

Materials Science and Engineering Sample Curriculum Schedule -- Class 2024

	SCU Course #	Pitt Course #	Chinese Course Name	English Course Name	Language	Credit Hour	Credit	Term	Prerequisites /Corequisites
Freshman	107421030		思想道德与法治	Ideological and Morality and the rule of Law	Chinese	48	3	Fall	
	888004010		体育-1	Physical Education-1	Chinese	32	1	Fall	
	912002010		大学生心理健康	Mental Health Education	Chinese	16	1	Fall	
	918003020		实验室环境与保护理论和实践	Theory and Practice of laboratory safety and environmental protection	Chinese	32	2	Fall	
	312068010	ENGR 0081	新生研讨会及形势与政策 1	Freshmen Seminar 1	Bilingual	16	1	Fall	
	312162010	ENGCMP 0140-1	英语口语与听力训练-1	English Speaking and Listening-1	English	16	1	Fall	
	312004040	MATH 0220	解析几何与微积分 1	Analytic Geometry and Calculus 1	English	64	4	Fall/Spring	
	312006030	MATH 0280	矩阵与线性代数导论	Matrices and Linear Algebra	English	48	3	Fall/Spring	
	312008040	PHYS 0174	基础物理 1-理工	Physics for Science and Engineering 1	English	64	4	Fall/Spring	
	312010030	CHEM 0960	工科化学 1	General Chemistry for Engineers 1	English	48	3	Fall	
	312170030	ENGR 0011	工程分析导论	Introduction to Engineering Analysis	English	48	3	Fall	
	107060030		中国近代史纲要	The Outline of Chinese Modern History	Chinese	48	3	Spring	
	900001010		军事理论	Military Theory	Chinese	32	2	Spring	
	900005020		军事技能	Military Training	Chinese	112	2	Spring	
	888005010		体育-2	Physical Education-2	Chinese	32	1	Spring	
	107418020/107419020/102620020/106812020/106844020		中共党史/社会主义发展史/改革开放史/新中国史/中华民族发展史（中华民族的凝聚与演进）（五选一）	The History of Chinese Communist Party/Seminars on the History of Socialist Development/The History of China's Reform and Opening-up/History of New China/The Development History of the Chinese Nation（The Formation and Development of the Chinese Nation）	Chinese	32	2	Spring	
	999005020/6020/7020/9020		中华文化（历史篇/文学篇/艺术篇/哲学篇）（四选一）	Chinese Culture	Chinese	32	2	Fall/Spring	
	908049020		工科化学实验	Chemical Experiment	Chinese	32	2	Spring	
	312069010	ENGR 0082	新生研讨会及形势与政策 2	Freshmen Seminar 2	Bilingual	16	1	Spring	*ENGR 0081
	312168030	ENGCMP 0152	英文写作研习	English Composition	English	48	3	Spring	
	312090010	ENGCMP 0152A	写作中心辅导	Writing Center Tutorial	English	16	1	Spring	
	312163010	ENGCMP 0140-2	英语口语与听力训练-2	English Speaking and Listening-2	English	16	1	Spring	
	312005040	MATH 0230	解析几何与微积分 2	Analytic Geometry and Calculus 2	English	64	4	Fall/Spring	*MATH 0220
	312009040	PHYS 0175	基础物理 2-理工	Physics for Science and Engineering 2	English	64	4	Fall/Spring	*PHYS 0174
	312011030	CHEM 0970	工科化学 2	General Chemistry for Engineers 2	English	48	3	Spring	*CHEM 0960
	312169030	ENGR 0012	工程计算	Engineering Computing	English	48	3	Spring	*ENGR 0011
Total							58/60		
Sophomore	107448030		马克思主义基本原理	The Basic Principles of Marxism	Chinese	48	3	Fall	
	888006010		体育-3	Physical Education-3	Chinese	32	1	Fall	
	999011020		科学与技术革命	Progresses of Science and Revolutions of Technology	Chinese	32	2	Fall	
	312070000	ME 1085	院系研讨会及形势与政策 3	Department Seminar 3	Bilingual	16	0	Fall	
	312085030	ENGCMP 0200	专业英语写作	Seminar in Composition	English	48	3	Fall	*ENGCMP 0152
	312079040	MATH 0240	解析几何与微积分 3	Analytic Geometry and Calculus 3	English	64	4	Fall/Spring	*MATH 0230
	312014030	ENGR 0022	材料结构与性能	Materials Structures and Properties	English	48	3	Fall/Spring	*MATH 0230, *PHYS 0174, *CHEM 0960
	312015030	ENGR 0135	静力学与材料力学 1	Statics and Mechanics of Materials 1	English	48	3	Fall/Spring	*MATH 0230, *PHYS 0174
	312083030	MEMS 0024	机械工程设计制造导论	Introduction to Mechanical Engineering Design	English	48	3	Fall	*ENGR 0011
				H/SS Elective 1	English	48	3	Fall	
				Engineering Elective	English	48	3	Fall	
	107446030		毛泽东思想和中国特色社会主义理论体系概论	The Introduction to Mao Zedong Thought and the Theory of Socialism with Chinese Characteristic	Chinese	48	3	Spring	
	107447030		习近平新时代中国特色社会主义思想概论	An Introduction to Xi Jinping's Thought on Socialism with Chinese Characteristics for a New Era	Chinese	48	3	Spring	
	888007010		体育-4	Physical Education-4	Chinese	32	1	Spring	
	312071000	MSE 1085	院系研讨会及形势与政策 4	Department Seminar 4	Bilingual	16	0	Spring	
	312007030	MATH 0290	微分方程	Differential Equations	English	48	3	Fall/Spring	*MATH 0230
	202489020	PHYS 0219	工科物理实验	Basic Laboratory Physics for Science and Engineering	English	32	2	Spring	*PHYS 0174
	312016030	ENGR 0145	静力学与材料力学 2	Statics and Mechanics of Materials 2	English	48	3	Fall/Spring	*ENGR 0135
	312021030	MEMS 0040	制造工艺与分析	Manufacturing Processes and Analysis	English	48	3	Fall/Spring	*ENGR 0022

