

Fall 2022 Undergraduate Program Director (UPD) Report

Renee Procaccini - Sat, Dec 3, 2022 5:50 PM

SEBS Governing Council

Received

General Information

Your name

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Major

Food Science

Date of meeting

December 1st, 2022

Class year

2025

Undergraduate Program Director

Chitra Ponnusamy

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Major website link (if available)

<https://foodsci.rutgers.edu>

Major Information

Major Options - What options are offered within the major? How do they differ?

Options For incoming first years fall 2022 and onwards, shall pursue the One Pathway to Food Science Major Option. One Pathway provides all majors with a unified, comprehensive education in Food Science while allowing sufficient flexibility for each student to add a minor of their choosing (although some minors will require credits beyond the 120 required for graduation.) This flexibility allows students to build expertise in a complementary field (Microbiology, Spanish, Entrepreneurship, etc.) that may enhance their career prospects in food technology (Business Economics for management positions, Sustainability for specialized positions, Animal Sciences to work within pet food industries, etc.) or even to satisfy a purely personal academic interest (philosophy, history, linguistics, etc.). For the class of 2022-2025 only Research Option Research option includes the same foundation courses in the General Food Science option but emphasizes additional basic science and advanced level food science courses. These additional courses make graduates of this option attractive to employers, but also prepare students for graduate studies or entrance into professional programs (medical schools, dental schools). General Option The General option provides students with core courses in food science and technology and the tools to develop quantitative thinking skills that lay the foundation for working individually and in teams and to grow as a professional. Flexibility exists in this option for students that desire to explore to greater depth subject areas outside of the food science program. Graduate work in Food Science may also be an option. Food Science and Management Economics The Food Science and Management Economics option is offered in conjunction with the Agricultural, Food and Resource Economics program and is designed for students interested in the management aspects of the food industry. While the option requirements of both programs are similar, students registered in food science may take additional courses in physical and food sciences. Sustainability Sustainability is one of the focus areas of the Institute of Food Technologists, USA. According to IFT, Within the sustainability focus area, you'll examine the business case for environmental sustainability in the food industry. Learn about efforts in food

production sufficiency throughout the product lifecycle—from sustainable ingredient sourcing, to product development, to waste management. You'll gain understanding of related processing and production methods and best practices in the marketing of sustainable food products Pet Food Science Rutgers Food Science is the first of its kind to offer a Pet Food program of study. Processing, shelf-life and safety of pet foods are substantially like processing of foods for humans. Students in the Pet Food Science option will be provided a solid foundation in Food Science with knowledge of Animal Science to provide them the basics of know-how for development of pet foods.

Total number of students within the major (give an estimate from UPD if the exact number is unknown)

65 Students total as of November 28th, 2022

Goals within the major - What are expectations of students post-graduation?

The goals of the major are to strengthen a student's understanding of Food Science and Food Technologies. Graduates will be able to understand the principles and concepts of processing techniques and the effects of processing parameters on product quality. They also will demonstrate professionalism, leadership skills, as well as become proficient in communication. They also will become competent in the core areas of food science.

List 2-3 high-level major courses. What is the goal of each course? What should students be learning?

Principles of Food Science: -Students will gain an overview of Food Science and its interdisciplinary nature in an introduction to common food systems, their composition, behavior, and uses as well as fundamental molecules (water, proteins, lipids, carbohydrates) that provide the structure, function, and chemical/physical properties of foods. Food Analysis -Students will learn how to describe various analytical methods employed to quantify the composition and reactions of various food components, gain a clear understanding of the analytical procedures used to analyze specific food components and critically determine the relative advantages and disadvantages of various analytical techniques. Food Chemistry: -Students will be able to be able to control the major chemical/biochemical (enzymatic) reactions that influence food quality with emphasis on home and food industry applications. They will also be able to demonstrate the properties of different food components and interactions among these components modulate the specific quality attributes of food systems. They also will be able to understand the principles that underlies the biochemical/enzymatic techniques used in food analysis.

Student Issues

Are there any concerns/student issues with classes? Are there any suggestions for solutions to these issues?

There are no student concerns. If students have any questions or concerns, they can reach out to the program director or their advisor.

From the perspective of the UPD or faculty members, what could be improved upon in the major (anything, not just related to classes)? Are there any suggestions for solutions to these issues?

The number of Food Science Major students is lowering, and we are looking for more students.

Things going on within the major (Visitors, Talks, Seminars within the major)

A large majority of the professors within the major allow for undergraduates to work in their labs as well as assist with graduate research. If a student is interested in becoming involved, they can go to the Food Science website and see a list of each individual professor and their current research projects. Reach out and email the professor to set up an interview as well as to ask any questions that they may have. There is an undergraduate Food Science Club here at Rutgers. They have many opportunities to network and make connections with other students as well as have opportunities for students to reach out in their career field.

Suggestions for students in this major (ex: organizations to join, news to pay attention to)

Make sure to strengthen your skills in both science and math, and you will succeed in the field. There are a variety of jobs available and the alumni network is strong as well. Check the Food Science website for frequent job postings. The Alumni network is strong and many share about their experiences. There are many job opportunities in the Tri-state area, and as long as you strengthen your studies in math and sciences, you will succeed.

Changes within the major in the upcoming year?

There are no major upcoming changes.

Discussion