

食品质量与安全

Food Quality and Safety

专业代码：082702

学 制：4 年

培养目标：

培养学生在德、智、体全面发展，具有扎实的理论基础和实践能力、具有与社会主义核心价值观相适应的科学素养、创新精神和终身学习能力，能在食品安全、食品加工、食品质量安全控制等方面起到引领作用的高素质复合型人才。

Educational Objectives:

In order to adapt to the 21st century food industry and social development needs of all-rounded development of high-quality talents with solid foundation in basic food science and food safety theories and practical skills, with strong scientific the scientific literacy and a certain degree of research, development and management capabilities, this program will enable students to be capable of comprehensive English skill and practical skill, excellent human quality and innovative spirit. Students can be able to adapt to technological progress and changes in social demands in related food safety, food processing, food quality and safety control.

毕业要求：

№1.工程知识：能够将数学、自然科学、工程基础和专业知用于解决复杂食品质量与安全的问题。

№2.问题分析：能够应用数学、自然科学和工程科学的基本原理，识别、表达、并通过文献调研研究分析复杂食品质量与安全的问题，以获得有效结论。

№3.设计/开发解决方案：能够设计针对食品质量与安全的复杂问题的解决方案，设计满足特定需求的机械系统、单元（部件）或工艺流程，并能够在设计环节中体现创新意识，考虑社会、健康、安全、法律、文化以及环境等因素。

№4.研究：能够基于科学原理并采用科学方法对复杂食品质量与安全问题进行研究，包括设计实验、分析与解释数据、并通过信息综合得到合理有效的结论；

№5.使用现代工具：能够针对复杂是食品质量与安全问题，开发、选择与使用恰当的技术、资源、现代工程工具和信息技术工具，包括对复杂食品质量与安全问题的预测与模拟，并能够理解其局限性；

№6.工程与社会：能够基于工程相关背景知识进行合理分析，评价食品质量与安全工程实践和复杂工程问题解决方案对社会、健康、安全、法律以及文化的影响，并理解应承担的社会责任；

№7.环境和可持续发展：能够理解和评价针对复杂食品质量与安全问题问题的专业工程实践对环境、社会可持续发展的影响；

№8.职业规范：具有人文社会科学素养、社会责任感，能够在食品质量与安全问题实践中理解并遵守工程职业道德和规范，履行责任；

№9.个人和团队：能够在多学科背景下的团队中承担个体、团队成员以及负责人的角色；

№10.沟通：能够就复杂食品质量与安全问题与业界同行及社会公众进行有效沟通和交流，包括撰写报告和设计文稿、陈述发言、清晰表达或回应指令。并具备一定的国际视野，能够在跨文化背景下进行沟通和交流；

№11.项目管理：理解并掌握食品质量与安全问题管理原理与经济决策方法，并能在多学科环境中应用；

№12.终身学习：具有自主学习和终身学习的意识，有不断学习和适应发展的能力。

Student Outcomes:

№1. Engineering Knowledge: An ability to apply knowledge of mathematics, science, engineering fundamentals and engineering specialization to the solution of complex food quality and safety problems.

№2. Problem Analysis: An ability to identify, formulate and analyze complex food quality and safety problems, reaching to substantiated conclusions using basic principles of mathematics, science, and engineering.

№3. Design / Development Solutions: An ability to design solutions for complex food quality and safety problems and innovatively design systems, components or process that meet specific needs with societal, public health, safety, legal, cultural and environmental considerations.

№4. Research: An ability to conduct investigations of complex food quality and safety problems based on scientific theories and adopting scientific methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions.

№5. Applying Modern Tools: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex food quality and safety activities, with an understanding of the limitations.

№6. Engineering and Society: An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional food quality and safety practice.

№7. Environment and Sustainable Development: An ability to understand and evaluate the impact of professional food quality and safety solutions in environmental and societal contexts and demonstrate knowledge of and need for sustainable development.

№8. Professional Standards: An understanding of humanity science and social responsibility, being able to understand and abide by professional ethics and standards responsibly in food quality and safety practice.

№9. Individual and Teams: An ability to function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

№10. Communication: An ability to communicate effectively on complex food quality and safety problems

with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, give and receive clear instructions, and communicate in cross-cultural contexts with international perspective.

