

Courses catalogue for international students taught in English in academic year 2024-2025 (Only for reference)

Remarks: The courses catalogue is only for reference for students. The actual offering of courses are subject to the availability of courses upon arrival.

国际学院

International School

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
D253011001	矩阵理论	Theory of Matrix	3	48	Autumn
D253011002	工程中的数值分析	Numerical Analysis in Engineering	3	48	Spring Autumn
D253011003	概率统计 (工程)	Probability and Statistics in Engineering	3	48	Autumn
D253026001	汉语1 (研)	Chinese-Level 1 (Postgraduate)	1.5	60	Spring Autumn
D253026002	汉语2 (研)	Chinese-Level 2 (Postgraduate)	1.5	60	Spring Autumn
D253026003	汉语3 (研)	Chinese-Level 3 (Postgraduate)	1	60	Autumn
D253026004	交换生汉语	Chinese for Exchange students	2	72	Spring Autumn
D253026005	中国概况 (研)	Introduction to China (Postgraduate)	1	18	Autumn
D253026006	学术文献检索与利用	Academic Literature Retrieval	1	18	Autumn
D253042001	面向工程师的专业计算与程序设计	Technical Computing and Programming for Engineers	2	32	Autumn
D253042002	有限元法在工程中的应用	Finite Element Method in Engineering	3	48	Autumn
D253042003	航空材料及工艺	Aerospace Materials and Processes	2	32	Spring
D253042005	故障预测与健康监测	Prognostics and Health Management (PHM)	1	16	Autumn
T253042004	现代制造技术概论	Introduction to Modern Manufacturing Technology	2	32	Spring

材料科学与工程学院

School of Material Science and Engineering

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
D013041001	材料测试方法	Materials Testing Methods	3	48	Spring
D013041002	新材料进展	Advances in New Materials	3	48	Autumn
D013041003	物理化学	Physical Chemistry	3	48	Spring
D013051001	失效分析	Failure Analysis	3	48	Autumn
D013051002	热电发电材料	Thermoelectric Materials for Power Generation	3	48	Autumn
D013051003	制造燃气涡轮发动机和动力装置并确保其资源的特殊技术与方法	Special Technologies and Methods for Manufacturing and Resource Ensuring of Gas-turbine Engines and Powerplants	2	32	Spring
D013051004	环境化学	Environmental Chemistry	3	48	Autumn
D013051005	水质新技术	Advanced Water Treatment Technology	3	48	Autumn

电子信息工程学院

School of Electronic and Information Engineering

Course code	Course title	Credits	Hours	Semester
-------------	--------------	---------	-------	----------

	In Chinese	In English			
D023026001	科技论文写作	Scientific Writing and Presentation	1	18	Spring
D023041002	随机过程理论	Stochastic Process	3	52	Spring
D023041003	通信和通信网络原理	Principles of Communications and Communication Networks	3	48	Spring
D023041004	信息论	Information Theory	3	48	Autumn
D023041005	天线理论与设计	Antenna Theory and Design	2	32	Autumn
D023041006	高等电磁场理论	Advanced Electromagnetic Fields	3	48	Spring
D023041007	现代数字通信技术	Modern Digital Communication Technology	3	48	Autumn
D023041008	计算机通信网络	Computer Communication Networks	3	48	Autumn
D023041009	微波工程	Microwave Engineering	3	48	Autumn
D023051001	神经网络	Neural Network	2	32	Spring
D023051002	微波与星地通信	Microwave in Satellite-terrestrial Communication	2	32	Autumn
D023051003	城市空中交通系统	Urban Air Mobility System	2	32	Autumn

