

能源与动力工程专业国际学生本科指导性培养计划

表一

课程类别	课程性质	课程编号	课程名称	总学分	总学时 (学周)	理论 授课 学时	实践教学				各 学 期 学 时（学周）								考核 方式
							实验 学时	上机 学时	实践 学时	实践 学周	一	二	三	四	五	六	七	八	
通识与公共基础课程	必修课	112306-8	汉语1-3	12.0	196	196					64	64	64						闭卷
		112309-10	中国概况1-2	4.0	64	64					32	32							闭卷
		113101-4	体育1-4	4.0	144	120			24		36	36	36	36					综合测评
		109133-34	高等数学B1-2	11.0	176	176					80	96							闭卷
		109115	线性代数	2.0	32	32						32							闭卷
		109102	概率与数理统计	3.0	48	48							48						闭卷
		109211-12	大学物理A	6.0	96	96							96						闭卷
		109208	大学物理实验	1.5	36		36						36						综合测评
		116327	计算机与C程序设计基础	2.0	32	24		8			40								闭卷
		116328	C程序设计	3.0	48	28		20				40							闭卷
		免修课程			14.0	军训、军事理论、思想道德修养与法律基础、中国近现代史纲要、马克思主义基本原理、毛泽东思想和中国特色社会主义理论体系概论、形势与政策。													
	小 计			48.5	872	784	36	28	24		252	300	280	36					
选修课	见公共选修课一览表			8.0	160	选修《跨文化交流与国际视野》《西方文化概论》《中国文化概论》和其他5门跨学科门类课程。													

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							实验学时	上机学时	实践学时	实践学周	一	二	三	四	五	六	七	八	
学科基础课程	必修课	202214	工程图学基础A	3.0	48	48					48								闭卷
		202215	机械制图及CAD	3.0	48	40		8				48							闭卷
		209307	理论力学	4.5	72	72							72						闭卷
		209301	材料力学	4.5	72	64	8							72					闭卷
		202107	机械原理	4.0	64	60	4							64					闭卷
		202101	机械设计	4.0	64	58	6								64				闭卷
		205164	电工学基础	5.0	80	64	16							80					闭卷
		202505	互换性与技术测量	2.0	32	32									32				闭卷
		209103	复变函数与积分变换	3.0	48	48								48					闭卷
		201312	工程材料	2.5	40	36	4								40				闭卷
		204105-6	流体力学及叶栅理论1-2	8.0	128	120	8								80	48			闭卷
		033110-1	金工实习A1-2	4.0	4					4		2	2						综合测评
		002203	机械工程综合测绘A	2.0	2					2				2					综合测评
		002102	机械原理课程设计	2.0	2					2				2					综合测评
		002107	机械设计课程设计	3.0	3					3					3				综合测评
		小 计		54.5	696+11周	642	46	8		11	48	48+2周	120+2周	216+4周	216+3周	48			
		304223	流体机械原理	4.0	64	64										64			闭卷

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							实验学时	上机学时	实践学时	实践学周	一	二	三	四	五	六	七	八		
专业课程	必修课	304224	水轮机水力设计	2.0	32	32										32			闭卷	
		304260	叶片泵水力设计	2.0	32	32										32			闭卷	
		304263	Fluid machinery foundation（双语及混合	2.0	32	32											32		综合测评	
		304264	CFD及现代设计方法（双语）	1.0	16	16											16		综合测评	
		304317	流体机械结构与强度	2.0	32	32											32		综合测评	
		204204	热工基础	2.0	32	32									32				闭卷	
		304306	流体机械测试技术	2.0	32	32											32		闭卷	
		304250	特殊泵的理论及设计	2.0	32	32											32		综合测评	
		304219	液力传动	2.0	32	32											32		综合测评	
		304251	水轮机调节	3.0	48	48											48		闭卷	
		004228	专业认知实习	1.0	1						1		1							综合测评
		304261	专业导论	1.0	16							16								综合测评
		004226	流体机械专业课程设计	4.0	4						4							4		综合测评
		004227	生产实习	3.0	3						3						3			综合测评
		004201	毕业设计与实践	15.0	15						15								15	综合测评

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							实验学时	上机学时	实践学时	实践学周	一	二	三	四	五	六	七	八	
		304253	流体机械综合实验	1.0	24		24									24		综合测评	
		小 计			49.0	424+23周	400	24			23	16	1周		32	176+3周	200+4周	15周	
	选修课	304229	水力机械制造工艺	2.0	32	32								32				综合测评	
		小 计			2.0	32	32							32					
		至少选2学分																	