	312086030	MSE 0048	材料热力学	Thermodynamics of Materials	English	48	3	Spring	*PHYS 0174, *CHEM 0960	
				H/SS Elective 2	English	48	3	Spring		
	Total							50/52		

Note:

Students need to take at least one of 999005020, 999006020, 999007020, 999009020 and 999011020.

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Junior	312072000	MSE 1085	院系研讨会及形势与政策 5	Department Seminar 5	Bilingual	16	0	Fall		
	312142030	MEMS 0031	电路学	Electric Circuits	English	48	3	Fall/Spring	*PHYS 0175	
	312056030	MSE 1010	材料科学与工程实验方法	Experimental Methods in Materials Science and Engineering	English	48	3	Fall	*ENGR 0022	
	312054030	MEMS 1052	热质传导	Heat and Mass Transfer	English	48	3	Fall/Spring	*MSE 0048	
	312060030	MSE1059	相平衡	Phase Equilibria in Multi-Component Materials	English	48	3	Fall	*ENGR 0022, *MSE 0048	
	312059030	MSE 1053	晶体结构与衍射	Structure of Crystals and Diffraction	English	48	3	Fall	*ENGR 0022	
				H/SS Elective 3	English	48	3	Fall		
				Technical Elective 1	English	48	3	Fall		
	312073000	MSE 1085	院系研讨会及形势与政策 6	Department Seminar 6	Bilingual	16	0	Spring		
	312057020	MSE 1011	结构与材料实验室	Structure and Properties Laboratory	English	32	2	Spring	*MSE 1010	
	312061030	MSE 1063	扩散与相变	Phase Transformations and Microstructure Evolution	English	48	3	Spring	*MSE 1053, *MSE 1059	
	312062030	MSE 1070	材料力学行为	Mechanical Behavior of Materials	English	48	3	Spring	*ENGR 0022, *ENGR 0145	
	312063030	MSE 1058	材料电磁特性	Electromagnetic Properties of Materials	English	48	3	Spring	*ENGR 0022	
	312049030	MEMS 1028	机械设计1	Mechanical Design 1	English	48	3	Fall/Spring	*ENGR 0145	
				H/SS Elective 4	English	48	3	Spring		
				Technical Elective 2	English	48	3	Spring		
	Total							41		
Senior	312074000	MSE 1085	院系研讨会及形势与政策 7	Department Seminar 7	Bilingual	16	0	Fall		
	312058030	MSE 1030	材料选择	Material Selection	English	48	3	Fall	*ENGR 0022, *MEMS 1028	
	312099030		毕业设计1	Senior Project 1	English	48	3	Fall	completion of 75% core courses, 21 credits at most per semester in senior year	
				Technical Elective 3	English	48	3	Fall		
	312075000	MSE 1085	院系研讨会及形势与政策 8	Department Seminar 8	Bilingual	16	0	Spring		
	312076030	MSE 1043	毕业设计2	Senior Project 2	English	48	3	Spring	Senior Project 1	
				Technical Elective 4	English	48	3	Spring		
			劳动教育（另行认定）					1		
		美育（另行认定）					2			
	Total							18		
Required Credit : 169										