanding of the profession and enhance their interest in learning.

The practice session is based on the southeast coast of Hi-tech Zone, and should establish practice bases around Zhuhai. Along the main line with environmental protection, biodiversity protection and sustainable urban development and environmental protection, the students should be organized to inspect fully on the natural environment and the urban environment, which include the water environment of rivers, lakes, reservoirs, etc. From the whole process of the water to the drain, from the background atmosphere to the ambient air quality monitoring in urban areas, from the entire supervise process of waste generation to storage and disposal, from government regulation to business participation in environmental protection, from the urban construction to economic and ecological co-benefit, the students should learn more meaning and value about environmental protection, environmental monitoring, pollution disposal, urban and rural construction work.

Internship contents are stringed up with theme line series. The fieldwork process include observition, explanation, interview and discussion Based on the principle of "thinking and learning while walking", the students "see" the environment problem in the study of the fieldwork, and "think" root causes and solutions of the environmental issues, and "learn" environmental science and engineering expertise which are included inside, and experience the importance and necessity of environmental protection and sustainable development.

-End-

课程号 (Course Number) : 12739060

课程名称 (Course Title) : 环境综合实习二/Environmental Integrated Fieldwork Two
开课院系 (School/Department) : 环境科学与工程学院/College of Environmental Sciences and Engineering

学分 (Credits) : 1

授课教师 (Faculty) : 刘兆荣

先修课程 (Prerequisites) : 环境监测, 环境监测实验

中文简介:

本课程定位为野外环境监测操作实习, 培养学生进行环境化学问题研究的思路和方法, 理解和掌握环境污染的产生、变化过程的监测、分析手段和数据分析方法, 加深对环境科学研究和环境保护的认识, 提高学生分析问题和解决问题的能力。

本课程设计大气化学与气候监测和水土生环境交互监测两大板块的实践内容, 涵盖大气、水体、土壤和生物环境等环境参数的变迁研究, 涉及区域背景大气环境质量研究原理及手段、仪器操作、数据分析, 植被生态及天然源VOCs的排放研究原理及手段、仪器操作、数据分析, 湖泊水质参数检测原理及手段、仪器操作、数据分析, 土壤环境参数检测原理及手段、仪器操作、数据分析, 湖泊生态变迁机制及过程研究。

本课程以北京大学塞罕坝环境与生态实习基地为中心, 对周边的湖泊、林地、草原等开展广泛的环境研究、监测、采样活动。

通过本课程的学习力图培养学生可持续发展的环境保护理念, 加强环境参数的监测技术实地操作能力培训, 培养科研能力, 增强和加深对于环境科学与工程学科的学习兴趣, 培养学生理论联系实际的能力, 引导学生正确的研究思路, 学习规范性实习报告的编写能力。

英文简介 (Course Description) :

The course focuses on the outdoor environmental monitoring operation practice. In this course the undergraduates are cultivated in the ideas and methods of the study on environmental chemical problems. They could understand and grasp the monitoring, analysis and data analysis methods of the pollutants and the changing process during the environmental pollution, so that they could understand deeper environmental science and environmental protection. This course could improve the students' ability to analyze and solve problems.

This course designs the practice of the two plates, atmospheric chemistry and climate monitoring and interaction of soil and water environmental monitoring. The content covers the change of the environment parameters of the atmosphere, water, soil and biological environment. These contents involve the principle and method for study on regional background of atmospheric environmental quality, instrument operation and data analysis, the vegetation ecology and the natural source of VOCs emissions and the study method, instrument operation and data analysis, testing principle and method, water quality parameters of lake, instrument operation and data analysis, the soil environment parameter detection principle and the method, instrument operation and data analysis, research on lake ecological change mechanism and process.

This course carried out around Peking University Saihanba Environmental and Ecological Practice Base. The extensive environmental research, monitoring, sampling activities will be hold around the lake, forestland and grassland.

Through the study of this course it is to cultivate students' concept of sustainable development of environmental protection, strengthen their environmental parameters monitoring technology field operating skills, train their scientific research ability, enhance and deepen their environmental science and engineering discipline study interest, cultivate students' ability to integrate theory with practice, and guide the student to correct research thought and normative writing skills of study practice report.

-End-

课程号 (Course Number) : 18730010

课程名称 (Course Title) : 社会调查实务/Social Surveys Practices

开课院系 (School/Department) : 中国社会科学调查中心

学分 (Credits) : 2

授课教师 (Faculty) : 丁华, 孙妍, 吕萍, 吴琼

先修课程 (Prerequisites) : 《社会调查方法》

中文简介:

本门课程系统讲授社会调查的问卷设计、计算机辅助调查方法、调查执行流程、质量控制、数据库的建立与清理、抽样设计和权数计算的理论方法及其评估。本课程用一些调查案例展示如何进行科学严谨的社会调查, 并通过实际调查中的各个环节对获取高质量的社会调查质量的重要性。

英文简介 (Course Description) :

This course teaches theoretical methods and their evaluation of survey questionnaire design, computer assisted interviewing methods, the processes of survey, quality control, build and clean-up the database, sample design and weighting adjustment by theoretical methods and their evaluation of the database. This course uses some practical investigation cases to show how to do a scientific survey and then illustrate the importance of all survey aspects in ensuring the high quality survey data.

-End-

课程号 (Course Number) : 18730020

课程名称 (Course Title) : 社会调查数据分析方法/The Analysis Methods of Social Survey Data

开课院系 (School/Department) : 中国社会科学调查中心

学分 (Credits) : 2

授课教师 (Faculty) : 任强, 顾佳峰, 孔涛, 吴琼, 任莉颖(校外), 丁华

先修课程 (Prerequisites) : 要求有一定定量分析能力

中文简介:

课程从常见的统计分析方法使用的误区入手，在讲授对于社会调查数据的各类统计分析方法的正确应用环境和条件之后，着重复杂抽样设计下的回归分析方法，常见的分类数据的分析方法、工具变量的使用，以及体现交叉学科特点的空间计量分析方法。每天上午以讲课为主。下午则依据需要安排参与实践。从使用常见的统计软件进行数据整理入手，带领学员们运用实际数据进行软件操作，从而加深对授课内容的掌握，提高学员们的实际灵活运用能力。

英文简介 (Course Description) :

The course begins from the common mistakes of statistical analysis and teaches students the proper application of regression analysis under different environment and conditions. Students will learn how to classify data, how to use instrumental variables and gain a better understanding of the use of capabilities of spatial analysis. Lectures are arranged in the morning and action learning is arranged in the afternoon. Students come learn from this course about the use of common statistical software and practice software operations with real data, which can improve students' practical and flexible skills.

-End-

课程号 (Course Number) : 20133003

课程名称 (Course Title) : 英国研究/British Studies

开课院系 (School/Department) : 汇丰商学院

学分 (Credits) : 3

授课教师 (Faculty) : 刘芄佳

先修课程 (Prerequisites) : 无

中文简介:

该课程为汇丰商学院在北大汇丰英国校区开设的本科生暑期课程，目的是通过几周的课程和访学交流，让学生全面了解英国的政治与公共政策、经济金融沿革和现状、历史文化、公共政策、法律以及外交关系等。具体课程内容包括了以下几个专题：英国历史和现状，英国的法律体系，英国媒体与国际关系，英国金融区块链、数字经济等新业态发展、英国在国际金融体系中的重要作用，英国的碳中和、绿色经济以及英国与欧盟的关系等话题。

课程通过互动、参与、体验、深度介入的浸入式教学方式，在课堂讲授的同时安排了学生的分组讨论、案例研讨，同时安排了学生在当地相关机构和企业的参访交流，也会组织学生前往剑桥大学和牛津大学体验英国的高等教育氛围。

该课程包括课堂讲授，案例介绍，小组讨论，实地考察，关键主题辩论以及研讨。通过本课程的学习，学生可提高独立思考能力和逻辑分析能力，学生通过全面学习深入地了解英国的历史与发展，有助于学生未来促进中国和英国、世界之间的国际交流与合作，具备国际化的视野，熟悉更广泛的国际政治、经济、法律、传播、文化知识，学习基本的跨文化管理理念。

英文简介 (Course Description) :

This course is a summer course for undergraduates offered by HSBC Business School at Peking University HSBC UK Campus. The purpose is to give students a comprehensive understanding of British politics and public policy, economic and financial history and current situation, history and culture, Public policy, law, and foreign relations. The specific course content includes the following topics: British history and current situation, British legal system, British media and international relations, British financial blockchain, digital economy and other new economic formats, the important role of the British in the international financial system, topics include carbon neutrality in the UK, the green economy, and the UK's relationship with the EU. Through the immersion teaching method of interaction, participation, experience, and deep intervention, the course arranges group discussions and case studies for students while teaching in the classroom. At the same time, it arranges students to visit relevant local institutions and enterprises and travel to Cambridge University and Oxford University to experience British higher education.