№11. Project Management: Demonstrate knowledge and understanding of engineering management principles and methods of economic decision-making, to function in multidisciplinary environments.

№12. Lifelong Learning: Recognition of the need for, and an ability to engage in independent and life-long learning with the ability to learn continuously and adapt to new developments.

专业简介：

属于食品科学与工程一级学科，该学科始建于1952年，于1986年、1990年分别获得首批硕士学位和博士学位授予权，并在1992年设立了博士后流动站。2004年设置本科专业，实行导师制，可选择参加2+2模式培养。近5年来，学生就业率达到100%。本专业拥有雄厚的师资力量和丰富的实验实习平台。本专业80.50%以上的教师有留学经历，学术思想活跃，具有6个月企业或工程经验教师占81.71%。本专业有坚实的学科基础支撑，强化工程素质提高、创新能力和国际化视野，专业课全由教授担纲授课，部分采用全英、双语授课，重点培养学生扎实的基础理论和技能。本专业具有3000 M²的实验教学场地，实验仪器设备总值达到4500万元。具有丰富的图书资源，截至2014年底，馆藏图书总量为680万余册。

Program Profile:

The food quality and safety is under the first degree subject – Food Science and Technology. This department was established in 1952, and was granted to recruit graduate students in 1986. The department became one of the schools which can grant the doctors' degree in 1990 and set up the workshop for post doctor in 1992. The department started to recruit undergraduate student in 2004. Students will be tutored by their mentor during their learning years, and they can also choose the '2+2' mode, which provide them the chance to study abroad. Over the past 5 years, the employment rate reached to 100%. Until March 2017, the School of Food Science and Engineering supporting this major has 104 faculties, among which there are 44 professors. More than 97% of the faculty members own Ph.D. degree. 80.50% of our teachers used to study aboard and have the active thought. 81.71% of the teachers worked in company for engineering project for more than 6 months. A number of professors in the School were entitled different national academic honors. The School of Food Science and Engineering is one of the most important units in the University featuring high-level innovative scientific research. The department lay emphasis on strengthen students' engineer ability, creativity and global perspective. All the specialized courses are taught by professors, while many of the courses are taught in English. We value the speculative knowledge and the operation ability at the same time. The department has 3000 square meters teaching laboratory. And the experiments facilities it has worth more than 45,000,000 yuans. Besides, the department has a large amount of books. Till the end of 2014, the departments' library holds more than 6,800,000 books.

专业特色：

强化多学科专业基础知识教学、注重培养学生的科学研究、技术研发和工程的实践能力，“产、学、研”结合的办学特色，为食品安全、食品加工、食品质量与安全控制等行业培养具有深厚的科学与工程素养、具有开阔的国际视野的创新型高级科技人才。

Program Features:

The talents training highlights the characteristics of strengthening multidisciplinary theoretical foundation education, focusing on forming the practical capabilities in science research, technology research and engineering practical capabilities. Cultivate innovative specialized talents with international senior science and engineering perspective in food safety, food processing, food quality and safety control.

授予学位：工学学士学位

Degree Conferred: Bachelor of Engineering

主干课程：

有机化学、分析化学、流体力学与传热、传质与分离工程、食品生物化学、食品微生物学、食品毒理学、食品标准与法规、食品安全与检测、食品化学。

Core Courses:

Organic Chemistry, Analytical Chemistry, Fluid Mechanics and Heat Transfer, Mass Transfer and Separation Processes, Food Biochemistry, Food Microbiology, Food Toxicology, Food Standard and Regulation, Food Safety and Detection, Food Chemistry。

特色课程：

新生研讨课：生命、饮食、健康，现代食品杀菌技术，食品的消化道之旅

全英语教学课程：食品质量管理

双语教学课程：流体力学与传热、食品生物化学、食品分析

研究型课程：食品质量与安全导论、食品有害微生物控制技术

MOOC：食品加工与保藏原理、食品生物化学、食品分析

创新实践课程：食品微生物学实验、食品生物化学实验、食品安全与检测实验、食品分析实验

创业教育课程：食品质量管理，行业专家讲座

Featured Courses:

Freshmen Seminars: Life, Food, Diet, Modern Food Sterilization Technology, The Journey through the Digestive Tract

Courses Taught in English: Food Quality Management

Bilingual Courses: Fluid Mechanics and Heat Transfer, Food Biochemistry, Food Analysis

