

Courses catalogue for international students in academic year 2022-2023 (Only for reference)

Remarks: The courses catalogue is only for reference for students. The actual classes are subject to the semester classes.

国际学院-公共课

International School-Common courses

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
25312101	矩阵理论	Theory of Matrix	3	48	Fall
25312102	数值分析	Numerical Analysis	3	48	Spring
					Fall
25312104	概率统计（工程）	Probability and Statistics in Engineering	3	48	Fall
25312201	Matlab 程序设计	Matlab Programming	2	32	Spring
					Fall
25312202	有限元法在工程中的应用	Finite Element Method in Engineering	3	48	Fall
25312203	航空材料及工艺	Aerospace Materials and Processes	2	32	Fall
25312204	现代制造技术概论	Introduction to Modern Manufacturing Technology	2	32	Fall

25314101	汉语(1)	Chinese-Level 1	2	60	Spring
					Fall
25314102	汉语(2)	Chinese-Level 2	1	60	Spring
					Fall
25314103	中国概况	Introduction to China	1	18	Fall
25314104	汉语(3)	Chinese-Level 3	1	48	Fall
25314201	科技文献检索与利用	Scientific Literature Retrieval	1	18	Spring
					Fall
25317101	开题报告 (留博)	Literature Survey and Thesis Proposal Report (for Phd.)	1	0	Spring
					Fall
25317102	学术活动 (留博)	Academic Activities (for Phd.)	1	0	Spring
					Fall
25317104	中期检查 (留博)	Midterm Assessment (for Phd.)	1	0	Spring
					Fall
25317201	开题报告 (留硕)	Literature Survey and Thesis Proposal Report (for Master)	1	0	Spring
					Fall
25317202	学术活动 (留硕)	Academic Activities(for Master)	1	0	Spring
					Fall
25317204	中期检查 (留硕)	Midterm Assessment (for Master)	1	0	Spring
					Fall
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			
01312001	材料测试方法	Materials Testing Methods	3	48	Spring
01312002	新材料进展	New Materials	3	48	Spring
01313001	失效分析	Failure Analysis	3	48	Fall
01313002	热电发电材料	Thermoelectric materials for power generation	3	48	Fall

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			
02312101	数字信号处理	Digital Signal Processing	3	52	Spring
02312102	随机过程理论	Stochastic Process Theory	3	52	Spring
02312103	天线理论与设计	Antenna Theory and Design	2	32	Spring
02312104	高等电磁场理论	Advanced Electromagnetic Theory	3	48	Spring
02312105	通信和通信网络原理	Principles of Communications and Communication Networks	3	48	Spring
02312106	信号处理设计能力	Design Proficiency for Signal Processing	3	48	Fall

02312107	信息论	Fundamentals of Information Theory	3	48	Fall
02312108	现代数字通信技术	Modern Digital Communications Technology	3	48	Fall
02312109	计算机通信网络	Computer Communication Networks	3	48	Fall
02312112	微波工程	Microwave Engineering	3	48	Fall
02312115	神经网络	Neural Network	2	32	Spring
02312116	信息系统安全概论	Introduction to Information and Systems Security	2	32	Fall
02312117	科技论文写作	Academic Writing and Presentation	1	18	Spring
02312118	微波与星地通信	Microwave in Satellite and Terrestrial Communications	2	32	Fall

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			
03313101	最优控制	Optimal Control	2	32	Fall
03313103	系统辨识	System Identification	2	32	Fall
03313104	非线性系统与控制	Nonlinear Systems and Control	2	32	Fall

03313107	制导原理	Principle of Guidance	2	32	Spring
03313108	最优估计	Optimal Estimation	2	32	Spring
03313109	可靠性工程	Reliability Engineering	2	32	Spring
03313110	电磁兼容基础与应用	Foundation and Application of Electromagnetic Compatibility	3	48	Fall
03313115	线性系统理论	Linear System Theory	3	48	Fall
03313119	飞行器容错控制	Fault-Tolerant Flight Control	1	16	Fall
03313120	电力传动控制系统	Control System For Electrical Drives	2	32	Spring
03313121	电动系统运动控制	Motion Control of Electric Drive Systems	2	32	Spring
03313122	智能控制	Intelligent Control	2	32	Fall
03313123	液压传动与控制	Hydraulic Transmission and Control	2	32	Fall
03313125	电液伺服控制系统	Electro-Hydraulic Servo Control Systems	2	32	Spring
03316104	导航原理实验	Navigation Principle Experiments	2	32	Spring
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			
04313102	先进燃烧测试技术	Advanced Combustion Diagnostics	2	32	Spring
04313103	航空燃料学	Aviation fuels	2	32	Fall
04313104	新能源理论与技术	Science and Technology of Renewable Energy	2	32	Fall
04313105	传热传质学	Heat and mass transfer	3	48	Fall
04313106	鲁棒控制	Robust Control	3	48	Fall