自动化科学与电气工程学院

School of Automation Science and Electrical Engineering

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
D033041001	系统辨识	System Identification	2	32	Autumn
D033041002	计算机控制系统	Computer Control System	2	32	Spring
D033041003	电磁兼容基础与应用	Foundation and Application of Electromagnetic Compatibility	3	48	Autumn
D033041004	现代电力电子	Modern Power Electronics	2	32	Spring
D033041005	线性系统理论	Linear System Theory	3	48	Autumn
D033041007	液压传动与控制	Hydraulic Transmission and Control	2	32	Autumn
D033051001	最优控制	Optimal Control	2	32	Autumn
D033051003	非线性系统与控制	Nonlinear Systems and Control	2	32	Autumn
D033051004	可靠性工程	Reliability Engineering	2	32	Spring
D033051005	制导原理	Principle of Guidance	2	36	Spring
D033051006	最优估计	Optimal Estimation	2	32	Spring
D033051007	电力传动控制系统	Control System for Electrical Drives	2	32	Spring
D033051008	现代电液伺服系统控制策略	Modern Control Strategies of Electro-hydraulic Servo Systems	2	32	Spring
D033051009	电液伺服控制系统	Electro-hydraulic Servo Control Systems	2	32	Spring
D033051013	飞行器容错控制	Fault-Tolerant Flight Control	1	16	Autumn
D033051015	电动系统运动控制	Motion Control of Electric Drive Systems	2	32	Spring
D033051016	智能控制	Intelligent Control	2	32	Autumn
D033061002	导航原理实验	Navigation Principle Experiment	2	32	Spring
D033062001	电力电子变换器建模与控制	Modeling and Control of Power Converters	2	32	Autumn

能源与动力工程学院

School of Energy and Power Engineering

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
D043041001	先进燃烧测试技术	Advanced Combustion Diagnostics	2	32	Spring
D043041002	航空燃料学	Aviation Fuels	2	32	Autumn
D043041003	新能源理论与技术	Science and Technology of Renewable Energy	2	32	Autumn
D043041004	鲁棒控制	Robust Control	3	48	Autumn

航空科学与工程学院

School of Aeronautic Science and Engineering

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
D053026004	科技论文写作与报告	Scientific Paper Writing and Reporting	1	16	Autumn
D053041002	航空航天材料概论	Introduction to Aerospace Materials	2	32	Spring
D053051002	直升机飞行性能分析	Helicopter Flight Performance Analysis	3	48	Spring
D053051003	气动弹性理论与设计	Aeroelastic Theory and Design	2	32	Spring
D053051004	飞行器空气动力学	Aircraft Aerodynamics	3	48	Spring
D053051005	高超音速空气动力学	Hypersonic Aerodynamics	2	32	Spring
D053051006	飞机结构分析与设计	Aircraft Structural Analysis and Design	2	32	Autumn
D053051007	复合材料力学	Fundamental Composite Mechanics	2	32	Autumn
D053051008	实验流体力学	Experimental Fluid Mechanics	2	32	Autumn
D053051009	计算流体力学	Computational Fluid Mechanics	3	48	Autumn
D053051010	计算固体力学	Computational Solid Mechanics	3	48	Autumn
D053051012	飞行力学	Flight Mechanics	2	32	Autumn
D053051013	现代控制理论	Modern Control Theory	3	48	Autumn
D053051014	高等结构动力学	Advanced Structural Dynamics	3	48	Autumn

计算机学院

School of Computer Science and Engineering

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
D063026001	科技论文写作	Scientific Paper Writing	1	16	Spring
D063041001	软件工程	Software Engineering	3	48	Autumn
D063041002	计算机网络	Computer Networks	2	32	Spring
D063041003	分布式操作系统	Distributed Operating System	3	48	Spring
D063041004	操作系统	Operating System	3	48	Autumn
D063051001	人工智能	Artificial Intelligence	2	32	Autumn
D063051002	计算机视觉	Computer Vision	2	32	Spring
D063051003	数据挖掘	Data Mining	2	32	Autumn
D063051004	高级程序设计	Object-oriented Programming in Java	3	48	Autumn
D063051005	数字图像与视频处理	Digital Image and Video Processing	2	32	Autumn
D063051006	数据结构	Data Structure	2	32	Spring

D063051000	数据结构	Data Structure	3	48	Spring
D063051007	计算机体系结构	Computer Architecture	3	48	Autumn
D063051008	并行程序设计	Parallel Programming	2	32	Spring
D063052001	软件工程综合实验	Comprehensive Software Engineering Experiments	3	48	Autumn
D063061001	计算机网络实验	Experiments of Computer Networks	3	48	Spring