Research Courses: Introduction to food quality and safety, Technology of Controlling the Harmful

Microorganism in Food

MOOCs: The Principles of Food Processing and Preservation, Food Biochemistry, Food Analysis

Innovation Practice: Experiments of Food Microbiology, Experiments of Food Biochemistry, Experiments of Food Safety and Detection, Experiments of Food Analysis

Entrepreneurship Courses: Food Quality Management, Seminars by Entrepreneurs

一、教学计划总体安排表 (General Teaching Schedule)

学 年	学 期	教 学 进 度 安 排 (周)																		理 论 教 学	考 试	入 学 教 育	军 训	课 程 设 计	大 作 业	工 程 训 练	电 子 实 习	综 合 实 验	社 会 实 践	生 产 实 习	毕 业 实 习	其 它 实 习	中 外 合 作 项 目	毕 业 设 计	就 业 安 排	机 动	假 期	小 计							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18																				19	20					
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R																										
一	1		C	A	A	A	A	A	A	A	A	A	A	A	A	A	B	D	D	D	14	1	1	3														19							
	2	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	Q	Q	B	B	16	2														2	20								
二	3	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	Q	Q	B	B	16	2														2	20								
	4	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	G	G	B	B	16	2				2												20							
三	5	A	A	A	A	A	A	A	A	A	A	A	A	H	E	E	K	K	B	B	13	2		2			1			2								20							
	6	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	E	E	B	B	16	2		2															20						
四	7	A	A	A	A	A	A	A	A	A	A	A	A	L	L	L	L	B	B	14	2											4						20							
	8	O	O	O	O	O	O	O	O	O	O	O	O	O	O	P	P	P	Q	Q														15	3	2		20							
		合 计 (周)																		105	13	1	3	4		2	1														15	3	4		159

二、各类课程学分登记表 (Registration Form of Curriculum Credits)

1. 学分统计表 (Credits Registration Form)

课程类别 Course Category	课程要求 Requirement	学分 Credits	学时 Academic Hours	备注 Remarks
公共基础课 General Basic Courses	必修 Compulsory	57.0	876	
	通识 General Education	10.0	160	
学科基础课 Disciplinary Basic Courses	必修 Compulsory	39.5	776	
	选修 Elective	1.0	16	
专业领域课 Specialty-related Courses	必修 Compulsory	19.0	336	
	选修 Elective	8.5	136	
合 计 Total		135.0	2300	
集中实践教学环节 (周) Practice Training (Weeks)	必修 Compulsory	34.0	34 周 34WEEKS	
毕业学分要求 Credits Required for Graduation	135.0 + 34.0 = 169.0			

备注：学生在取得专业教学计划规定学分的同时，还必须取得第二课堂 2 个人文素质教育学分和 4 个创新能力培养学分。

2.类别统计表 (Category Registration Form)

学时 Academic Hours					学分 Credits						
总学时数 Total	其中 Include		其中 Include		总学分 Total	其中 Include		其中 Include			其中 Include
	必修学时 Compulsory	选修学时 Elective	理论教学学时 Theory Course	实验教学学时 Lab		必修学分 Compulsory	选修学分 Elective	集中实践教学环节学分 Practice-concentrated Training	理论教学学分 Theory Course Credits	实验教学学分 Lab	创新创业教育学分 Innovation and Entrepreneurship Education
2300	1988	312	1740	560	169	149.5	19.5	34.0	117.5	17.5	8

三、专业教学计划表 (Teaching Schedule)

