

Programs

Humanities Area.....	3
Electives.....	6
Total	17

Second Semester

ES 20xx Riding Skills.....	2
ES 4222 Equine Business Management.....	3
LA 1060 Introduction to Fine Arts.....	3
LA 4037 Non-Western Societies.....	3
Electives.....	4
Total	15

***Equine Training Major**

JUNIOR YEAR

First Semester

Course No.	Course Title	Credits
BA 2225	Accounting Fundamentals.....	3
ES 20xx	Riding Skills.....	2
ES 3218	Introduction to Equine Instruction.....	3
ES 4018	Training and Conditioning.....	3
LA 2005	Speech.....	3
	Humanities Area.....	3
Total		17

Second Semester

BA 2008	Macroeconomics.....	3
EN 2226	Professional Communications.....	3
ES 20xx	Riding Skills.....	2
ES 3210	Teaching Techniques.....	3
ES 3217	Equine Anatomy and Physiology.....	3
	Elective.....	3
Total		17

SENIOR YEAR

First Semester

Course No.	Course Title	Credits
BA 3028	Supervision and Management.....	3
ES 20xx	Riding Skills.....	2
LA 4037	Non-Western Societies.....	3
	Humanities Area.....	3
	Elective.....	3
Total		14

Second Semester

ES 20xx	Riding Skills.....	2
ES 4222	Equine Business Management.....	3
LA 1060	Introduction to Fine Arts.....	3
	Electives.....	6
Total		14

Humanities Area: select two courses from the following:

LA 2040	Modern History of Western Societies...3
LA 2042	Introduction to Philosophy.....3

LA 2138	History of Western Civilization I.....3
LA 3032	American History and Government since 1877.....3
LA 4127	United States Foreign Policy.....3

** To be declared an Equine Training major, the student must have successfully completed the Riding Skills classes ES 2035 Basic Schooling and ES 2037 Principles of Jumping.*

Food Science and Management (FS)

Faculty:

Robert Pierson, Chairperson
Richard M. Dommel, Emeritus

The curriculum in Food Science and Management is designed to prepare students for careers in the food production and food service industries. Science and business are emphasized to different extents in the three specializations within the major. Communications skills and a broad background in liberal arts are important components of the programs. An important objective for our program is the education of students to meet the career needs of the industry which will employ them. Industry advisors review our programs periodically to help us accomplish this.

The food and allied industries employ large numbers of people with widely varying skills and talents. Graduates are employed in many sectors of the foodservice industry, such as quality assurance, production management, industrial food management, food marketing, food and pharmaceutical packaging, food purchasing, product development, research, technical sales, restaurant or foodservice management. Graduates often work as sales representatives or market development coordinators. Placement of graduates is excellent.

The curriculum is designed to permit the student to pursue an interest in either food science and technology or foodservice management. It is ideal for the student interested in opening their own business in the food industry (restaurant or food production). The total number of credits required for graduation with a degree in Food Science and Management is 124 plus 4 credits earned for successful completion of the Employment Program.

RECOMMENDED COURSE SEQUENCE

Food Science and Food Technology Specializations

Graduates of these specializations are prepared to enter food ingredient or food processing industries such as baking, confections, dairy products, meats,

flavors, convenience foods, and packaging. They may also be employed in government regulations, commercial testing laboratories, or in technical sales for companies which supply the food industry. University and government laboratories also employ food scientists and technologists. Close association with area food processors and government laboratories enables our students to gain first-hand knowledge of the industry through field trips and summer employment. Students have access to excellent paid internship opportunities with major foodservice corporations.

Food Science Specialization

The Food Science specialization contains the courses specified by the Institute of Food Technologists and is recommended for students interested in graduate studies in food science, research, and applications in the foodservice industry.