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			
05313101	飞行器大迎角空气动力学	High Attack Angle Aerodynamics of Aircraft	2	32	Spring
05313102	直升机飞行性能分析	Helicopter Flight Performance Analysis	3	48	Spring
05313103	气动弹性理论与设计	Theory and Design of Aeroelasticity	2	32	Spring

05313104	飞行器空气动力学	Aircraft Aerodynamics	3	48	Spring
05313105	高超音速空气动力学	Hypersonic Aerodynamics	2	32	Spring
05313106	飞机结构分析与设计	Aircraft Structural Analysis and Design	2	32	Fall
05313107	现代控制理论	Modern Control Theory	3	48	Fall
05313108	高等结构动力学	Advanced Structural Dynamics	3	48	Fall
05313109	复合材料力学	Mechanics of Composite Materials	2	32	Fall
05313110	实验流体力学	Experimental Fluid Mechanics	2	32	Fall
05313111	计算流体力学	Computational Fluid Mechanics	3	48	Fall
05313112	飞行力学	Flight Mechanics	2	32	Fall
05313114	计算固体力学	Computational Solid Mechanics	3	48	Fall
05313117	航空航天材料概论	Introduction to Aerospace Materials	2	32	Spring

计算机学院

School of Computer Science and Engineering

Course code	Course title	Credits	Hours	Semester
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	In Chinese	In English			
06312101	软件工程	Software Engineering	3	48	Fall
06312102	计算机网络	Computer Network	2	32	Spring
06312109	分布式操作系统	Distributed Operating System	3	48	Spring
06312110	操作系统	Operating System	3	48	Fall
06313101	人工智能	Artificial Intelligence & Application	2	32	Fall
06313102	计算机视觉	Computer Vision	2	32	Spring
06313103	数据挖掘	Data Mining	2	32	Fall
06313104	高级程序设计	Object Oriented Programming	3	48	Fall
06313105	数字图像与视频处理	Digital Image & Video Processing	2	32	Fall
06313106	数据结构	Data Structure	3	48	Spring
06313107	计算机体系结构	Computer Architecture	3	48	Fall
06313108	并行程序设计	Parallel Programming	2	32	Spring
06314101	科技论文与写作	Scientific Thesis Writing	1	16	Spring
06316110	计算机网络实验	Computer Network Laboratory	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			
07313002	流体传动与控制	Fluid Power Transmission and Control	2	32	Spring
07313003	微纳米制造技术及理论	Nano Fabrication Technology and Theory	2	32	Spring
07313004	机械振动学	Mechanical Vibrations	2	32	Spring
07313006	计算机断层层析成像原理	Principle of Computed Tomography	2	32	Spring
07313008	数控加工与测量实验	Experimentation on NC machining & measurement	1	16	Spring
07313011	科技论文写作与学术交流	Academic writing & Presentation	1	16	Fall
07313012	数字化制造的产品几何定义规范	Geometrical Product Specification for Digital Manufacturing	2	32	Fall
07313013	智能优化计算	Intelligent Optimization Computing	2	32	Fall
07313014	软件技术基础	Fundamentals of software technology	2	32	Fall
07313015	CAD/CAM 技术	CAD/CAM	2	32	Fall

07313016	高等机械原理	Advanced Kinematic and Dynamic Analysis of Mechanisms	2	32	Fall
07313017	飞机数字化制造工程	Aircraft Digital Manufacturing Engineering	2	32	Spring
07313018	板料成形技术	Metal sheet forming technology	2	32	Fall
07313020	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			
08312101	微观经济理论	Microeconomic theory	2	32	Fall
08312102	宏观经济理论	Macroeconomics	2	32	Spring
08312103	运筹学	Operational Research	2	32	Spring
08312104	决策分析	Decision Analysis	2	32	Fall
08312105	统计学	Statistics	2	32	Spring
08312106	计量经济学	Econometrics	2	32	Spring
08313101	运作管理	Operations Management	2	32	Fall

08313102	管理信息系统	Management Information Systems	2	32	Fall
08313103	组织行为学	Organizational Behavior	2	32	Fall
08313104	人力资源管理	Human Resource Management	2	32	Spring
08313105	会计学	Accounting	2	32	Fall
08313106	营销管理	Marketing Management	2	32	Fall
08313107	供应链管理	Supply Chain Management	2	32	Spring
08313108	项目管理	Project Management	2	32	Fall
08313109	国际经济学	International Economics	2	32	Spring
08313110	投资学	Investment	2	32	Spring
08313111	公司财务	Corporate Finance	2	32	Fall
08313112	智能优化算法	Intelligent Optimization Algorithms	2	32	Spring
08313113	电子商务	Electronic Commerce	2	32	Fall
08313114	营销研究	Marketing Research	2	32	Fall
08313118	气候与社会	Climate and Society	2	32	Fall