The course includes classroom lectures, case presentations, group discussions, field trips, debates on key topics, and seminars. Through the study of this course, students' independent thinking and logical analysis skills will be improved. Students will have a deeper understanding of British history through comprehensive learning, which will help students to promote international exchanges and cooperation between China, the UK and the world in the future, gain an international perspective, be familiar with a wider range of international political and economic knowledge, and learn basic cross-cultural management concepts.

-End-

课程号 (Course Number) : 21100013

课程名称 (Course Title) : 水资源稀缺经济和政策分析/Economy of Water Scarcity and Policy Analysis

开课院系 (School/Department) : 现代农学院/Peking University School of Advanced Agricultural Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 王金霞

先修课程 (Prerequisites) : 无

中文简介:

你知道吗？作为地球万物生命之源和人类社会发展的基本物质条件之一的水资源正在面临着日益严峻的短缺危机；水资源危机已经从区域性的矛盾逐渐演变为全球人类面临的共同挑战。越来越多的证据表明，水资源危机的根本出路在于如何设计和实施有效的水资源管理制度和政策手段；实现水资源从供给管理到需求管理策略的转变。这也意味着资源经济学家必须在解决水资源危机中承担起更大的历史责任。

那从，从资源经济学的视角如何来理解水资源危机的现状与未来？水资源管理制度是如何演变

的？什么样的水资源管理制度更有效？水资源的经济价值如何衡量？水价政策和水权制度等以市场激励为主的政策工具能在解决水资源危机中发挥应有的作用？节水技术真得实现节水目标了吗？被决策者给与高度关注的跨流域或跨地区的调水工程效果如何？虚拟水贸易能作为缓解水危机、保障国家粮食安全的重要策略？

针对这些问题，本课程将基于资源经济学的理论和方法并结合实际案例加以深入系统地定性与定量解析。本课程旨在丰富学生在资源经济尤其是水资源经济方面的主要理论知识和分析方法，了解该领域的研究进展，学会运用经济学的思维方式和分析方法来理解和解释现实生活中遇到的主要水资源问题，提高学生对水资源危机的现状、未来及可能解决方案的认知水平；提高学生运用经济学思维方式和分析方法来研究水资源等自然资源问题的能力及其学习兴趣。

英文简介 (Course Description) :

Do you know? As the source of life and essential material conditions of development of human society, water has been challenged by increasing serious scarcity. Water scarcity has changed from regional conflict to global challenges. Increasing evidence indicate that the fundamental solution of resolving water scarcity is to design and implement effective water management institution and policy instruments; and realize the transform from supply management to demand management strategies. This implies that resource economics should bear more important historical responsibility of resolving water scarcity.

Therefore, how to understand the current situation and future trend of water scarcity from the opinion of economics? How the institution of water management has evolved? What kind of water management institution is more effective? How to measure the economic value of water resources? Whether incentive policies (such as water policy and water rights institution) can play significant role on resolving water scarcity? Whether water saving technologies has realized the purpose of real water saving? Water transfer projects between river basins or regions have been highly emphasized by policy makers. However, how about the effectiveness of the water transfer projects? Whether virtual water trade can be treated as important strategies on resolving water scarcity and ensuring food security?

Focusing on these issues and based on the theories and methodologies of resource economics, this course will conduct systematic qualitative and quantitative analysis on practical cases. This course aims to enrich students' theoretical knowledge and analytical approaches in resource economics (particularly water economics); understand the major frontier research progresses; learn how to use economic logic thinking and analysis approaches to understand and interpret major water problems; enhance students' understanding on the current situation and future trend of water scarcity, and their capacity on using economic method to analyze the problems of water and other natural resources and their learning interest.

-End-

课程号 (Course Number) : 21130001

课程名称 (Course Title) : 植物发育及分子生物学/Plant Development and Molecular Biology
开课院系 (School/Department) : 现代农学院/Peking University School of Advanced Agricultural Sciences

学分 (Credits) : 2

授课教师(Faculty): 邓兴旺, 林辰涛(校外) , 陈雪梅, 杨贞标(校外) , James Michael Whelan(校外)

先修课程 (Prerequisites) : 无先修课程

中文简介:

授课内容紧扣当今植物科学基础理论与应用领域内前沿与热点, 详细介绍植物发育生物学和分子生物学的基本概念, 以及各领域的研究工作、最新进展、经验和方法。课程内容包括: 植物细胞极性和形态建成的信号转导机制; 植物干细胞分化和调控的分子机制; 植物生长发育信号的表观遗传机制; 植物基因组分析在植物发育研究中的运用; 植物光形态建成及光信号分子转导途径。

英文简介 (Course Description) :

This summer course focuses on the basic concepts and research breakthroughs in plant biology, especially plant development and molecular biology. In addition, the instructors will introduce their own research work and their techniques in relevant fields. The courses will be divided into several parts:

1. Signaling in Cell Development
2. Stem Cell Regulation in Plant Development
3. Epigenetic Mechanisms in Signaling of Plant Development
4. Application of Plant Genome Analysis in the Study of Plant Development
5. Light Regulation of Plant Development

-End-

课程号 (Course Number) : 21130002

课程名称 (Course Title) : 植物知道生命的答案/What A Plant Knows:The surprising world of plant senses

开课院系 (School/Department) : 现代农学院/Peking University School of Advanced Agricultural Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 邓兴旺, Daniel Chamovitz(校外)

先修课程 (Prerequisites) : 无先修课程

中文简介:

走进你不知道的植物世界, 思考生命真实的存在!

捕蝇草是怎样知道闭拢叶子的时机的? 它真的能感觉到昆虫微小、细长的腿吗? 樱花树

又是怎样知道何时应该开花的？它们真的能记住天气吗？

几个世纪以来，我们不断惊异于植物的多样性和形态。著名生物学家丹尼尔查莫维茨现在将在《植物知道生命的答案》课程中，对植物如何体验世界给以严谨而引人入胜的讲解，包括它们所看到的颜色还是它们所遵守的时刻表。

通过着重介绍遗传学等领域的最新研究成果，丹尼尔查莫维茨将带领我们走进植物的内在世界，把它们的感觉和人类感觉做对比，揭示出如下事实我们和向日葵及栎树的共同之处，比你知道的更多。丹尼尔查莫维茨将在课程中展示植物如何分辨上和下，如何知道邻近的同类已经遭到了一群饥饿甲虫的侵害，是A能够欣赏你一直放给它们听的齐柏林飞艇乐队的音乐，或者是A更偏好于巴赫那旋律优美的连复段。通过对植物触觉、听觉、嗅觉、视觉以至记忆的考察，促使我们不得不去思考：植物会不会对周围环境有意识？

《植物知道生命的答案》课程难能可贵地对我们踏过的草丛、我们嗅过的花朵、我们爬过的树木给以深入关注，让我们能够更好地理解科学和我们在自然界中的位置。

英文简介 (Course Description) :

For centuries we have collectively marveled at plant diversity and form—from Charles Darwin/s early fascination with stems and flowers to modern science fiction. This course intends to present an intriguing and scientifically valid look at how plants themselves experience the world—from the colors they see to the sensations they feel. Highlighting the latest research in genetics and more, we will delve into the inner lives of plants and draw parallels with the human senses to reveal that we have much more in common with sunflowers and oak trees than we may realize. We’ll learn how plants know up from down, how they know when a neighbor has been infested by a group of hungry beetles, and whether they appreciate the music you’ve been playing for them or if they’re just deaf to the sounds around them. We’ll explore definitions of memory and consciousness as they relate to plants in asking whether we can say that plants might even be aware of their surroundings. This highly interdisciplinary course meshes historical studies with cutting edge modern research and will be relevant to all students intrigued by nature.