FRESHMAN YEAR

First Semester

Course No.	Course Title	Credits
BY 1116	Biological Science I	3
CH 1103	General Chemistry I.....	3
CH 1103L	General Chemistry I Lab.....	1
EN 1101	English I.....	3
FS 1130	Food, Culture and Cuisine	3
LA 1020	Skills for College Success	1
PE 1109	Physical Education I	1
Total	15

Second Semester

BY 1217	Biological Science II	3
CH 1203	General Chemistry II.....	3
CH 1203L	General Chemistry II Lab	1
EN 1201	English II.....	3
FS 1203	Technology and Food Systems	3
*MP 1204	Calculus I.....	4
PE 1209	Physical Education II	1
Total	18

** Calculus I is the minimum mathematics requirement for the Food Science Specialization. Non-required mathematics courses taken as prerequisites are counted as elective credits.*

Employment Program

FS 2370	Employment Program.....	1-2
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SOPHOMORE YEAR

First Semester

Course No.	Course Title	Credits
CH 2003	Prin. of Organic Chemistry.....	3
CH 2003L	Prin. of Organic Chemistry Lab	1
FS 2212	Sanitation Mgmt	3

MP 2119	Physics I or Ic	4
MP 2121	Calculus II.....	4
Total	15

Second Semester

CH 2203	Biochemistry.....	3
CH 2203L	Biochemistry Lab.....	1
EN 2028	Introduction to Literature	3
FS 2116	Physical Science and Food.....	3
IT 1011	Information Technology Concepts	1.5
IT 1012	Computer Applications	1.5
LA 2005	Speech.....	3
Total	16

Employment Program

FS 2370	Employment Program.....	1-2
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JUNIOR YEAR

First Semester

Course No.	Course Title	Credits
BY 3002	General Microbiology	4
FS 3120	Introduction to Nutrition	3
FS 3122	Food Engineering I.....	3
FS 3211	Food Chemistry.....	4
Total	14

Second Semester

FS 3218	Food Microbiology.....	4
FS 4126	Food Analysis.....	3
	Humanities Area.....	3
	Electives	5
Total	15

Employment Program

FS 2370	Employment Program.....	1-2
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SENIOR YEAR

First Semester

Course No.	Course Title	Credits
BA 2028	Macroeconomics	3
FS 4112	Food Preservation	3
FS 4149	Quality Assurance & Regulation	3
LA 1060	Introduction to the Arts.....	3
	Humanities Area.....	3
Total	15

Second Semester

FS 4223	Seminar.....	1
FS 4224	Food Product Development.....	3
MP 3231	Statistics for Science.....	3
LA 4037	Non-Western Societies	3
	Social Science Area	3
	Elective.....	3
Total	16

Programs

Social Sciences Area: select one of the following:

LA 2012	Introduction to Sociology.....	3
LA 2036	Introduction to Psychology.....	3
LA 4203	Social Psychology and Human Interaction.....	3

Humanities Area: select two courses from the following:

LA 2040	Modern History of Western Societies ...	3
LA 2042	Introduction to Philosophy.....	3
LA 2138	History of Western Civilization I.....	3
LA 3032	American History and Government since 1877.....	3
LA 4127	United States Foreign Policy.....	3

Food Technology Specialization

The Food Technology specialization is similar to Food Science, but is less oriented to science and mathematics and more to management. It is ideal for the student who does not plan to study food science at the graduate level.

FRESHMAN YEAR

First Semester

Course No.	Course Title	Credits
BY 1116	Biological Science I.....	3
CH 1103	General Chemistry I.....	3
CH 1103L	General Chemistry I Lab.....	1
EN 1101	English I.....	3
FS 1130	Food, Culture and Cuisine.....	3
LA 1020	Skills for College Success.....	1
MP 1102	College Algebra or	
MP 1203	Elementary Functions or	
MP 1205	Finite Mathematics.....	3

Total17

Second Semester

BY 1217	Biological Science II.....	3
CH 1203	General Chemistry II.....	3
CH 1203L	General Chemistry II Lab.....	1
EN 1201	English II.....	3
FS 1203	Technology and Food Systems.....	3
MP 1203	Elementary Functions or	
MP 1204	Calculus I or	
MP 1205	Finite Mathematics.....	3-4
PE 1209	Physical Education II.....	1

Total17-18

Employment Program

FS 2370	Employment Program.....	1-2
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SOPHOMORE YEAR

First Semester

Course No.	Course Title	Credits
CH 2003	Princ. of Organic Chemistry.....	3

CH 2003L	Princ. of Organic Chemistry Lab.....	1
FS 2212	Sanitation Mgmt.....	3
IT 1011	Information Technology Concepts....	1.5
IT 1012	Computer Applications.....	1.5
LA 2005	Speech.....	3
	*Restricted Elective.....	3