类别 Course Category	课程 代码 Course No.	课程名称 Course Title	是否 必修 C/E	学时数 Total Curriculum Hours				学分 数 Credits	开课 学期 Semester	毕业 要求 Student Outcomes	
				总学 时 Class Hours	上机 Computer-aided Class Hours	实验 Lab Hours	实践 Practice Hours				
公共基础课 General Basic Courses	143093	思想道德修养与法律基础 Cultivation of Thought and Morals & Fundamental of Law	必修 课 C	(40) (36)				2.5	1	No.8	
	143091	中国近现代史纲要 Skeleton of Chinese Modern History		(32) 24				2.0	2	No.8	
	143106	毛泽东思想和中国特色社会主义理论体系概论 Thought of Mao ZeDong and Theory of Socialism with Chinese Characteristics		(80) 48				5.0	3	No.8	
	143090	马克思主义基本原理 Fundamentals of Marxism Principle		(40) 36				2.5	4	No.8	
	143094	形势与政策 Analysis of the Situation & Policy		(128)				2.0	1-8	No.8	
	144001	大学英语(一) College English(1)		64				4.0	1	No.10	
	144002	大学英语(二) College English(2)		64				4.0	2	No.10	
	145223	大学计算机基础 Foundations of Computer		32				2.0	1	No.5	
	152001	体育(一) Physical Education (1)		32			32	1.0	1	No.12	
	152002	体育(二) Physical Education (2)		32			32	1.0	2	No.12	
	152003	体育(三) Physical Education (3)		32			32	1.0	3	No.12	
	152004	体育(四) Physical Education (4)		32			32	1.0	4	No.12	
	106001	军事理论 Military Principle		(16)				1.0	2	No.9	
	140189	微积分 I (一) Calculus (1)		80				5.0	1	No.1,2,4	
	140190	微积分 I (二) Calculus (2)		64				4.0	2	No.1,2,4	
	140197	线性代数与解析几何 Linear Algebra & Analytic Geometry		48				3.0	1	No.1,5,7	
	140019	概率论与数理统计 Probability & Mathematical Statistics		48				3.0	2	No.2,4,5	
	141001	大学物理 I (一) General Physics (1)		48				3.0	2	No.1,4	
	141002	大学物理 I (二) General Physics (2)		48				3.0	3	No.1,4	
	141007	大学物理实验(一) Physics Experiment (1)		32		32		1.0	2	No.4,7	
	141008	大学物理实验(二) Physics Experiment (2)		32		32		1.0	3	No.4,7	
	130139	工程制图(一) Engineering Drawing (1)		48				3.0	1	No.1,5,10	
	130140	工程制图(二) Engineering Drawing (2)		32				2.0	2	No.1,5,10	
		人文科学领域 Humanities		96	通识 课 E				6.0		No.8、10、11
		社会科学领域 Social Science		64					4.0		No.8、10、11

合 计 Total				1036		64	128	67		
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三、专业教学计划表（续）（Teaching Schedule）

类别 Course Category	课程 代码 Course No.	课程名称 Course Title	是否 必修 C/E	学时数 Total Curriculum Hours				学分 Credits	开课 学期 Semester	毕业 要求 Student Outcomes
				总学 时 Class Hours	上 机 Comp uter-ai ded Class Hours	实 验 Lab Hour s	实 践 Practic e			
学科基础课 Disciplinary Basic Courses	147001	无机化学 I Inorganic Chemistry	必 C	32				2.0	1	№.1,4
	147034	无机化学实验（工科）（一） Experiment of Inorganic Chemistry (1)	必 C	16		16		0.5	1	№.1,4
	147035	无机化学实验（工科）（二） Experiment of Inorganic Chemistry (2)	必 C	16		16		0.5	2	№.1,4
	147020	有机化学 I Organic Chemistry	必 C	48				3.0	2	№.1,4
	147007	有机化学实验 I Experiments of Organic Chemistry	必 C	32		32		1.0	2	№.1,4
	147008	分析化学 I Analytical Chemistry	必 C	32				2.0	3	№.1,2
	147013	分析化学实验 II Experiments of Analytical Chemistry	必 C	32		32		1.0	3	№.2,4,6
	147058	物理化学 I Physical Chemistry	必 C	48				3.0	4	№.1,3
	147055	物理化学实验 II Experiments of Physical Chemistry	必 C	32		32		1.0	5	№.1,3,4
	135092	电工与电子技术 II Electrical Engineering and Electrontechnics	必 C	64				4.0	4	№.1,7
	135081	电工与电子技术实验 Experiments of Electrical Engineering and Electrontechnics	必 C	24		24		1.0	5	№.2,4
	130083	机械设计基础 Basis of Mechanical Design	必 C	48				3.0	5	№.1,3,5
	130311	机械基础综合实验 II Poly-experiment of Mechanical Fundamentals	必 C	16		16		0.5	5	№.1,7
	137114	流体力学与传热 II Fluid Mechanics and Heat Transfer	必 C	48				3.0	5	№.1,3
	137063	化工原理实验（一） Experiment of Chemical Engineering Principles (1)	必 C	16		16		0.5	5	№.3,4,6
	137021	传质与分离工程 II Mass Transfer and Separation Processes	必 C	40				2.5	6	№.1,3