-End-

课程号 (Course Number) : 21130011

课程名称 (Course Title) : 经济学视角下的资源环境热点问题/Hot Topics on Natural resources and the Environment from economics perspectives

开课院系 (School/Department) : 现代农学院/Peking University School of Advanced Agricultural Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 侯玲玲

先修课程 (Prerequisites) : 无

中文简介:

从“沙尘暴”到“PM2.5”，从“水污染”到“水资源短缺”，从“荒漠化”到“土壤重金属污

染”，从“濒危野生动物”到“生物入侵”，从“湿地面积不断减少”到“全球气候变化”，这些都是我们正在经历的资源退化与环境污染问题。

我们能为子孙后代留下多少自然资源？在追求经济发展的同时，如何进行环境保护？经济学在解决资源环境问题上发挥哪些作用？哪些经济学工具可以有效治理环境问题？一只瓢虫值多少钱？排污交易权制度真的有效吗？全球生态系统服务值多少钱？让我们带着这些问题一同走进《经济学视角下的资源环境热点问题》。

本课程主要对资源环境经济学领域的热点问题进行解读，旨在启发学生从经济学的视角理解现实生活中的资源环境问题，掌握治理资源环境问题的主要经济工具。课程素材来自世界各国（尤其是我国）在自然资源保护和环境污染治理方面的案例。

英文简介 (Course Description) :

We are suffering from serious resource degradation and environmental pollution at every moment when we are living on the earth, such as sandstorm and PM 2.5, water shortage and pollution, desertification and soil contamination, endangered species and biological invasion, decreasing wetland and global climate change.

How many natural resources can we save for our descendants? How to balance economic development and environmental conservation? What does the role of economics play in solving these natural resource and environmental issues? What are the economic tools in regulating the environment? What is the price of a ladybeetle? Is tradable permit effective in reducing pollution? How much is global ecosystem service? Let's respond to all these issues in our course!

This course will provide deep explanation for the major hot topics in resource and environment area from economics perspective. The goal is to inspire the students to apply economics in solving the issues in resource and environment surround us. The course materials include both basic economic logics and classical cases from all over the world.

-End-

课程号 (Course Number) : 21130013

课程名称 (Course Title) : 经济学模型CGE的基本原理及优化软件GAMS编程/Principles of CGE model and Programming

开课院系 (School/Department) : 现代农学院/Peking University School of Advanced Agricultural Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 解伟

先修课程 (Prerequisites) : 无

中文简介:

实证模型与定量分析已成为应用经济学与公共管理学研究的重要手段。“拍脑袋”、定性分析已经无法满足经济政策分析的需求。如政府要降低出口退税率，以便减少贸易顺差。到底退税率要减少多少？对就业有什么影响？对相关的不同产业，如服装、农业各有什么影响？

可计算一般均衡模型 (Computable General Equilibrium Model, CGE) 是一种最新发展起来的经济定量模型，它可以应用于许多研究领域 (贸易、财政、环境等)，并能给出实际的政策建议。它的特点是考虑到国民经济各个部分密切相关，牵一发而动全身，不仅对直接影响的部门做定量分析，而且考虑各个部门之间的相互依存和关联关系。本课程由浅入深，循序渐进，从模型需要的数据基础投入产出表讲起，讲解经济学的一些基本函数 (生产、消费、投资、政府和贸易) 和一般均衡理论；适时介绍相关的经济学理论，结合实例、练习和编程，将CGE标准模型的基本原理和结构讲清讲透；以掌握标准的CGE模型为基本目标，讲解CGE模型的基本原理。课程实例全部采用运筹优化软件GAMS语言编程，主要用于经济学基本函数的优化求解和CGE模型求解，也会探讨如何用于其他优化求解问题。

本课程既介绍CGE模型中的经济学原理，又与大家一起动手进行GAMS编程，使学生不但能掌握从理论出发针对问题建造和设计CGE模型，同时也能编写相应的GAMS程序来用计算机模拟CGE模型。

英文简介 (Course Description) :

Empirical models and quantitative analysis have become important tools for applied economics and public administration. Meanwhile, “subjective decision making” through qualitative analysis no longer can satisfy the requirements of economic policy analysis. For example, in order to abate the trade balance, how much export subsidies should be lowered? How will this affect the labor market? How will this affect other relevant sectors like textile and agriculture?

Computable General Equilibrium (CGE) Model is the latest quantitative tool developed in economics area. It can be used in multiple research areas (trade, tax, environment etc.) to provide practical policy suggestions. One of its special features is that it not only can perform quantitative analysis of the direct affected industrial sectors, but it can simulated the whole economic impact by considering the interdependence of all the sectors of the economy. This course is designed to take you step-by-step from basics of CGE model to a higher level (a standard CGE model). The course starts with Input-Output tables and later explains the functional relationships (production, consumption, investment, government and trade) in economic system and ends with general equilibrium theory and standard CGE model. The course will be mixed with relevant economic theory, practical examples and programming. The CGE model will use the optimization software “GAMS” for explaining the practical examples. In our course, GAMS will mainly be used for optimizing the CGE model, but it will also used to solve other optimization examples to expand your knowledge.

In this course, students will not only master how to confront a problem from theoretical side by constructing a CGE model but will also learn how to compile GAMS routines to solve optimization problems in CGE and other models.

-End-

课程号 (Course Number) : 21130015

课程名称 (Course Title) : 管理经济学基础/Economic Principal for Management

开课院系 (School/Department) : 现代农学院/Peking University School of Advanced Agricultural Sciences

学分 (Credits) : 2

授课教师 (Faculty) : SHENGYU

先修课程 (Prerequisites) : 无

中文简介:

本课程旨在帮助非经济学专业的本科生、研究生、工商管理硕士 (MBA) 和金融专硕等系统的了解有关经济学和管理学背后的基本理论和方法, 学会以批判的思维分析企业经营管理所处的微观和宏观经济环境, 并掌握经济学中的量化分析方法评估市场环境和开放经济条件下的企业管理方法。

本课程包括两个主要部分: 第一部分主要讨论消费者行为、市场需求和消费者剩余、生产和成本理论、市场结构与均衡、企业定价策略、博弈论与信息经济学和一般均衡理论。第二部分主要讨论经济增长理论、国民收入核算体系、货币与银行学基础、通货膨胀与失业、财政和货币政策以及开放的国际经济。

英文简介 (Course Description) :

This course is designed for undergraduates and graduates with no economic background, and provide the basic knowledge on the principles of economics and management. The purpose is to help students to 1) learn the economic theories and methods in a systematic way; 2) analyze macro-economic and micro-economic market environments from a critical perspective; 3) capable of using the qualitative and quantitative approaches in practice.

The course contains two parts: the first part covers: consumption behavior, market demand and surplus, production and cost theory, market equilibrium and market structure, price strategy, game theory and information economics, and general equilibrium theory; the second part covers: economic growth theory, national accounts, monetary and banking principles, inflation and unemployment, fiscal and monetary policies and open economics.