Total16

Second Semester

BA 2028	Macroeconomics.....	3
CH 2203	Biochemistry.....	3
CH 2203L	Biochemistry Lab.....	1
EN 2028	Introduction to Literature.....	3
FS 2116	Physical Science and Food.....	3
	Elective.....	3

Total16

Employment Program

FS 2370	Employment Program.....	1-2
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* Restricted elective to be taken from the following courses: FS 3000, FS 3223, FS 4000, FS 4004, FS 4015, FS 4041, FS 4042, FS 4119, FS 4212, FS 4228 or others with approval of the department chair.

JUNIOR YEAR

First Semester

Course No.	Course Title	Credits
BY 3002	General Microbiology.....	4
FS 3120	Introduction to Nutrition.....	3
FS 3122	Food Engineering I.....	3
FS 3211	Food Chemistry.....	4
PE 1109	Physical Education I.....	1

Total15

Second Semester

FS 3218	Food Microbiology.....	4
FS 4126	Food Analysis.....	3
	Humanities Area.....	3
	Elective.....	4

Total14

Employment Program

FS 2370	Employment Program.....	1-2
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SENIOR YEAR

First Semester

Course No.	Course Title	Credits
FS 4112	Food Preservation.....	3
FS 4149	Quality Assurance and Regulation.....	3
LA 1060	Intro to the Arts.....	3
	Humanities Area.....	3
	Elective.....	3

Total15

Second Semester

FS 4223	Seminar	1
FS 4224	Food Product Development.....	3
LA 4037	Non-Western Societies	3
	Social Science Area	3
	Elective.....	4
Total	14

Social Sciences Area: select one of the following:

LA 2012	Introduction to Sociology.....	3
LA 2036	Introduction to Psychology	3
LA 4203	Social Psychology and Human Interaction	3

Humanities Area: select two courses from the following:

LA 2040	Modern History of Western Societies ...	3
LA 2042	Introduction to Philosophy	3
LA 2138	History of Western Civilization I.....	3
LA 3032	American History and Government since 1877	3
LA 4127	United States Foreign Policy	3

Restaurant & Foodservice Management Major

The Restaurant and Foodservice Management major prepares the graduate to assume a management position in the rapidly growing foodservice industry. Restaurants, hotels, health care facilities, schools, airlines, institutional dining rooms, and catering operations are among the employers of graduates in this field. This program provides a background in food purchasing, quantity food preparation, business law, human resource management, marketing and finance. This is ideal for the business-minded student interested in the food industry. Many courses are taught from an entrepreneurial perspective, and are ideal for students planning to open their own businesses in the food industry (restaurant or food production). Only 1 hour from Philadelphia and 2 hours from New York City, Delaware Valley College is easily accessible to all major components of the hospitality industry. Opportunities for internships and practical work experience are readily available.

FRESHMAN YEAR

First Semester

Course No.	Course Title	Credits
CH 1001	Chemistry Fundamentals	3
CH 1001L	Chemistry Fundamentals Lab	1
EN 1101	English I.....	3
FS 1123	Introduction to Foodservice Systems ...	3
FS 1130	Food, Culture and Cuisine	3
LA 1020	Skills for College Success	1
MP 1102	College Algebra or	

MP 1203	Elementary Functions or	
MP 1205	Finite Mathematics	3
Total	17

Second Semester

BA 1005	Introduction to Business	3
EN 1201	English II.....	3
FS 1205	Principles of Professional Cooking.....	3
IT 1011	Information Technology Concepts	1.5
IT 1012	Computer Applications	1.5
MP 1203	Elementary Functions or	
MP 1204	Calculus I or	
MP 1205	Finite Mathematics	3-4
PE 1209	Physical Education II	1
Total	16-17

Employment Program

FS 2370	Employment Program.....	1-2
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SOPHOMORE YEAR

First Semester

Course No.	Course Title	Credits
BA 2008	Macroeconomics	3
BA 2161	Business Law I	3
BA 2225	Accounting Fundamentals or	
BA 2123	Principles of Accounting I.....	3
BY 1115	Natural Science I.....	3
FS 2212	Sanitation Management	3
PE 1109	Physical Education I	1
Total	16