	137064	化工原理实验（二） Experiment of Chemical Engineering Principles (2)	必 C	16		16		0.5	6	№.3,4,6
	139004	食品生物化学 Food Biochemistry	必 C	48				3.0	3	№.1,2,3,4,5
	139028	食品生物化学实验 Experiments of Food Biochemistry	必 C	32		32		1.0	3	№.1,2,4,6
	139003	食品微生物学 Food Microbiology	必 C	40				2.5	4	№.3,4,6
	139029	食品微生物学实验 Experiments of Food Microbiology	必 C	32		32		1.0	4	№.3,4,6
	139001	食品分析 Food Analysis	必 C	32				2.0	4	№.1,2,4,5,12
	139093	食品分析实验 Experiments of Food Analysis	必 C	32		32		1.0	4、5	№.1,2,4,6,8,9
	139096	食品质量与安全导论 Introduction to food quality and safety	选 E	16				1.0	1	№.2,6,12
	139104	现代食品杀菌技术 Modern Food Sterilization Technology	选 E	32				2.0	1	№.1,2,4,5,12
	139105	生命、饮食、健康 Life Food Diet	选 E	32				2.0	1	№.12
	139109	食品的消化道之旅 The Journey through the Digestive Tract	选 E	32				2.0	1	№.2,4,5,9,10,12
	合 计 Total		必 C	776		296		39.5		
			选 E	选修课修读最低要求 1.0 学分 minimum elective course credits required:1.0						
专业领域课 Specialty-related Courses	139010	食品化学 Food Chemistry	必 C	24				1.5	3	№.2,3,6,8,9,10,12
	139009	食品营养与卫生学 Food Nutrition & Hygiene	必 C	32				2.0	4	№.6,7
	139032	食品毒理学 Food Toxicology	必 C	24				1.5	4	№.1,2,3,4,6,7
	139008	食品安全与检测 Food Safety and Detection	必 C	48				3.0	5	№.1,2,3,4,5,6
	139045	食品安全与检测实验 Experiments of Food Safety and Detection	必 C	32		32		1.0	5	№.5,6
	139007	食品标准与法规 Food Standard and Regulation	必 C	32				2.0	6	№.8,9,12
	139005	食品加工与保藏原理 The Principles of Food Processing and Preservation	必 C	64				4.0	6	№.1,2,3,4,5
	139031	食品加工与保藏原理实验 Experiments on Principles of Food Processing and Preservation	必 C	32		32		1.0	6、7	№.3,4,6,9

139014	计算机在食品工程中的应用 Application in Food Engineering of Computer	必 C	24	8			1.5	6	№1,2,4,5
139019	食品工厂设计概论 Design of Food Factory	必 C	24				1.5	7	№1,2,3,4,5
第一阶段选修课（建议选 4.0-4.5 学分）									
139111	病原微生物快速检测 Rapid detection of Pathogenic Microorganisms	选 E	24				1.5	3	№.1,2,3,4,5, 6,12
139015	科研方法与论文写作 Research Method & Thesis Writing	选 E	16				1.0	3	№.2,4,10
139033	食品生物技术 Food Biotechnology	选 E	24				1.5	3	№.1,2,3,4,5
139053	食品免疫学与技术 Food Immunology and Technology	选 E	24				1.5	3	№.1,4,5,6,12
139036	食品物性学 Physical Properties of Foods	选 E	24				1.5	4	№.1,2,3,4,5, 6
第二阶段选修课（建议选 4.0-4.5 学分）									
139024	食品质量管理 Food Quality Management	选 E	32				2.0	5	№.6,7,10
139022	食品添加剂 Food Additive	选 E	24				1.5	5	№.2,3,6,8,9, 10,12
139038	食品有害微生物控制技术 Technology of Controlling the Harmful Microorganism in Food	选 E	24				1.5	5	№.2,3,4,6
139112	食品酶工程 Food Enzyme Engineering	选 E	16				1.0	6	№.2,3
139068	食品包装技术 Food Packaging Technology	选 E	16				1.0	6	№.8,9
139056	化工仪表与自动化 Instrumentation and Automation of Chemical Engineering	选 E	16				1.0	6	№.1,2,3,4,5
139094	食品工艺学 Food Technology	选 E	32				2.0	7	№.1,2,3,4,5
139002	调味品与感官分析 Condiments and Sensory Evaluation	选 E	24		12		1.0	7	№.4,8,9,10,1 2
139050	功能性食品 Functional food	选 E	16				1.0	7	№.2,4,6
120003	创新研究训练 Innovation Research Training	选 E	32				2.0		№2,3,4
120004	创新研究实践 I Innovation Research Practice I	选 E	32				2.0		№2,3,4
120005	创新研究实践 II Innovation Research Practice II	选 E	32				2.0		№2,3,4

