

ACADEMIC DIVISION OF SCIENCES AND TECHNOLOGY			
Degree: BACHELOR OF SCIENCE / MASTER OF SCIENCE DEGREE Credits: 154		CURRICULUM Since: August 2018 (201901)	
Program: FOOD TECHNOLOGY AND SAFETY (Integrated BS/MS)			
<b>Description:</b> The joined BS/MS program in Food Technology and Safety allows students to understand the processes, regulations and science related to the manufacturing of foods and food preservation. Alumni will be able to work in the food industry or in the government as inspectors or analysts and will be able to make decisions regarding the safety of food products. Students will apply the best available technology in their graduate research to propose solutions to contemporary problems of public health concern.			
Course Code	Course Title	Credits	Requisites
<b>General Education Courses (36 credits)</b>			
ENGL 152	Foundations of Reading & Writing	3	None
ENGL 153	Advanced English	3	ENGL 152
ENGL 231	Research and Writing	3	ENGL 153
SPAN 152	Foundations of Reading & Writing	3	None
SPAN 250	Writing Techniques	3	SPAN 152
SPAN 255	Research and Writing	3	SPAN 250
GESC 105	Freshmen Seminar	3	None
GESC 107	Introduction to Computers	3	None
GESC 264	Introduction to Scientific Research	3	None
HUMA 111	Civilization and Universal Culture I	3	None
HUMA 112	Civilization and Universal Culture II	3	HUMA 111
SOSC 111	Introduction to Social Science	3	None
<b>Core Science Courses (40 credits)</b>			
BIOL 203	General Biology I	3	Co-req. BIOL 203L
BIOL 203L	Laboratory of General Biology I	1	Co-req. BIOL 203
BIOL 204	General Biology II	3	BIOL 203, Co-req. BIOL 204L
BIOL 204L	Laboratory of General Biology II	1	Co-req. BIOL 204
CHEM 203	General Chemistry I	3	MATH 152, Co-req. CHEM 203L
CHEM 203L	Laboratory of General Chemistry I	1	Co-req. CHEM 203
CHEM 204	General Chemistry II	3	CHEM 203, Co-req. CHEM 204L
CHEM 204L	Laboratory of General Chemistry II	1	Co-req. CHEM 204
CHEM 351	Organic Chemistry I	3	CHEM 204, Co-req. CHEM 351L
CHEM 351L	Laboratory of Organic Chemistry I	1	Co-req. CHEM 351
CHEM 352	Organic Chemistry II	3	CHEM 351, Co-req. CHEM 352L
CHEM 352L	Laboratory of Organic Chemistry II	1	Co-req. CHEM 352
MATH 152	Trigonometry with Analytic Geometry	4	MATH 151 or Placement Test
MATH 152L	Laboratory of Trigonometry with Analytic Geometry	0	Co-req. MATH 152