-End-

课程号 (Course Number) : 21130016

课程名称 (Course Title) : 食物安全: 政治经济学和心理学研究/Food Security: Political Economics and Psychology

开课院系 (School/Department) : 现代农学院/Peking University School of Advanced Agricultural Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 王晓兵

先修课程 (Prerequisites) : 无

中文简介:

食物在中国始终是一个古老而年轻的话题。农业经济思想可以追溯到远古时代,我国春秋时期,孔子和孟子的著作中已有诸多关于农业制度与政治、安定民生的论述。“哥伦布大交换”、人口增长和迁移奠定了现代文明的基石。上世纪曾发生的数次大饥荒,仍给不少人保留下深刻的饥饿记忆。在食物贸易和全球食物价值链供给背景下,我们的膳食偏好和食物消费也正悄然发生变化,引发现代人对肥胖和健康的思考。心理学的交叉研究帮助我们识别食物消费决策机理,引导着理性食物消费。食物安全与消费也需关注食物浪费、环境与能源的可持续性。本课程将从理解全球、国家和家庭等不同尺度的食物安全讲起,在回忆历史上次大饥荒事件的基础上,梳理全球食物安全的演变过程。运用经济学和心理学的交叉研究理解食物消费中的差异化行为。最后本课程还将探讨现代农业中的食物浪费、环境与能源问题如何影响我们未来的食物安全与消费。选修《食物安全:政治经济学与心理学》,关注食物安全与消费。

英文简介 (Course Description) :

Food security has always been debated burningly since the taste of herbs by Shennong which created the era of “slash and fire” and the publication of the agronomy encyclopedia. The thoughts of agricultural economy can be traced back to the ancient times. Confucius and Mencius had many expositions on agricultural operation, institutions and the livelihood. “Columbian exchange”, population growth and migration laid the cornerstone of modern civilization. Many people still deeply remember the hunger due to several famine events in the last century. In the context of food trade and the value chains of global food supply, our dietary preferences and food consumption are also changing. These trigger the deep thinking about obesity and health. Interdisciplinary studies in psychology help us identify food consumption decision mechanisms, and then the results will guide rational food consumption. Food safety and consumption should also focus on food waste, environmental and energy sustainability. This lecture presents the definition of food security from global, national and households’ dimensions. After studying the several famines in history internationally and nationally, we analyze the evolution of global and China’ s food security policy. Using the Interdisciplinary studies between economics and psychology, we will better understand the differential behavior in food consumption. Finally, this lecture will also explore how food waste, environmental and energy issues in modern agriculture, which influence our future food safety and consumption. This lecture motivates the students focusing on “Food security and consumption” Welcome to “Food Security: Political Economics and Psychology” !

-End-

课程号 (Course Number) : 21130017

课程名称 (Course Title) : 发展经济学及其在中国的实践/Development Economics and Its Practice in China

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 刘承芳

先修课程 (Prerequisites) : 无。

中文简介:

改革开放40年我国贫困人口减少了近7亿,对全球贫困人口数量减少的贡献超过90%。但截至2018年底我国仍有1660多万农村贫困人口。为何我国能取得如此巨大的减贫成就?新形势下如何实现脱贫攻坚目标?如何理解我国收入差距的变化?如何成功跨越中等收入陷阱,促进经济社会转型?

针对这些问题,本课程将首先介绍发展经济学基本理论,然后从自然区位环境、人口和家庭婚育行为、劳动力就业和迁徙、农村公共物品提供和人力资本培育等角度回顾我国的发展历程,总结发展经验,剖析进一步发展面临的挑战。最后本课程将通过分享授课教师多年来开展的大量试验研究,与大家共同探索如何通过提升人力资本助力我国成功跨越中等收入陷阱。

本课程旨在丰富学生在发展经济学方面的基本理论知识和实证分析方法,了解该领域的学科进展,脚踏实地的感受中国农村减贫和发展的脉搏。

英文简介 (Course Description) :

This course will cover topics in development economics through the lens of China's experience. Although the main goal will be for students to gain an understanding of concepts in development economics, the course will cover these concepts with a focus on how they relate to the institutional changes and economic policies and that have shaped China's economic emergence as well as the country's current development challenges. Development economics is a broad field and impossible to be comprehensively cover within 32 hours. As such, this course will be a survey of select topics most relevant to China. We will also cover some basic statistical measurement issues and impact evaluation methods important for understanding modern research in development economics. Materials will be covered at the undergraduate level. All lectures and discussions will be conducted in English.

-End-

课程号 (Course Number) : 21130018

课程名称 (Course Title) : 植物大迁徙/The Great Plant Migrations

开课院系 (School/Department) : 现代农学院/Peking University School of Advanced Agricultural Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 周岳

先修课程 (Prerequisites) : 无

中文简介:

我们的衣食住行都离不开植物，可是你知道植物也是漂洋过海大“迁徙”才到达世界各地吗？为什么法国经济学家法布尔说“国王的私生子都能在历史上留名，而小麦的源头却无人知晓”？你知道伴随着植物“迁徙”，人类的经济和社会活动都产生了什么巨大变化吗？反之，人类经济的发展又会对植物生长和迁徙产生怎样的影响？千万年来，植物的根、茎、叶、花、果实、种子提供着人类所需的全部七大营养素：水、蛋白质、油脂、碳水化合物、维生素、矿物质、和膳食纤维，可是你知道它们本来的样子吗？吃米的南方人跟吃面的北方人会有不同的性格吗？

本课程从介绍植物的驯化以及“迁徙”角度出发，不但让学生了解植物的生理和发育，关注隐藏的分子调控机理，而且还可以结合农业经济的基本知识，帮助人们认识植物“迁徙”和人类经济社会发展的互动关系。溯本求源，热爱植物和农业经济碰撞的你，欢迎选修《植物大迁徙》！

英文简介 (Course Description) :

Humans couldn't exist without plants, but do you know how plants travel everywhere in the world? French economist Jean Henri Fabre said that it knows the names of the king's bastards but cannot tell us the origin of wheat. What does this mean? How has the Great "Plant Migrations" changed the social economics activities and vice versa? For thousands of years, roots, stems, leaves, flowers, fruits, and seeds of the plants have provided all seven nutrients the human body needs: water, proteins, lipids, carbohydrates, vitamins, minerals, and dietary fibers. But do you know how plants look like before we domesticated them? This course aims to present the plants domestication and "migrations". Students will not only learn the plant physiology, development and the underlying molecular mechanisms, but also learn the agricultural economics to understand the changes caused by plant "migrations". If you are the person who is seeking the unknown and loving the combination of plants and economics, welcome to "The Great Plant Migrations" !