08313119	国际贸易学	International Trade	2	32	Fall
08313121	博弈论与信息	Games and Information	2	32	Spring
08314103	科技论文写作	Scientific Thesis Writing	1	18	Spring
外国语学院					
School of Foreign Languages					
Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
12112301	语言学思想体系	Theories and Schools in General Linguistics	3	48	Fall
12112302	西方文论（硕）	Western Literary Theory(MA)	3	48	Fall
12112303	翻译学导论	Translation Theory	3	48	Fall
12112304	语言与国际关系研究	Language and Interantional Relations	3	48	Spring
12112305	语用学	Pragmatics	3	48	Fall
12112306	比较文学	Contrastive Studies of Literature	3	48	Fall
12112307	翻译研究方法论	Methodologies in Translation Studies	3	48	Spring

12112350	西方文论（博）	Western Literary Theory(PhD)	2	32	Fall
12112351	外国语言文学综论	General Studies on Foreign Linguistics and Literature	2	32	Fall
12112352	语言研究方法论	Methodologies in Linguistic Studies	2	32	Fall
12112401	语义学	Semantics	2	32	Spring
12112402	句法学	Syntax	2	32	Fall
12112403	音系学	Phonology	2	32	Fall
12112405	翻译史	Translation History	2	32	Fall
12113101	词语界面研究	Lexis-interface studies	2	32	Spring
12113103	认知语言学	Cognitive Linguistics	2	32	Fall
12113104	对比语言学	Contrastive Studies of English and Chinese	2	32	Spring
12113105	功能语言学实证研究	Empirically-oriented Studies of Systemic Functional Linguistics	2	32	Fall
12113106	计算语言学	Computational Linguistics	2	32	Fall
12113110	文学写作导论	Literary Writing	2	32	Fall
12113121	计算机辅助翻译	Computer-aided Translation	2	32	Fall

12113122	翻译批评	Translation Criticism	2	32	Fall
12113123	西方翻译经典文献研读	Readings on Western Translation Theories	2	32	Spring
12113125	文体学与翻译	Stylistics and Translation	2	32	Spring
12113151	语用学研究	Pragmatics studies	2	32	Spring
12113152	认知语言学研究	Cognitive Linguistics Research	2	32	Spring
12113153	语料库驱动语言研究	Corpus-Driven Linguistic Studies	2	32	Spring
12113154	认知对比语言学研究	Topics on Contrastive and Cognitive Studies	2	32	Spring
12113155	翻译学研究	Translation studies	2	32	Spring
12113156	英美文学理论前沿	Frontier Studies of Literature in English: Seminars	2	32	Spring
12113158	英美文学跨学科研究	English Literature Study	2	32	Spring
12113159	面向语言研究的自然语言处理	Natural Language Processing for Linguistic Studies	2	32	Spring
12113162	基于语料库的功能语言学跨学科研究	corpus-based interdisciplinary study of functional linguistics	2	32	Spring
12113163	话语研究前沿	Advances in Discourse Studies	2	32	Spring
12113201	社会语言学	Sociolinguistics	2	32	Fall

12113202	语料库语言学	Introduction to Corpus Linguistics	2	32	Fall
12113206	莎士比亚研究	Shakespeare Study	2	32	Fall
12113207	圣经与西方文学	The Holy Bible and Literature in the West	2	32	Fall
12114201	语言研究中的统计方法	Statistical Methods in Linguistic Studies	2	32	Spring
12113208	古希腊神话与悲剧	Greek Mythology and Tragedy	2	32	Fall
12132383	高级英语阅读（一）	Advanced English Reading (I)	2	32	Fall
12133317	高级英语阅读（二）	Advanced English Reading(2)	2	32	Spring
12133313	高级英语口语	Advanced Oral English	2	32	Spring
12132385	高级英语写作	Advanced English Writing	2	32	Spring
12132384	中国语言文化	The Language and Culture of China	2	32	Spring
12114301	学术写作（博）	Academic Writing(PHD)	2	32	Spring
121143012	学术写作（硕）	Academic Writing(MA)	2	32	Fall

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			
13312101	线路勘测规划与空间分析	Spatial Analysis on Linear Project Surveying and Planning	2	32	Fall
13312102	高等混凝土结构	Advanced concrete structures	2	32	Spring
13313101	建设项目管理	Construction Project Administration	2	32	Fall
13313102	结构有限元法与应用	Structure FEM and its Application	2	32	Spring
13313103	岩土塑性力学	Soil Plasticity	2	32	Fall
13313104	土木工程综合实验	Civil Engineering Lab	3	48	Fall
13313121	车联网系统（引智课程）	Connected Vehicle Systems	2	32	Fall
13313122	交通韧性与安全（引智课程）	Transportation Resilience and Safety	2	32	Spring
13313123	交通大数据技术	Transportation Big Data Technology	2	32	Fall