Second Semester

BA 2210	Microeconomics	3
BA 2017	Principles of Marketing.....	3
EN 2028	Introduction to Literature	3
	Elective.....	5
Total	14

Employment Program

FS 2370	Employment Program.....	1-2
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JUNIOR YEAR

First Semester

Course No.	Course Title	Credits
FS 3120	Introduction to Nutrition	3
*FS 3227	Foodservice Accounting & Cost Control.....	3
FS 4119	Food Distribution Systems**.....	3
LA 2005	Speech.....	3
	Humanities Area.....	3
	Elective.....	2
Total	17

Programs

Second Semester

*FS 3226	Service Systems Mgt.....	3
FS 4229	Foodservice Marketing Strategy**	3
	Humanities Area.....	3
	Social Sciences Area	3
	Elective.....	3
Total		15

SENIOR YEAR

First Semester

Course No.	Course Title	Credits
BA 3027	Human Resource Management.....	3
FS 3225	Purchasing, Storage, & Handling of Foods**	3
*FS 4131	Foodservice Facilities & Equipment	3
LA 1060	Introduction to Fine Arts	3
	Elective.....	3
Total		15

Second Semester

FS 4222	Quantity Food Production.....	3
FS 4223	Seminar	1
FS 4232	Legal Aspects of Foodservice Mgt**	3
LA 4037	Non-Western Societies	3
	Elective.....	4
Total		14

* Offered in even numbered years only.

** Offered in odd numbered years only.

Social Sciences Area: select one of the following:

LA 2012	Introduction to Sociology.....	3
LA 2036	Introduction to Psychology	3
LA 4203	Social Psychology and Human Interaction	3

Humanities Area: select two courses from the following:

LA 2040	Modern History of Western Societies ...	3
LA 2042	Introduction to Philosophy	3
LA 2138	History of Western Civilization I.....	3
LA 3032	American History and Government since 1877	3
LA 4127	United States Foreign Policy	3

Biotechnology Minor

(for Food Science and Food Technology Specializations)

A biotechnology minor is available for students in the Food Science and Food Technology specializations. It consists of the following courses:

Course No.	Course Title	Credits
*BY 2003	Genetics	3
*BT 3000	Introduction to Biotechnology.....	3

FS 3000	Selected Topics I and	1
FS 4000	Selected Topics II or.....	1
*CH 3001	Introductory Biomedical Instrumental Methods	3
*FS 4004	Industrial Fermentations.....	3
*BY 4155	Molecular Biology.....	4
Total		15-16

* Requires prerequisite.

HORTICULTURE (HT)

Faculty:

Barbara D. Muse, Chairperson
Mingwang Liu, Assistant Chairperson
Ronald R. Muse
Jacqueline A. Ricotta

Horticulture is one of the most successful areas of study at Delaware Valley College, having a national and international reputation. A degree in Horticulture will lead to exciting and challenging careers that are dynamic and rewarding. Graduates serve in government positions, at agricultural experiment stations and in private industry while others pursue graduate education.

The Horticulture program includes a broad spectrum of courses in plant science—organics, hydroponics, sustainable horticulture, biotechnology, botany, plant propagation, plant physiology and plant health management. The curriculum also provides an opportunity to major in one of three areas: (1) Commercial Crop Production and Marketing/Plant Health Management, (2) Plant Science and Biotechnology and (3) Hydroponic Crop Science.

Learning takes place in the classroom and in the outdoor living laboratory. These settings provide experiential “hands-on” learning in planting crops and carrying them through to harvest and marketing. In support of those educational activities, the Horticulture area has a plant cell and tissue culture laboratory, hydroponic greenhouse, high tunnel, production greenhouse, trial gardens, environmental monitoring equipment, 2 acre certified organic plot and 35 acres for the production of fruits and vegetables.

The production of healthy and nutritious food is a necessity of life. Horticulture has a global impact in serving and sustaining humanity while protecting the environment.

The total number of credits required for graduation with a degree in Horticulture is 124 plus 4 credits earned for successful completion of the Employment Program.