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表三

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							实验学时	上机学时	实践学时	实践学周	一	二	三	四	五	六	七	八	
创新创业教育	必修课	Y10010	创新创业基础	1.0	32	20			12			32						综合测评	
	选修课		创新课程	1.0							至少选修 3.0 学分。 学生可在第3-7学期选修科研创新训练 I - V 五个阶段的部分训练。								综合测评
			开放实验	1.0															综合测评
			科研创新训练 I	0.5															综合测评
			科研创新训练 II	0.5															综合测评
			科研创新训练III	0.5															综合测评
			科研创新训练IV	0.5															综合测评
			科研创新训练 V	0.5															综合测评
			创新创业项目	2.0															
	第二课堂			2.0							至少获得 2.0 学分，不占总学分								

Courses and Teaching Plan for Undergraduate Foreign Students majoring in *Energy and Power Engineering*

Table 1

Course Category	Course type	Course code	Course name	Course credits	Hours (Weeks)	Theore-tical teaching hours	Experiment & Internship				Semester hours(weeks)								Assessment method
							Experimen-tal hours	Computer study hours	Field practice hours	Field practice weeks	1	2	3	4	5	6	7	8	
General and public courses	Compu-lsory	112306-8	Chinese Language 1-3	12.0	196	196					64	64	64						Test
		112309-10	A Survey of China 1-2	4.0	64	64					32	32							Test
		113101-4	Physical Education 1-4	4.0	144	120			24		36	36	36	36					Comprehensive assessment
		109133-4	Advanced Mathematics B1-2	11.0	176	176					80	96							Test
		109133-34	Advanced MathematicsB1-2	11.0	176	176					80	96							Test
		109115	linear algebra	2.0	32	32						32							Test
		109102	Probability and mathematical statistics	3.0	48	48							48						Test
		109211-12	college physics A	6.0	96	96							96						Test
		109208	Physical Experiment of College	1.5	36		36						36						Comprehensive assessment
		116327	Computer and C Programming Language Basis	2.0	32	24		8			40								Test
		116328	Programming in C	3.0	48	28		20					40						Test
		Exemption			14.0	Military Training, Military theory, Ideological and moral cultivation and legal basis, The outline of modern Chinese history, The fundamental tenets of Marxism, An introduction to Mao Zedong thought and the theoretical system of socialism with Chinese characteristics, Situation and Policy.													
	Sub-total			59.5	1048	960	36	28	24		333	398	283	40					
	Option-al	Select from the list of public optional courses			8.0	160	Select <Cross-cultural Communication and International Vision> <An Introduction to Western Culture> <An Introduction to Chinese Culture> and other 5 interdisciplinary courses												

Courses and Teaching Plan for Undergraduate Foreign Students majoring in *Energy and Power Engineering*

Table 2

Course Category	Course type	Course code	Course name	Course credits	Hours (Weeks)	Theoretical teaching hours	Experiment & Internship				Semester hours(weeks)								Assessment method	
							Experimental hours	Computer study hours	Field practice hours	Field practice weeks	1	2	3	4	5	6	7	8		
Discipline Basic Courses	Computational	202214	Fundamentals of Engineering Graphics	3.0	48	48					48								Test	
		202215	Engine Drawing and CAD	3.0	48	40		8					48						Test	
		209307	Theoretical Mechanics	4.5	72	72							72						Test	
		209301	Mechanics of Materials	4.5	72	64	8							72					Test	
		202107	Principle of Mechanics	4.0	64	60	4								64				Test	
		202101	Mechanical Design	4.0	64	58	6									64			Test	
		205164	Fundamentals of Electrical Engineering	5.0	80	64	16								80				Test	
		202505	Elementary Technology of Exchangeability Measurement	2.0	32	32										32				Test
		209103	Complex Function and Integral Transform	3.0	48	48								48						Test
		201312	Engineering Material	2.5	40	36	4									40				Test
		204105-6	Fluid Mechanics and Cascade Theory1-2	8.0	128	120	8									80	48			Test
		033110-1	Metalworking PracticeA1-2	4.0	4						4		2	2						Comprehensive assessment
		002203	Comprehensive Surveying of Mechanical Engineering A	2.0	2						2				2					Comprehensive assessment
		002102	Course Exercise of Mechanical Principle	2.0	2						2				2					Comprehensive assessment
		002107	Course Exercise in Mechanical Design	3.0	3						3					3				Comprehensive assessment
Sub-total				54.5	696+11 weeks	642	46	8		11	48	48+2 weeks	120+2 weeks	216+4 weeks	216+3 weeks	48	40			