宇航学院

School of Astronautics

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			

15313101	结构分析与优化	Structural Analysis and Optimization	3	48	Fall
15313102	Patran/Nastran 软件应用	Practics of MSC Patran/Nastran	1	16	Spring
15313104	火箭推进基础	Fundamentals of Rocket Propulsion	3	48	Fall
15313105	火箭发动机实验测试方法	Experimental Measuring Methods for Rocket Engines	3	48	Spring
15313106	轨道力学	Orbital Mechanics	3	48	Spring
15313107	冲压发动机原理及技术	Ramjet Theory and Technology	2	32	Fall
15313108	计算流体力学	Computational Fluid Dynamics	3	48	Fall
15313109	运载及空间飞行器概念设计	Conceptual Design of Launch Vehicle and Spacecraft	4	64	Spring
15313110	固体推进剂概论	Introduction of Solid Propellant	3	48	Spring
15313113	燃烧理论	Combustion Theory	3	48	Spring
15313114	航天器控制	Spacecraft Control	3	48	Fall

物理学院

School of Physics and Nuclear Energy Engineering

Course code	Course title	Credits	Hours	Semester
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	In Chinese	In English			
19113102	量子多体理论	Quantum Many-body Theory	4	64	春季
19113109	原子核理论	Nuclear Theory	4	64	春季
19113202	纳米物理学	Nanoscale Physics	2	32	春季
19113208	加速器原理与粒子探测技术	Principle of Accelerator and Technology of Particle Detection	2	32	春季
19113225	核结构、核反应及其在天体物理和宇宙学中的应用	Nuclear structures, reactions and their application to astrophysics and cosmology	2	32	春季

化学学院

School of Chemistry

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
27312101	纳米材料的制备及表征	Preparation and Characterization of Nanomaterials	3	48	Spring
27312103	仿生界面设计与功能	Bioinspired Design of Materials Surfaces and Functions	3	48	Fall
27312105	自然灵感的微纳结构	Nature-inspired micro-nano structures	3	48	Spring

空间与环境学院

School of Space and Environment

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
30313151	环境化学	Environmental Chemistry	3	48	Fall
30313152	固体废物处理处置与资源化工程	Waste Treatment and Recycling	2	32	Fall
30313153	水质新技术	Advanced Water Technologies	3	48	Fall
30313154	环境生物技术	Environmental Biotechnology	3	48	Spring

国际学院-UN 中心

International School-UN Center

Course code	Course title		Credits	Hours	Semester
	In Chinese	In English			
25312301	空间环境、轨道与航天器系统	Space Environment, Orbit and Spacecraft Systems	3	48	Fall
25312302	空间技术应用概论	Introduction to Space Technology Applications	1	18	Fall
25313102	GNSS 系统原理	Principle of Global Navigation Satellite Systems	2	32	Fall
25313103	卫星通信与卫星网络	Satellite Communications and Satellite Networks	2	32	Spring

25313104	遥感原理和方法	Remote Sensing Principles and Methods	2	32	Fall
25313105	微波遥感物理原理	Physical Principles of Microwave Remote Sensing	2	32	Fall
25313203	自然灾害遥感	Natural Disaster Remote Sensing	1	18	Spring
25313303	GNSS 接收机原理及设计 (含软件接收机)	GNSS Receiver Principles and Design	2	32	Fall
25313305	卫星导航数据处理	Satellite Navigation Data Processing	2	32	Spring
25313306	遥感图像目视判读	Remote Sensing Image Visual Interpretation	1	18	Fall
25313307	遥感图像处理与软件应用	Remote Sensing Image Processing and Software Applications	3	48	Fall
25313308	地理信息系统设计与实践	Geographic Information System: Design and Practice	1	18	Spring
25313309	遥感与地理信息系统应用案例研究	Case Studies in the Applications of RS & GIS	1	18	Spring
25313310	航天器结构与机构设计	Spacecraft Structure and Mechanism Design	2	32	Fall
25313311	星载电子系统设计与测试技术	Satellite OBDH System Design and Test	2	32	Fall
25313312	飞行器热控制技术	Thermal Control Technology of Spacecraft	2	32	Fall
25313313	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	Spring
25313314	卫星姿态控制系统设计	Attitude Control System Design of Satellite	1	16	Fall

25313315	天线及卫星应用	Antennas in Satellite Communications	1	16	Spring
25315101	外空的和平利用与国际合作	International Cooperation in the Peaceful Uses of Outer Space	1	16	Fall
25316102	微小卫星系统实验	Micro-Satellite System Experiment	1	16	Spring
25316205	项目实践	Pilot Project	6	360	Spring