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Course Code	Course Title	Credits	Requisites
MATH 221	Calculus I	4	MATH 152
MATH 221L	Laboratory of Calculus I	0	Co-req. MATH 221
PHSC 203	General Physics I	3	MATH 221, Co-req. PHSC 203L
PHSC 203L	Laboratory of General Physics I	1	Co-req. PHSC 203
PHSC 204	General Physics II	3	PHSC 203, PHSC 203L
PHSC 204L	Laboratory of General Physics II	1	Co-req. PHSC 204
<b>Concentration Courses (35 credits)</b>			
BIOL 315	Biostatistics	3	BIOL 204
BIOL 320	General Microbiology	3	BIOL 204
BIOL 320L	Laboratory of General Microbiology	1	Co-req. BIOL 320
BIOL 321	Food Microbiology	3	BIOL 320, BIOL 320L
BIOL 321L	Laboratory of Food Microbiology	1	Co-req. BIOL 321
BIOL 323	Industrial Microbiology	3	BIOL 321, BIOL 321L
BIOL 350	Biochemistry	3	BIOL 204, CHEM 352
NUTR 201	Introduction to Nutrition	4	BIOL 204, CHEM 352
FOOD 101	Introduction to Food Technology	3	None
FOOD 201	Microbial Food Safety Hazards and Quality Control	3	BIOL 100 or BIOL 320
FOOD 250	Food Safety and Protection related to Public Health	3	BIOL 301 or BIOL 321
FOOD 300	Food Laws, Standards & Regulations	4	SOSC 111, BIOL 203
FOOD 400	Food Biotechnology	3	BIOL 340, BIOL 350, BIOL 410
FOOD 450	Principles of Hazard Analysis and Critical Control Points (HACCP) & Good Manufacturing Practices (GMP)	4	FOOD 300
<b>Courses in Business and entrepreneurship: Select one course (3 credits) from the following:</b>			
MANA 260	Managerial Strategies	3	None
<b>Undergraduate Elective Courses (8 credits)</b>			
<b>Graduate level (29 credits)</b>			
CHEM 504	Food Chemistry	3	BIOL 350
CHEM 504L	Laboratory of Food Chemistry	1	BIOL 350, Co-req. CHEM 504
FOOD 501	Food Safety Toxicology	3	BIOL 321, BIOL 350, CHEM 352
FOOD 581	Graduate Seminar	1	
FOOD 603	Comparative Food & Agriculture Systems	3	BIOL 323, FOOD 300
FOOD 605	Food Safety Disease Control	3	BIOL 323, BIOL 367
FOOD 606	Food Packaging & Processing	3	BIOL 323, FOOD 300
FOOD 607	Food Safety Risk Assessment	3	BIOL 323, FOOD 500
FOOD 611	Quality Management in the Food Industry	3	BIOL 323
FOOD 691	Graduate Project I	3	120 credits
FOOD 692	Graduate Project II	3	FOOD 691
<b>Courses in Statistics and Experimental Design: Select one course (3 credits) from the following:</b>			
STAT 505	Statistic Instrument Research OR	3	
STAT 750	Experimental Design	3	STAT 505

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Program: FOOD TECHNOLOGY AND SAFETY (Integrated BS/MS)			
Course Code	Course Title	Credits	Requisites
<b>FIRST YEAR – FIRST SEMESTER</b>			
ENGL 152	Foundations of Reading & Writing	3	None
SPAN 152	Foundations of Reading & Writing	3	None
BIOL 203	General Biology I	3	Co-req. BIOL 203L
BIOL 203L	Laboratory of General Biology I	1	Co-req. BIOL 203
MATH 152	Trigonometry with Analytic Geometry	4	MATH 151 or Placement Test
MATH 152L	Laboratory of Trigonometry with Analytic Geometry	0	Co-req. MATH 152
GESC 105	Freshmen Seminar	3	None
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<b>FIRST YEAR – SECOND SEMESTER</b>			
ENGL 153	Advanced English	3	ENGL 152
SPAN 250	Writing Techniques	3	SPAN 152
BIOL 204	General Biology II	3	BIOL 203, Co-req. BIOL 204L
BIOL 204L	Laboratory of General Biology II	1	Co-req. BIOL 204
CHEM 203	General Chemistry I	3	MATH 152, Co-req. CHEM 203L
CHEM 203L	Laboratory of General Chemistry I	1	Co-req. CHEM 203
GESC 107	Introduction to Computers	3	None
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<b>SECOND YEAR – FIRST SEMESTER</b>			
ENGL 231	Research and Writing	3	ENGL 153
SPAN 255	Research and Writing	3	SPAN 250
FOOD 101	Introduction to Food Technology	3	None
CHEM 204	General Chemistry II	3	CHEM 203, Co-req. CHEM 204L
CHEM 204L	Laboratory of General Chemistry II	1	Co-req. CHEM 204
MATH 221	Calculus I	4	MATH 152
MATH 221L	Laboratory of Calculus I	0	Co-req. MATH 221
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Course Code	Course Title	Credits	Requisites
<b>SECOND YEAR – SECOND SEMESTER</b>			
CHEM 351	Organic Chemistry I	3	CHEM 204, Co-req. CHEM 351L
CHEM 351L	Laboratory of Organic Chemistry I	1	Co-req. CHEM 351
BIOL 315	Biostatistics	3	BIOL 204
GESC 264	Introduction to Scientific Research	3	None
HUMA 111	Civilization and Universal Culture I	3	
NUTR 201	Introduction to Nutrition	4	BIOL 204, CHEM 352
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<b>THIRD YEAR – FIRST SEMESTER</b>			
CHEM 352	Organic Chemistry II	3	CHEM 351, Co-req. CHEM 352L
CHEM 352L	Laboratory of Organic Chemistry II	1	Co-req. CHEM 352
SOSC 111	Introduction to Social Science	3	None
PHSC 203	General Physics I	3	MATH 221, Co-req. PHSC 203L
PHSC 203L	Laboratory of General Physics I	1	Co-req. PHSC 203
HUMA 112	Civilization and Universal Culture II	3	HUMA 111
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<b>THIRD YEAR – SECOND SEMESTER</b>			
PHSC 204	General Physics II	3	PHSC 203, PHSC 203L
PHSC 204L	Laboratory of General Physics II	1	Co-req. PHSC 204
BIOL 350	Food Biochemistry	3	BIOL 204, CHEM 352
BIOL 320	General Microbiology	3	BIOL 204
BIOL 320L	Laboratory of General Microbiology	1	Co-req. BIOL 320
	Elective (Equivalent to PTTE 200)	2	
		<b>13</b>	