-End-

课程号 (Course Number) : 21130019

课程名称 (Course Title) : 计量经济学因果识别方法详解/An Introduction to Causality Identification Methods

开课院系 (School/Department) : 现代农学院/Peking University School of Advanced Agricultural Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 黄开兴

先修课程 (Prerequisites) : 高等数学, 经济学原理, 初级计量经济学

中文简介:

断点回归 (RDD)、双重差分 (DID) 和工具变量法 (IV) 是经济学研究中最常用的因果识别方法。掌握这些方法的基本运用并不难, 难的是如何在自己的研究中准确的运用这些方法。这是由于每一类方法都有众多延伸, 例如, DID家族中的常用方法就有二期DID、多期DID、处理时间差异DID、处理强度差异DID、IV-DID、PSM-DID、RD-DID、Synthesized-DID、Event Study等等。由于每种方法的适用情景和假设各有差异, 当研究者面对一份特异的研究数据时, 恰当选择和运用因果识别模型就成了一个重大挑战。因果识别模型的错误运用已经成为研究论文被拒稿的最主要原因之一。

本课程基于对大量实证文章的系统总结, 对RDD、DID、IV这3大因果识别方法进行系统介绍。有别于传统的因果识别课程, 本课程并不是对因果识别方法的全面概述, 而是从实践的角度, 针对3类最常用的因果识别方法进行深入剖析。本课程的教学过程将涉及上百篇实证论文。通过对这些论文的系统总结、归纳和对比, 学生将掌握每个因果识别方法的假设、运用情景和注意事项, 使熟练运用这些方法成为可能。

英文简介 (Course Description) :

The Regression Discontinuity Design (RDD), Difference-in-Differences model (DID), and Instrumental Variable methods (IV) are the most commonly used causal identification methods in economics research. It is not difficult to master the basic application of these methods, but the difficulty is how to accurately use these methods in your own research. This is due to the fact that each type of method has many extensions. For example, the commonly used methods in the DID family include two-phase DID, multi-phase DID, time-varying DID, intensity-varying DID, IV-DID, PSM-DID, RD-DID, Synthesized-DID, Event Study, etc. Since the applicable scenarios and assumptions of each method are different, when researchers are faced with a specific research data, it becomes a major challenge to properly select and use a causal identification model. Misuse of causal identification models has become one of the top reasons for rejection of research papers. Based on a systematic summary of a large number of empirical articles, this course will systematically introduce the three causal identification methods of RDD, DID, and IV. Different from traditional causal identification courses, this course is not a comprehensive overview of causal identification methods, but an in-depth analysis of the three most commonly used causal identification methods from a practical point of view. The teaching process of this course will involve hundreds of empirical papers. Through the systematic summary, induction and comparison of these papers, students will master the assumptions, application scenarios and precautions of each causal identification method, making it possible to use these methods proficiently.

-End-

课程号 (Course Number) : 21130021

课程名称 (Course Title) : 免疫检测/Immunoassay method

开课院系 (School/Department) : 现代农学院/Peking University School of Advanced Agricultural Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 张改平, 张意锋

先修课程 (Prerequisites) : 无

中文简介:

免疫检测技术是基于抗体抗原反应的原理对待测物进行定量定性分析的检测方法, 具有特异性强、灵敏度高、简便等优点, 是现代生命科学的重要研究手段, 在生物分析检测领域有着广泛的应用前景。本课程综述了近几年来出现的免疫检测技术的新方法, 简要介绍了它们的原理、特点及其应用, 并做出相应的比较。

英文简介 (Course Description) :

Immunoassay technology is a quantitative and qualitative analysis method based on the principle of antibody-antigen reaction. It has the advantages of strong specificity, high sensitivity and simplicity. It is an important research means of modern life science and has a wide application prospect in the field of biological analysis and detection. This course reviews the new methods of immunoassay in recent years, briefly introduces their principles, characteristics and applications, and makes corresponding comparisons.

-End-

课程号 (Course Number) : 21130022

课程名称 (Course Title) : 动物基因工程/Animal Genetic Engineering

开课院系 (School/Department) : 现代农学院/Peking University School of Advanced Agricultural Sciences

学分 (Credits) : 2

授课教师 (Faculty) : 张改平, 张意锋

先修课程 (Prerequisites) : 无

中文简介:

动物基因工程是应用DNA重组技术, 在基因水平上改变生物遗传性, 创造新生物物种通过工程化为人类提供有用产品及服务的技术; 或指应用现代化的生物科学和遗传学技术对动物基因进行操纵或改造的科学工程。动物基因工程的核心技术是DNA的重组技术, 还包括基因的表达技术, 基因的突变技术, 基因的导入技术等。

英文简介 (Course Description) :

Animal genetic engineering is the application of DNA restructuring technology. The genetic level of genetic level is changed, creating new biological species providing useful products and services to humans through engineering; Scientific engineering that

manipulates or transforms animal genes. The core technology of animal gene engineering is DNA's reorganization technology, including gene expression technology, gene mutation technology, and genetic introduction technology.

-End-

课程号 (Course Number) : 23200017

课程名称 (Course Title) : 工程实训/Engineering Training

开课院系 (School/Department) : 材料科学与工程学院/School of Materials Science and Engineering

学分 (Credits) : 3

授课教师 (Faculty) : 高嵩, 莫凡洋, 张杨飞

先修课程 (Prerequisites) : 无。

中文简介:

课程内容以传统机械加工及材料加工工艺为基础, 使学生系统掌握工程训练的一些基本操作技能和各种材料加工方法; 熟练掌握常用设备的结构原理及其安全操作规程、加工设备的操作方法和加工技能。在此基础上, 进一步采用设计、仿真、实物制作相结合的方式, 完成从设计到制造的全过程, 实现工+机+智能+制造综合实训。本课程进阶将3D打印、人工智能和机器人、大型仪器设备讲解与观摩、实物制作等技术引入教学环节中, 全面提升教学实践方法和科学研究手段, 引导学生具有创新意识, 数据意识, 效率意识, 懂得掌握先进工具的重要性, 形成基础学科拔尖学生培养的创新范式。推出“理论实践融合、项目贯穿始终、智能化全链条”的全新实践教学模式, 不断探索卓越创新工程人才培养, 打造成一门“大国工匠必修课”。

英文简介 (Course Description) :

The course content is based on traditional machining and material processing technology, so that students can systematically master a variety of material processing methods of engineering training; Familiar with the structure principle of common equipment and its safe operation procedures, operation methods and processing skills of processing equipment. On this basis, further using the design, simulation, physical production of a combination of the way to complete the whole process from design to manufacturing, to achieve industrial + machine + intelligent+manufacture comprehensive practical training. This course will further introduce 3D printing, artificial intelligence, robotics, explain and observe large instruments and equipment, physical production and other technologies into the teaching process, comprehensively improve teaching practice methods and scientific research methods, guide students to have the awareness of innovation, data awareness, efficiency awareness, understand the importance of mastering advanced tools, and form an innovation paradigm for cultivating top-notch students in basic disciplines. It has launched a new practical teaching model of "integration of theory and practice, throughout the project, and the whole intelligent chain", constantly exploring the cultivation of outstanding and innovative engineering talents, and building it into a "compulsory course for craftsmen in a big country".

-End-

课程号 (Course Number) : 23200018

课程名称 (Course Title) : 工程实训B/Engineering Training B

开课院系 (School/Department) : 材料科学与工程学院/School of Materials Science and Engineering

学分 (Credits) : 2

授课教师 (Faculty) : 高嵩, 莫凡洋, 张杨飞

先修课程 (Prerequisites) : 无。

中文简介:

《工程实训B》这门课程是针对农学、医学、人文、经管类等非理工科专业学生开设, 通过传统机械加工工艺、先进制造技术的学习和实践, 使学生对工程材料与制造工艺形成感性认知。

从学科特点和人才培养目标出发, 各院系各学科均有不同程度的实践类实验教学需求。本门课程在保留一定量的基本实训操作外, 再根据各院系、各学科特色设置具有针对性、创新性、探索性、强度存在差别性的授课模块, 供不同学科学生进行选择, 包括数控编程、虚拟仿真、3D打印、AI实训、大型仪器设备认知等。

在训练学生创新意识和实践动手能力的同时, 着重培养学生的工程意识、劳动意识; 培养学生勤于思考、开拓创新、勇于实践、理论联系实际的作风; 以及热爱劳动、团结互助等优良品质, 拓宽专业视野, 增强就业竞争力。

英文简介 (Course Description) :

“Engineering Training B” is a course offered to students in various majors such as agriculture, medicine, humanities, and economics and management. Through the study and practice of traditional mechanical processing technology and advanced manufacturing technology, students can form a perceptual understanding of engineering materials and manufacturing processes.

