

Institute of Food Technologists (IFT), USA Program Goals (2020-2025)



1. Graduates are competent in core areas of food science.
2. Graduates can integrate and apply their knowledge.
3. Graduates are proficient communicators.
4. Graduates demonstrate professionalism and leadership skills.

**RUTGERS UNDERGRADUATE FOOD SCIENCE
PROGRAM LEARNING GOALS (LG)**

**LG #1 Graduates will demonstrate and apply knowledge of the core competencies in
Food Processing and Engineering.**

Courses

- *Food Processing Technologies 11:400:301 (4)*
- *Food Process Engineering 11:400:302 (3)*

Learning Outcomes:

- 1.1:** Understand the concepts and principles of processing techniques and the effects of processing parameters on product quality.
- 1.2:** Apply principles of food processing and engineering to various food industry operations.

**LG #2 Graduates will demonstrate and apply knowledge of the core competencies in
Food Chemistry and analysis.**

Courses

- *Principles of Food Science 11:400:201 (3) and Lab 11:400:202 (2)*
- *Food Chemistry 11:400:411 (3) and Lab 11:400:413 (1)*
- *Food Analysis 11:400:304 (3) and Lab 11:400:305 (1)*
- *Food Physical Systems 11:400:419 (3)*

Learning Outcomes:

- 2.1:** Understand the chemistry involved in the properties and reactions of various foods and its components.
- 2.2:** Understand and effectively applies the principles behind analytical techniques associated with food.
- 2.3:** Understand and effectively applies food chemistry and analysis methods.

**LG #3 Graduates will demonstrate and apply knowledge of the core competencies of
Food Microbiology.**

Courses	<ul style="list-style-type: none"> • <i>Food Microbiology 11:400:423 (3) and Lab 11:400:424 (1)</i>
<p>Learning Outcomes:</p> <p>3.1: Demonstrate ability to identify the causes of food spoilage and predict the specific microorganisms that can spoil a given food when prepared, processed, and stored under given conditions.</p> <p>3.2: Demonstrate ability to identify important pathogens, the conditions under which they grow, related detection techniques, and methods for inactivation and control.</p> <p>3.3: Demonstrate knowledge of food preservation techniques to reduce and/or inhibit the growth of microorganisms.</p>	
LG #4	<p>Graduates will demonstrate critical thinking and quantitative reasoning skills to solve technical and applied problems in Food Science.</p>
Courses	<ul style="list-style-type: none"> • <i>Food Processing Technologies 11:400:301 (4)</i> • <i>Sensory Evaluation of Foods 11:400:405 (3)</i>
<p>Learning Outcomes:</p> <p>4.1: Critically evaluate reports/information in Food Science.</p> <p>4.2: Effectively apply quantitative analytical techniques including statistical analysis principles to problems in Food Science.</p> <p>4.3: Understand the basic principles of sensory analysis and applies those principles to real-world problems.</p> <p>4.4: Apply the principles of Food Science to practical, real-world problems in Product Development.</p> <p>4.5: Proficient in government laws and regulations required for the manufacture and sale of food products.</p>	
LG #5	<p>Graduates will effectively communicate Food Science issues.</p>
Courses	<ul style="list-style-type: none"> • <i>Science of Food 11:400:103 (3) <u>OR</u> Food and Health 11:400:104 (3)</i> • <i>Current Issues in Food Science & Food Law 11:400:314 (2)</i> <p><u>Elective courses</u></p> <ul style="list-style-type: none"> • <i>Food as Medicine 11:400:106</i> • <i>Foods: from Field to Table 11:400:107</i> • <i>Nutrigenomics 11:400:410</i> • <i>Food Safety: Fads, Facts and Politics 11:400:422</i>

Learning Outcomes:

- 5.1: Demonstrate ability to write clear and concise technical reports and research articles.
- 5.2: Demonstrate the ability to deliver clear and concise technical presentations.
- 5.3: Demonstrate the ability to gather scientific and nonscientific information and interpret content and quality of the literature in Food Science
- 5.4: Demonstrate the ability to clearly communicate scientific principles and data to lay audiences
- 5.5: Demonstrate effective listening skills as well as ability to accept constructive criticisms.

LG #6	Graduates will demonstrate effective professional and leadership skills.
Course	<ul style="list-style-type: none">• <i>Food Product Development 11:400:412 (3)</i>

Learning Outcomes:

- 6.1: Demonstrate the ability to work independently as well as to work cooperatively in cross-disciplinary teams.
- 6.2: Understand the importance of and is committed to professional integrity and ethical values within the workplace.
- 6.3: Demonstrate ability to work and/or interact with individuals from diverse cultures.