机械工程及自动化学院

School of Mechanical Engineering & Automation

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
D073026001	科技论文写作与学术交流	Academic Writing & Presentation	1	16	Autumn
D073041001	固体力学原理及应用	Solid Mechanics: Fundamentals and Applications	2	32	Spring
D073051001	流体传动与控制	Fluid Power Transmission and Control	2	32	Spring
D073051002	微纳米制造技术及理论	Nano Fabrication Technology and Theory	2	32	Spring
D073051003	机械振动学	Mechanical Vibration	2	32	Spring
D073051004	智能优化计算	Intelligent Optimization Computing	2	32	Spring
D073051005	CAD/CAM技术	CAD/CAM	2	32	Autumn
D073051006	飞机数字化制造工程	Aircraft Digital Manufacturing Engineering	2	32	Spring
D073061001	数控加工实验	NC-machining Experiment	1	16	Spring
D073061002	制造系统仿真实验	Experimentation on Simulation of Manufacturing Systems	1	16	Spring

经济管理学院

School of Economics and Management

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
D083026001	英语学术论文写作	Academic Writing in English	1	18	Spring
D083041001	微观经济理论	Microeconomic Theory	2	32	Autumn
D083041002	管理运筹学	Operational Research for Management	2	32	Spring
D083041004	运作管理	Operations Management	2	32	Autumn
D083041005	现代管理信息系统	Advanced Management Information Systems	2	32	Autumn
D083041006	营销管理	Marketing Management	2	32	Autumn
D083041007	宏观经济理论	Principles of Macroeconomics	2	32	Spring
D083041008	计量经济分析方法与模型	Econometric Analysis Methods and Models	2	32	Spring
D083041009	财务会计	Financial Accounting	2	32	Autumn
D083041010	高级组织行为学	Advanced Organizational Behavior	2	32	Autumn
D083041011	运输经济学	Transportation Economics	2	32	Spring
D083042009	公司理财	Corporation Finance	2	32	Autumn
D083042011	数字商务	Digital Commerce	2	32	Autumn
D083042012	营销研究	Marketing Research	2	32	Spring
D083042013	工效学与工作组织	Ergonomics and work Organization	2	32	Spring
D083042014	IT战略管理	IT Strategy Management	2	32	Spring

D083042014	项目管理	Project Management	2	32	Spring
D083042017	国际贸易学	International Trade	2	32	Autumn
D083051001	决策分析	Decision Analysis	2	32	Autumn
D083051003	现代项目管理	Contemporary Project Management	2	32	Autumn
D083051005	能源与环境经济学	Energy and Environmental Economics	2	32	Spring
D083051006	国际人力资源管理	International Human Resource Management	2	32	Spring
M083041001	航天项目风险管理	Space Project Risk Management	1	16	Spring
M083041002	航天项目成本管理	Space Project Cost Management	1	16	Spring
M083063006	空天信前沿讲座 (I)	Seminars on Aeronautics, Astronautics and Information (I)	1	16	Autumn
M083063007	空天信前沿讲座 (II)	Seminars on Aeronautics, Astronautics and Information (II)	1	16	Spring
M083063008	空天信企业实践 (I)	Enterprise Practice on Aeronautics, Astronautics and Information	1	16	Autumn
M083063009	空天信企业实践 (II)	Enterprise Practice on Aeronautics, Astronautics and Information (II)	1	16	Spring

生物与医学工程学院

School of Biological Science and Medical Engineering

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
D103041001	生物材料与组织工程	Biomaterials and Tissue Engineering	2	32	Autumn
D103041002	生物医学工程研究前沿专题	Current Topics in Biomedical Engineering Research	2	32	Spring
D103041003	生物医学光子学	Biomedical Optics	2	32	Spring
D103051001	医学深度学习	Deep Learning for Medicine	1	16	Spring
D103051002	可降解植入医疗器械	Implanted Biodegradable Medical Devices	1	16	Spring

交通科学与工程学院

School of Transportation Science and Engineering

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
D133041105	交通韧性与安全 (引智课程)	Transportation Resilience and Safety	2	32	Spring
D133041303	高等飞行动力学	Advanced Flight Dynamics and Control	3	48	Spring
D133041401	高级空间分析与交通应用	Advanced Spatial Analysis and Application in Transportation	3	48	Autumn
D133041402	岩土塑性力学	Soil Plasticity	2	32	Autumn
D133051101	车联网系统 (引智课程)	Connected Vehicle System (International Curriculum)	2	32	Spring
D133051401	高等混凝土结构	Advanced Concrete Structures	2	32	Spring
M133041401	高等工程材料	Advanced Engineering Materials	2	32	Autumn
M133051101	交通运输系统优化与控制 (引智课程)	Transportation system optimization and control	2	32	Spring
M133052401	结构有限元法与应用	Finite element method and its application in structural engineering	2	32	Spring
M133061401	交通基础设施综合实验	Transportation Infrastructure Lab	3	48	Autumn