From the perspective of disciplinary characteristics and talent training objectives, each college and discipline has different practical experimental teaching needs to varying degrees. In addition to retaining a certain amount of basic operations for engineering training, this course sets up targeted, innovative, exploratory, and different teaching modules according to the characteristics of each college and discipline for students to choose from. These modules include numerical control programming, virtual simulation, 3D printing, AI training, and preliminary exploration of large-scale instrument B equipment.

While training students' innovative awareness and practical skills, this course focuses on cultivating students' engineering awareness and labor awareness; encouraging students to think critically and creatively; fostering a willingness to experiment and apply theory to practice; as well as promoting positive qualities such as a love of labor and unity and mutual assistance. It broadens students' professional

horizons and enhances their competitiveness in employment.

-End-

课程号 (Course Number) : 23200018

课程名称 (Course Title) : 工程实训B/Engineering Training B

开课院系 (School/Department) : 材料科学与工程学院/School of Materials Science and Engineering

学分 (Credits) : 2

授课教师 (Faculty) : 高嵩, 莫凡洋, 张杨飞

先修课程 (Prerequisites) : 无。

中文简介:

《工程实训B》这门课程是针对农学、医学、人文、经管类等非理工科专业学生开设, 通过传统机械加工工艺、先进制造技术的学习和实践, 使学生对工程材料与制造工艺形成感性认知。

从学科特点和人才培养目标出发, 各院系各学科均有不同程度的实践类实验教学需求。本门课程在保留一定量的基本实训操作外, 再根据各院系、各学科特色设置具有针对性、创新性、探索性、强度存在差别性的授课模块, 供不同学科学生进行选择, 包括数控编程、虚拟仿真、3D打印、AI实训、大型仪器设备认知等。

在训练学生创新意识和实践动手能力的同时, 着重培养学生的工程意识、劳动意识; 培养学生勤于思考、开拓创新、勇于实践、理论联系实际的作风; 以及热爱劳动、团结互助等优良品质, 拓宽专业视野, 增强就业竞争力。

英文简介 (Course Description) :

“Engineering Training B” is a course offered to students in various majors such as agriculture, medicine, humanities, and economics and management. Through the study and practice of traditional mechanical processing technology and advanced manufacturing technology, students can form a perceptual understanding of engineering materials and manufacturing processes.

From the perspective of disciplinary characteristics and talent training objectives, each college and discipline has different practical experimental teaching needs to varying degrees. In addition to retaining a certain amount of basic operations for engineering training, this course sets up targeted, innovative, exploratory, and different teaching modules according to the characteristics of each college and discipline for students to choose from. These modules include numerical control programming, virtual simulation, 3D printing, AI training, and preliminary exploration of large-scale instrument equipment.

While training students' innovative awareness and practical skills, this course focuses on cultivating students' engineering awareness and labor awareness; encouraging students to think critically and creatively; fostering a willingness to experiment and apply theory to practice; as well as promoting positive qualities such

as a love of labor and unity and mutual assistance. It broadens students' professional horizons and enhances their competitiveness in employment.

-End-

课程号 (Course Number) : 30330500

课程名称 (Course Title) : ACM/ICPC竞赛训练/ACM/ICPC Training

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 郭炜

先修课程 (Prerequisites) : C++, 数据结构; 或有中学生信息奥赛经历

中文简介:

北京大学的ACM国际大学生程序设计竞赛(ACM/ICPC)水平在国内处于领先地位,自2005年起每年均参加总决赛,并获得过总决赛金牌、银牌。北京大学的Online Judge --- POJ 更是国内最有影响力的ACM/ICPC竞赛训练平台,在国际上也有较高知名度和较多用户。

北京大学ACM/ICPC竞赛队精英汇集,大多数队员都曾在全国中学生信息学奥赛上取得过优异成绩,或在ACM/ICPC亚洲区预选赛中获得过金奖。北京大学ACM/ICPC竞赛队通过多年的积累,已经形成了一套行之有效的系统训练方法。

本课程为准备参加ACM/ICPC的同学设置,一定会对提高参训学校的竞赛成绩大有帮助。

英文简介 (Course Description) :

Peking University always ranks high in the ACM/ICPC contests, no matter in the Asia regional contests or world finals. Since 2005, Peking University advanced to the world finals every year, and got many medals. The program online judge system of Peking University, is one of the most famous ACM/ICPC training website in China, and it also acquires fame and many users abroad. Most members of the ACM/ICPC team of Peking University have got great achievement in the National Olympiad in Informatics, or golden medal in ACM/ICPC Asia regional contests. Through years of work, we have find a systematic and efficient way of training. This course is set for ones who are going to attend the ACM/ICPC contests, and it will definitely make great help to improve their contest ranks.

-End-

课程号 (Course Number) : 30340056

课程名称 (Course Title) : 镜中观花: 中国人的价值观/FLOWER IN THE MIRROR: THE CHINESE VALUES

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 韩金鹏

先修课程 (Prerequisites) :

中文简介:

本课程为英文授课。

英文简介 (Course Description) :

The present course helps investigate the realm of values in which a Chinese approaches his family, love life, friends, education, career, and serious issues like nature, space, time, and inevitably, life and death. Texts cover a wide range of sources including classical and contemporary literature, social wisdoms and folklores, ancient philosophies and latest twitter discussions. In passing, there will also be substantial discussions on how a Chinese waves his lances of values and gropes for his identity in the postmodern maelstrom of information, globalization and political economy. It thus aims at a comprehensive understanding of Chinese values in the comparative light of tradition and individuality and of the Chinese in the eyes of other peoples and cultures and vice versa.

-End-

课程号 (Course Number) : 30340059

课程名称 (Course Title) : 中国古典诗词/Classical Chinese Poetry

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 梅申友

先修课程 (Prerequisites) : Some basic knowledge of Chinese is preferable, but not mandatory.

中文简介:

本课程为英文授课。

英文简介 (Course Description) :

As a time-honored genre, poetry enjoyed an unrivalled status in classical Chinese literature. This course offers a survey of classical Chinese poetry by studying its evolution from about the 11th century B.C to the 12th century AD, when poetry had almost passed the zenith of its development. We shall study its two major forms — Shi poetry & Ci poetry (song lyrics) — and examine their various modes by focusing on the most representative works in history, particularly by ten major poets (Qu Yuan, Cao Zhi, Tao Qian, Wang Wei, Li Bai, Du Fu, Bai Juyi, Li Yu, Su Shi and Li Qingzhao) with due attention to their distinctive life experience and the cultural context of each poem. By the end of the term, students will be enabled to cultivate their capacity for independent appreciation and to catch a glimpse of the breadth, depth and wealth of

classical Chinese poetry.

This is a lecture/seminar-combined class. On class days, when a new genre or poet is being introduced, I will introduce at the very beginning some relevant historical and cultural background information, followed by students' discussion. Generally, we focus on one genre/poet for each session. All the study materials will be in English. I shall find the best translations available, sometimes along with the Chinese original and relevant audio readings. We shall also read some poems by non-Chinese poets, such as Shakespeare, Donne, Milton, Marvell, Blake, Wordsworth, Coleridge, Byron, Shelley, Tennyson, Browning, Christian Rossetti, Hardy, Edward Thomas, Wilfred Owen, Yeats; Anne Bradstreet, Poe, Dickinson, Frost, Stevens, Edna St Vincent Millay, Bishop; Baudelaire, Milosz and Szyborska, etc. We believe such comparative lens will lead us to see better both the merits and the weaknesses of Chinese poetry. Students are required to read the assignments (including poems and essays) in advance and come to class fully prepared for discussion.

-End-

课程号 (Course Number) : 30340076

课程名称 (Course Title) : 中国现当代小说与电影/Modern Chinese Fiction through Film

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 马乃强

先修课程 (Prerequisites) : The target audience are the international students with various national backgrounds, and the students are supposed to have much interest in modern Chinese fiction and film. The course will be instructed in English, and there are no other pre-requisites for this course.