	120006	创业实践 Entrepreneurial Practice	选 E	32				2.0		№2,3,4
	合计 Total			必 C	336	8	64		19.0	
				选 E	选修课修读最低要求 8.5 学分 minimum elective course credits required:8.5					

备注：学生根据自己开展科研训练项目、学科竞赛、发表论文、获得专利和自主创业等情况申请折算为一定的专业选修课学分（创新研究训练、创新研究实践 I、创新研究实践 II、创业实践等创新创业课程）。每个学生累计申请为专业选修课总学分不超过 4 个学分。经学校批准认定为选修课学分的项目、竞赛等不再获得对应第二课堂的创新学分。

四、集中实践教学环节(Practice-concentrated Training)

课程 代码 Course No	课程名称 Course Title	是否 必修 C/E	学时数 Total Curriculum Hours		学分 Credits	开课 学期 Semester	毕业要求 Student Outcomes
			实践 Practice weeks	授课 Lecture Hours			
106002	军训 Military Training	必 C	3 周		3.0	1	№.9
143197	马克思主义理论与实践 Marxism Theory and Practice	必 C	2 周		2.0	假期	№.8
130356	工程训练 I Engineering Training	必 C	2 周		2.0	4	№.1,2,3,4,5
130195	机械设计基础课程设计 Course Project of the Basis of Mechanical Design	必 C	2 周		2.0	5	№.1,2,3,4,5
141075	电子工艺实习 I Practice of Electronic	必 C	1 周		1.0	5	№.1,2,3,4,5
147076	化工原理课程设计 Course Design for Chemical Engineering Principle	必 C	2 周		2.0	6	№.1,2,3,4,5
139062	生产实习 Visit Practice	必 C	2 周		2.0	4	№.1,2,3,4,5,6
139064	毕业实习 Graduation Practice	必 C	5 周		5.0	7	№.1,2,3,4,5,6
139066	毕业设计(论文) Graduation Design (Theses)	必 C	15 周		15.0	7、8	№.1,2,3,4,5,6,10
合计 Total		必 C	34 周		34.0		
		选 E	选修课修读最低要求 学分 minimum elective course credits required:				

五、第二课堂

第二课堂由人文素质教育和创新能力培养两部分组成。

1.人文素质教育基本要求

学生在取得专业教学计划规定学分的同时，还应结合自己的兴趣适当参加课外人文素质教育活动，参加活动的学分累计不少于 2 个学分。

2.创新能力培养基本要求

学生在取得本专业教学计划规定学分的同时，还必须参加国家创新创业训练计划或广东省创新创业训练计划或 SRP（学生研究计划）或百步梯攀登计划或一定时间的各类课外创新能力培养活动（如学科竞赛、学术讲座等），参加活动的学分累计不少于 4 个学分。

5. “Second Classroom” Activities

“Second Classroom” Activities are comprised of two parts, Humanities Quality Education and Innovative Ability Cultivation.

1) Basic Requirements of Humanities Quality Education

Besides gaining course credits listed in one’s subject teaching curriculum, a student is required to participate in extracurricular activities of Humanities Quality Education based on one’s interest, acquiring no less than two credits.

2) Basic Requirements of Innovative Ability Cultivation

Besides gaining course credits listed in one’s subject teaching curriculum, a student is required to participate in any one of the following activities: National Undergraduate Training Programs for Innovation and Entrepreneurship, Guangdong Undergraduate Training Programs for Innovation and Entrepreneurship, Student Research Program (SRP), One-hundred-steps Innovative Program, or any other extracurricular activities of Innovative Ability Cultivation that last a certain period of time (e.g. subject contests, academic lectures), acquiring no less than four credits.