宇航学院

School of Astronautics

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			

D153041001	飞行器结构优化设计	Structural Optimization of Flight Vehicles	3	48	Autumn
D153041002	火箭推进基础	Fundamentals of Rocket Propulsion	3	48	Spring
D153041003	计算流体力学	Computational Fluid Dynamics	3	48	Autumn
D153041004	现代控制理论	Modern Control Theory	3	48	Spring
D153041005	燃烧理论	Combustion Theory	3	48	Autumn
D153051001	Patran/Nastran软件应用	Practice of Msc.Patran/Nastran	1	16	Spring
D153051002	飞行器空气动力学	Aerodynamics Used in Design of Flight Vehicles	3	48	Autumn
D153051003	火箭发动机实验测试原理与技术	Experimental principles and technologies for rocket engines	3	48	Autumn
D153051004	轨道力学	Orbital Mechanics	3	48	Spring Autumn
D153051006	运载及空间飞行器概念设计	Conceptual Design of Launch Vehicle and Spacecraft	4	64	Spring
D153051007	固体推进剂概论	Introduction to Solid Propellant	3	48	Spring
D153051008	航天器控制	Spacecraft Control	3	48	Autumn
D153051012	深空飞行器轨道动力学与控制	Orbital Dynamics and Control of Deep Space Vehicles	2	32	Autumn

化学学院

School of Chemistry

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
D273041001	自然灵感的微纳结构	Nature-inspired Micro-nano Structures	3	48	Autumn
D273041002	纳米材料的制备及表征	Synthesis and Characterization of Nanomaterials	3	48	Spring
D273041003	仿生界面设计与功能	Bioinspired Design of Surfaces and Functions	3	48	Spring

医学科学与工程学院

School of Engineering Medicine

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
D453041001	分子细胞生物学	Molecular Cell Biology	2	32	Autumn
D453041002	生物医学传感技术	Biomedical sensing technologies	2	32	Spring
D453051001	遗传学和多组学	Genetics and Omics	2	32	Spring
D453051002	免疫工程技术	Immune engineering technology	2	32	Spring
D453052001	批判性文献阅读（留学生）	Critical literature review	1	16	Autumn

国际学院-UN 中心 (杭州校区)

International School-UN Center

D253011004	概率统计	Probability Statistics	3	48	Autumn
D253041001	空间技术应用与国际合作	Space Technology Application and International Cooperation	2	32	Autumn
D253041002	人工智能概论	Introduction to Artificial Intelligence	2	32	Autumn
D253041003	航天概论	Introduction to Space Technology	2	32	Autumn
D253051001	小卫星系统设计技术与工程实践	China Small Satellite's System Design and Engineering Practice (SDEP)	2	40	Autumn
D253051002	航天器结构与机构设计	Spacecraft Structure and Mechanism Design	2	32	Autumn
D253051003	遥感原理与方法	Principles and Methods of Remote Sensing	2	32	Autumn

D253051004	遥感图像智能处理	Intelligent Processing of Remote Sensing Imagry	2	32	Spring
D253051005	自然灾害遥感	Remote Sensing of Natural Disasters	2	32	Spring
D253051006	GNSS系统原理与方法	GNSS Principles and Methods	2	32	Autumn
D253051007	GNSS接收机原理及设计	GNSS Receiver Principles and Design	2	32	Autumn
D253051008	卫星导航数据处理	Satellite Navigation Data Processing	2	32	Spring
D253052001	卫星姿态控制系统设计	Design of Satellite Attitude Control System	1	16	Spring
D253052002	无人机遥感方法与应用	Unmanned Aerial Vehicle Remote Sensing Methods and Applications	2	32	Spring
D253052003	GNSS系统应用概论	GNSS Applications	1	16	Spring
D253061001	微小卫星系统实验	Small Satellite System Experiment	1	16	Spring
D253061002	GNSS原理实验	GNSS Principle Experiment	1	16	Spring
D253062001	空间技术应用专业实践	Professional Practice in Space Technology Applications	1	16	Autumn
M253066001	团队项目实践	Team Pilot Project	6	360	Spring
D253026011	科技论文英文写作	Scientific and Technical Paper Writing in English	1	16	Spring