中文简介:

当前的跨文化教学要求多媒体既是教学手段,又是教学内容。本课程结合小说和电影两种文本,通过文学和多媒体双重艺术形式进行中国文学文化教学。现当代中国文学始于20世纪初期,课程选用现当代中国文学史上的经典短篇、中篇和长篇小说及其改编的电影。本课程教学包括文学背景知识,作家作品介绍,小说文本分析和评论,课后问题讨论和问答,电影改编和赏析等。借助现代多媒体教学手段,本课程致力于提高学生独立思考水平,增强其文化意识、文学修养和信息时代的双重文本读写能力,从而达到我们跨文化教学的最终目的。

英文简介 (Course Description) :

The current cross-cultural teaching requires both teaching with and teaching about multimedia. This course integrates the printed text (fiction) and media text (film), teaching Chinese culture through literature and multimedia. The modern Chinese literature starts from the early 1900s, and the course will cover about ten classical

short stories, novellas, and novels of modern China as well as the movies adapted from these literary works. The course instruction mainly includes the knowledge of literary background, introduction of authors and their writings, analysis and comment of fictional works, questions and answers of discussion topics, and comparison and appreciation of adapted films. With the help of literary comprehension and multimedia appreciation, the course aims to improve students' intellectual independence, and hence enhance their cultural awareness, literary education and contemporary school literacy.

-End-

课程号 (Course Number) : 30340082

课程名称 (Course Title) : “中国崛起”专题研讨课/The Rise of China and Change in World Politics

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 徐昕(校外)

先修课程 (Prerequisites) :

中文简介:

本课程为中文授课。

英文简介 (Course Description) :

The rise of China is one of the most important and defining themes in contemporary international relations. This seminar course is intended for advanced undergraduate students to examine major issues and topics concerning the rise of China from a broad theoretical perspective, and to engage in the academic discourse and policy debate about implications of China's rise for world politics. The seminar is organized around the central question – will China's rise bring about a fundamental change to the international system? – and roughly divided into three sections: (1) China's rise and the “paradigm change” in world politics; (2) China's quest for identity and order; and (3) implications of China rising for Asia and the world. Under each of these sections, a few specific topics are identified for class discussion.

Students wishing to enroll in this course are expected to have basic knowledge of international relations and China's foreign policy.

-End-

课程号 (Course Number) : 30340094

课程名称 (Course Title) : 中国改革与世界经济/China in the Global Economy

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 陈绍锋

先修课程 (Prerequisites) :

中文简介:

本课程为英文授课。

英文简介 (Course Description) :

- a. To understand the roadmap of Chinese reform and the logic behind it;
- b. To understand the uniqueness of China's transition and its economic implications;
- c. To learn how China interacts with the world;
- d. To build the capability of studying Chinese economy.
- e. Upon completing this course, students are expected to get familiar with China model, China's economic interaction with the outside world, challenges the Chinese economy is facing, as well as the world economic system.

-End-

课程号 (Course Number) : 30340095

课程名称 (Course Title) : 中国经济导论/Introduction to Chinese Economy

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 季曦

先修课程 (Prerequisites) : A university-level introductory course in Economics (e.g. Principles of Economics).

中文简介:

本课程为英文授课。

英文简介 (Course Description) :

China's fast economic growth has generated great interest among media, scholars and ordinary people around the world. The aim of this course is to provide students with an overview of the Chinese economy and the detailed understanding of China's economic transition. The topics covered include an introduction of the Chinese economic history, its market oriented transitional process and its implications on economic growth, the urban-rural divide and the reforms of the two sectors, population policy and the related labor market issues, poverty and inequality, fiscal and financial reforms, international trade and foreign investment, etc. Upon completion of the course, students are expected to be familiar with China's economic system, its current economic reforms, and the challenges that the country faces in the twenty-first century.

-End-

课程号 (Course Number) : 30340095

课程名称 (Course Title) : 中国经济导论/Introduction to Chinese Economy

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : LIUMINQUAN (刘民权)

先修课程 (Prerequisites) : A university-level introductory course in Economics (e.g. Principles of Economics).

中文简介:

本课程为英文授课。

英文简介 (Course Description) :

China's fast economic growth has generated great interest among media, scholars and ordinary people around the world. The aim of this course is to provide students with an overview of the Chinese economy and the detailed understanding of China's economic transition. The topics covered include an introduction of the Chinese economic history, its market oriented transitional process and its implications on economic growth, the urban-rural divide and the reforms of the two sectors, population policy and the related labor market issues, poverty and inequality, fiscal and financial reforms, international trade and foreign investment, etc. Upon completion of the course, students are expected to be familiar with China's economic system, its current economic reforms, and the challenges that the country faces in the twenty-first century.

-End-

课程号 (Course Number) : 30340096

课程名称 (Course Title) : 中国传统表演艺术/Arts of Chinese Traditional Performance

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 张新亚(校外)

先修课程 (Prerequisites) : Students who are interested in performing arts, both oriental and western, and their cultural and technical background, as well as Chinese language.

中文简介:

本课程为英文授课。

英文简介 (Course Description) :

There are many forms of Chinese traditional performance. The styles vary significantly

because of the various cultural background and dialect. In this course, a selection of Chinese performing art forms, such as Peking opera and other Chinese traditional operas, Quyi, Chinese folk songs, Chinese traditional music, Chinese dance, are introduced. They represent the philosophy and aesthetics of Chinese people. These Chinese art forms are also compared with western styles. Their cultural background and technical background (e.g., linguistic and acoustical aspects) are discussed.

-End-

课程号 (Course Number) : 30340106

课程名称 (Course Title): 中国现当代小说选读/Selected Readings of Chinese Modern Fiction

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 金理(校外)

先修课程 (Prerequisites) : 无

中文简介:

本课程围绕现当代文学史上的青年形象与青春想象、选择现具有代表性的中短篇小说作品进行深入讲解,训练读者对文学语言和文学美感的感受能力和把握能力,理解作品中隐藏的多层次的内涵,进而发现人性的丰富。也使学生对中国当代社会的文学、文化与社会发展,以及文学与社会的复杂互动有切实理解。领会文学在今天现实境遇中的意义。

英文简介 (Course Description) :

This course focuses on the youthful imagination in the history of modern and contemporary literature, and selects representative fiction to provide an in-depth explanation, training the reader's ability to perceive literary language and literary beauty, to understand the multi-layered connotations hidden in the works, and thus to discover the richness of human nature. It also provides students with a practical understanding of the literary, cultural and social development of contemporary Chinese society, and the complex interaction between literature and society. Appreciate the significance of literature in today's situation.

-End-

课程号 (Course Number) : 30340107

课程名称 (Course Title) : 听觉文化与世界文明/Aural Culture and World Civilization

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 毕明辉(校外)

先修课程 (Prerequisites) : 无

中文简介:

《听觉文化与世界文明》基于任课教师系列北大优秀通识课程（包括《音乐与数学》、《20世纪西方音乐》《西方音乐欣赏》、《中西音乐文化专题》）之长期积累，顺应学术前沿发展潮流，深耕音乐跨学科与跨文化所长。课程以现象、音乐、问题、文献、时空为基本切入点，力图在讲授中回应五大问题：什么是听觉文化？为什么听觉是人、历史、文化的证据？为什么听觉是思想、文化、艺术的价值体现和非物质遗产？为什么听觉的见识影响人的见解？听觉文化的演进是如何影响和构成世界文明的？围绕侧重四条线索明暗交叉，启迪学生：1. 听觉现象作为问题的引导与深入；2. 以阅读材料为依据的听觉思想观念史的变迁与批判；3. 音乐作品为核心听觉样本的鉴赏与分析；4. 跨文化理论与实践和课堂音乐会现场体验相结合的互动。课程力求在全球化与本土化双重语境下，对学界长期存在的诸多问题作出理性化且具批判性的反思，以多学科、跨学科、超学科的方式推进新文科理念下音乐实践与研究的发展和完善，培养学生综合知识基础上的独立思辨能力，以世界和中国的双重视角，以音乐历史观和文化观的全面发展为最终目标，体现出课程内容的通识关怀。