Courses and Teaching Plan for Undergraduate Foreign Students majoring in *Energy and Power Engineering*

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Course Category	Course type	Course code	Course name	Course credits	Hours (Weeks)	Theoretical teaching hours	Experiment & Internship				Semester hours(weeks)								Assessment method
							Experimental hours	Computer study hours	Field practice hours	Field practice weeks	1	2	3	4	5	6	7	8	
Special-ized Course	Computational	304223	Principle of Fluid Machinery	4.0	64	64										64			Test
		304224	Hydraulic Design of Water Turbine	2.0	32	32										32			Test
		304260	Hydraulic Design of Vane Pump	2.0	32	32										32			Test
		304263	Fluid machinery foundation	2.0	32	32											32		Comprehensive assessment
		304264	CFD Simulation and Modern Design Method	1.0	16	16											16		Comprehensive assessment
		304317	Structure and Intensity calculation of hydro-machine	2.0	32	32											32		Comprehensive assessment
		204204	Basis of Heat Engineering	2.0	32	32									32				Test
		304306	Measure Technology of Fluid Machinery	2.0	32	32											32		Test
		304250	The Principle and Design for Special Pumps	2.0	32	32											32		Comprehensive assessment
		304219	Hydraulic Power Transmission	2.0	32	32											32		Comprehensive assessment
		304251	Water Turbine Regulating	3.0	48	48										48			Test
		004228	Graduate Design	1.0	1					1		1 week							Comprehensive assessment
		304261	Introduction of Major Courses	1.0	16	16					16								Comprehensive assessment
		004226	Course Design for Fluid Machinery and Engineering Depart	4.0	4					4							4 weeks		Comprehensive assessment
		004227	Production Practice	3.0	3				3	3						3 weeks			Comprehensive assessment

Courses and Teaching Plan for Undergraduate Foreign Students majoring in *Energy and Power Engineering*

Table 2

Course Category	Course type	Course code	Course name	Course credits	Hours (Weeks)	Theore-tical teaching hours	Experiment & Internship				Semester hours(weeks)								Assessment method
							Experimen-tal hours	Computer study hours	Field practice hours	Field practice weeks	1	2	3	4	5	6	7	8	
		004201	Graduate Design and Practice	15.0	15					15								15 weeks	Comprehensive assessment
		304253	Test of Fluid Machinery	1.0	24		24										24		Comprehensive assessment
		Sub-total		49.0	424+23 weeks	400	24				23	16	1 week			32	176+3 weeks	200+4 weeks	15 weeks
	Option-al	304229	Manufacturing Technique of Hydraulic Machinery	2.0	32	32									32				Comprehensive assessment
		Sub-total		2.0	32	32									32				
		Choose at least 2 credits																	

Courses and Teaching Plan for Undergraduate Foreign Students majoring in *Energy and Power Engineering*

Table 3

Course Category	Course type	Course code	Course name	Course credits	Hours (Weeks)	Theoretical teaching hours	Experiment & Internship				Semester hours(weeks)								Assessment method	
							Experimental hours	Computer study hours	Field practice hours	Field practice weeks	1	2	3	4	5	6	7	8		
Innovation and Entrepreneurship	Compulsory	Y10010	Foundation of Innovation and Entrepreneurship	1.0	32	20			12										Comprehensive assessment	
	Optional		Innovation Courses	1.0								Earn at least 3.0 credits. Students can take part in part or all of Research Training I - V in semester 3-7.								Comprehensive assessment
			Open Experiments	1.0																Comprehensive assessment
			Research Training I	0.5																Comprehensive assessment
			Research Training II	0.5																Comprehensive assessment
			Research Training III	0.5																Comprehensive assessment
			Research Training IV	0.5																Comprehensive assessment
			Research Training V	0.5																Comprehensive assessment
			Innovation and Entrepreneurship Projects	2.0																Earn at least 2.0 credits. BUT those credits are not included in the graduation credits.
Second Classroom Activities				2.0						Earn at least 2.0 credits. BUT those credits are not included in the graduation credits.										