<b>FOURTH YEAR – FIRST SEMESTER</b>			
BIOL 321	Food Microbiology	3	BIOL 320, BIOL 320L
BIOL 321L	Laboratory of Food Microbiology	1	Co-req. BIOL 321
FOOD 300	Food Laws, Standards & Regulations	4	SOSC 111, BIOL 203
MANA 260	Managerial Strategies	3	None
FOOD 201	Microbial Food Safety Hazards and Quality Control	3	BIOL 100 or BIOL 320
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<b>FOURTH YEAR – SECOND SEMESTER</b>			
FOOD 400	Food Biotechnology	3	BIOL 340, BIOL 350, BIOL 410
FOOD 450	Principles of Hazard Analysis and Critical Control Points (HACCP) & Good Manufacturing Practices (GMP)	4	FOOD 300
BIOL 323	Industrial Microbiology	3	BIOL 321, BIOL 321L
FOOD 250	Food Safety and Protection related to Public Health	3	BIOL 301 or BIOL 321
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Course Code	Course Title	Credits	Requisites
<b>FIFTH YEAR – FIRST SEMESTER</b>			
FOOD 501	Food Safety Toxicology	3	BIOL 321, BIOL 350, CHEM 352
FOOD 581	Graduate Seminar	1	
FOOD 603	Comparative Food & Agriculture Systems	3	BIOL 323, FOOD 300
FOOD 606	Food Packaging & Processing	3	BIOL 323, FOOD 300
		<b>10</b>	

<b>FIFTH YEAR – SECOND SEMESTER</b>			
CHEM 504	Food Chemistry	3	BIOL 350
CHEM 504L	Laboratory of Food Chemistry	1	BIOL 350, Co-req. CHEM 504
FOOD 605	Food Safety Disease Control	3	BIOL 323, BIOL 315
FOOD 611	Quality Management in the Food Industry	3	BIOL 323
		<b>10</b>	

<b>SIXTH YEAR – FIRST SEMESTER</b>			
FOOD 691	Graduate Project I	3	120 credits
FOOD 607	Food Safety Risk Assessment	3	BIOL 323, FOOD 500
STAT 505	Statistic Instrument Research OR	3	
STAT 750	Experimental Design		STAT 505
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<b>SIXTH YEAR – SECOND SEMESTER</b>			
FOOD 692	Graduate Project II	3	FOOD 691
		<b>3</b>	

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