英文简介 (Course Description) :

Aural Culture and World Civilization is a new perspective-oriented core Liberal arts course which based on the core principles of phenomena, music, questions, documents, and time & space under the circumstance of Modern/ Post-Modern Age, the instructor, and his group hope that it will give a response to five major questions: What is aural culture? Why is it the witness and awareness of people, history, and culture for the world? Why is it an expression and identification of the values and intangible heritage of ideas, culture, and art? Why does aural insight influence and impact the way of watching and understanding of human beings? How has the evolution of aural culture produced and constructed world civilization? Audiences will be guided with around four strands: 1. The phenomenon of Aural Culture as a question; 2. The changes in the history of ideas under the reading materials; 3. The auditory samples which selected from typical musical pieces as the core presentation; 4. Learning and understanding the lecture along with that of the related Chinese and Western Music and Culture of PKU and lecture concert in live. We are very much seeking to rationalize and critically reflect on many long-standing issues in the academic world in a dual context of globalization and localization, and to promote the development and improvement of music practice and research under the new liberal arts concept in a multidisciplinary, interdisciplinary, and supra-disciplinary manner. The course also be very happy to foster the independent thinking which based on comprehensive knowledge, with the goal of developing a holistic view of music history and culture from both a global and Chinese perspective, reflecting the multiple concerns of the focus of course.

-End-

课程号 (Course Number) : 30340109

课程名称 (Course Title) : 欧洲文化: 从古典希腊到文艺复兴/European Culture From Classical Greece to the Renaissance

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 朱孝远

先修课程 (Prerequisites) : 无

中文简介:

《欧洲文化: 从古典希腊到文艺复兴》是在两门教育部国家精品课基础上修改而成, 两门精品课分别为2006年教育部评选的国家精品课程《西方文明史导论》和2018年教育部精品课《文艺复兴经典名著选读》。本课程分专题讲授从古典希腊到文艺复兴的欧洲文化的演变, 重视在思想、文化、制度等方面的重大成就和遗产。本课程的目的是让大学生通过立足中国、放眼世界, 在世界科学文化的高端平台上磨练自己, 提升自己的人文精神和学术能力, 为成为新时代的创新型人才奠定基础。旨在用中国人眼光来分析、透视欧洲文化的发展过程。分专题讲授从希腊到文艺复兴的欧洲文化, 着重分析各个时期欧洲文化的特征、民族性格、国民性、思维方式、文化传统、优缺点, 并从全球化角度探讨文明的整合问题。认为东西方文明的互相整合是世界文明发展的趋势。课程置放大量阅读材料, 帮助学生了解学术动态、基本史料、发展脉络、注重学术性和前沿性。

英文简介 (Course Description) :

"European Culture From Classical Greece to the Renaissance" is a general course of Peking University. It is a national outstanding course selected by the Ministry of Education in 2006, a first-class undergraduate course selected by the Ministry of Education in 2018, and a national excellent resource sharing course selected in 2014. The purpose of this course is to help college students look at the world through China viewpoint and become an innovative talent by improving their humanist spirit and academic ability in the new era.

-End-

课程号 (Course Number) : 30340111

课程名称 (Course Title) : 艺术的启示/Art Inspiring

开课院系 (School/Department) : 教务部

学分 (Credits) : 2

授课教师 (Faculty) : 李睦(校外)

先修课程 (Prerequisites) : 无

中文简介:

通常的艺术史及艺术创作课程, 会引导人们了解过往的文化, 会指导人们体验曾经的艺术, 前者侧重理论研究, 后者侧重创作实践。但无论是理论, 还是实践, 都并不容易介入人们的生活, 它们只是生活的样板和艺术的楷模, 而不是生活和艺术的本身。虽然我们不是因为艺术而活着, 但艺术确是由于我们才存在。《艺术的启示》这门课致力于消除艺术与生活的隔阂, 消除艺术

与公众的隔阂，让艺术像阳光、空气和水一样，蕴育和滋养我们社会中的每一个人。本门课程在引导学生敬仰艺术、热爱艺术的同时，更注重学生独立思考能力的引导，更注重学生思辨能力的培养。从阅读、欣赏优秀的艺术作品开始，学生要学会判断、学会分析、学会质疑。从参与、制作自己的艺术作品开始，学生要体会创意、体会创作、体会创新。我们研究艺术的目的，终究还是为了研究生活。我们通过艺术去体会纠结，通过艺术去应对烦恼，通过艺术去寻求创造，并且最终达到心灵的和谐、精神的和谐。

在这里，艺术的理论+艺术的实践，等于“艺术的生活”！

英文简介 (Course Description) :

Courses in art history and artistic creation typically aim to introduce students to past cultures and artistic traditions. Art history courses emphasize theoretical research, while artistic creation courses prioritize creative practice. However, integrating both theory and practice into daily life can pose challenges. While serving as templates for living and models for art, they do not constitute the essence of life or art. Art exists through us, although we do not live solely for its sake. The course " Art Inspiring " strives to bridge the divide between art and the general public, facilitating a deeper understanding of art in daily life. It aims to make art as pervasive and beneficial as sunlight, air, and water, fostering growth and development among society's individuals. Beyond encouraging appreciation and love for art, this course places emphasis on developing critical thinking and fostering an inquiring mindset. Through the study of excellent artistic works, students acquire skills in evaluation, analysis, and critical questioning. By participating in and creating their own artistic works, students gain direct experience of creativity, joy, and the essence of innovation. Ultimately, our pursuit of art aims to deepen our understanding of life. Art serves as a compass in navigating life's complexities, a sanctuary in times of trouble, and a spark for creativity, leading us towards inner harmony and spiritual equilibrium. Here, the integration of artistic theory and practice embodies the essence of "living through art"!

-End-

课程号 (Course Number) : E1273914

课程名称 (Course Title) : 气候变化与可持续发展/Climate Change and Sustainable Development

开课院系 (School/Department) : 教务部

学分 (Credits) : 3

授课教师 (Faculty) : 戴瀚程

先修课程 (Prerequisites) : 无

中文简介:

越来越多人认识到，气候变化与可持续发展密不可分，这不仅是因为在根本上二者具有相同的驱动因素，在政策选择时还有一定的协同性。精心设计的气候变化减缓政策可以在空气污染控

制、能源安全增强和资源效率改进等方面对可持续发展带来很大的共同效益。为了有效地为国家或国际层面的决策提供信息，科学家必须采取综合和整体的视角。本课程旨在概述最新的气候变化科学共识、气候影响、气候变化适应，以及气候变化减缓与可持续发展目标（如高质量经济增长、能源安全、食品安全、空气污染控制和人类健康改善）之间的关系。此外，它还将简要介绍如何从系统分析的角度理解和揭示复杂的关系。

英文简介 (Course Description) :

It is increasingly recognized that climate change is intricately linked to sustainable development, not just in terms of joint underlying drivers, but also with respect to synergistic policy choices. Well-designed climate change mitigation policy can lead to significant co-benefits for sustainable development in air pollution control, energy security enhancement and resource efficiency improvement. To effectively inform decision-making on these issues, whether at the national or international level, science must take an integrated and holistic perspective. The course aims to give an overview of the latest scientific consensus on climate change, climate impacts, climate change adaptation and mitigation, and the nexus between climate change mitigation and sustainable development goals such as high-quality economic growth, energy security, food security, air pollution control and human health improvement. Furthermore, it will briefly introduce how the complicated nexus could be understood and uncovered from system analysis perspectives.

-End-