

Food Science

The mission of the Department of Food, Bioprocessing and Nutrition Sciences (<https://cals.ncsu.edu/food-bioprocessing-and-nutrition-sciences/>) is to foster and provide premier research, education and outreach efforts in food, bioprocessing and nutrition sciences to improve the quality of lives throughout North Carolina, the United States and the world. The strategic directions of the faculty and staff are in the areas of food safety and foodborne disease prevention, food manufacturing and entrepreneurship, education innovation and effectiveness, and foods for health and well-being. The department also houses two industry-focused research centers, the Southeast Dairy Foods Research Center and the Center for Advanced Processing and Packaging Studies, and manages the Dairy Enterprise System for teaching and research.

The department offers graduate programs leading to the Master of Food Science (non-thesis), Master of Science, and Doctor of Philosophy degrees. Course offerings and research opportunities are available in the following areas: chemistry-biochemistry, engineering, microbiology, nutrition, and processing technology. Students gain hands-on experience in our pilot plants and have ample opportunity to augment it with internships at companies such as those who are members of our Industry Partners Advisory Council (IPAC) and those who join us at the weekly Food Science Club meetings. Students engage with campus clubs and organizations, and are active in national professional associations.

Students in the Master of Food Science non-thesis program may follow an emphasis in food safety, product development, or food regulation and communication. Research students work under the direction of faculty in Schaub Hall on our Raleigh campus, in the Plants for Human Health Institute (PHHI) at the North Carolina Research Campus in Kannapolis, NC, or at the Center for Marine Sciences and Technology (CMAST) in Morehead City, NC.

Master's Degree Requirements

The Master of Food Science is a non-thesis degree that requires a minimum of 36 credit hours, including an independent project and professional skills. The Master of Science (M.S.) degree requires a minimum of 30 credit hours, one semester of teaching assistance, research, and a written thesis. Both degree programs must include courses from at least two of the following categories: chemistry-biochemistry, engineering, microbiology, nutrition, and processing technology.

Doctoral Degree Requirements

The Ph.D. degree requires a minimum of 36 to 54 hours of course and research credits beyond the master's degree. Total credits will vary depending on the needs of the student and the requirements of the Graduate School. The doctoral program must include courses from at least three of the following categories: chemistry-biochemistry, engineering, microbiology, nutrition, and processing technology. Two semesters of teaching assistance is also required and all students must pass a departmentally administered written preliminary exam, designed to evaluate a Ph.D. student's general knowledge and comprehension of food science.

Student Financial Support

Admission does not guarantee availability of financial support. Although most M.S. and Ph.D. students receive support in the form of a graduate

assistantship from research grant funds awarded to faculty members, funding is limited and positions are highly competitive within a major professor's program area. Students are encouraged to make personal contact with individual faculty whose research program (<https://cals.ncsu.edu/food-bioprocessing-and-nutrition-sciences/research/>) is of interest to them to inquire about assistantship availability.

Information regarding other types of aid available for graduate education can be found on the Graduate School website or obtained from the Office of Scholarships and Financial Aid.

More Information

Food Science Program Website (<https://cals.ncsu.edu/food-bioprocessing-and-nutrition-sciences/students/graduate/>)

Admission Requirements

The Food Science Graduate Program (<https://cals.ncsu.edu/food-bioprocessing-and-nutrition-sciences/students/graduate/>) is a very competitive program, with a large number of applications received for each admitted student. Students accepted will typically have a bachelor's or master's degree in food science or the equivalent. Graduates of other majors may be admitted but will have additional course requirements. The best qualified applicants will be accepted up to the number of spaces that are available for new students.

We evaluate the entire application for each student, including their GPA, personal statement, recommendation letters, and relevant experience (e.g., internships, research, volunteer or paid work, etc.). A completed application consists of:

- A personal statement
- A transcript from each university attended
- Three letters of recommendation
- A resume or CV
- English proficiency scores (non-US citizen applicants)

Admission to the Master of Food Science non-thesis degree program will be based on the qualifications of the applicant. However, we only recommend admission to the Master of Science (M.S.) or Doctor of Philosophy (Ph.D.) degree program if a member of our research faculty is willing to advise the student's research. Applications from qualified candidates will be reviewed by faculty seeking research students; conversely applicants may contact faculty whose research specialty is of interest to inquire about available positions.

Applicant Information

- **Delivery Method:** On-Campus
- **Entrance Exam:** None
- **Interview Required:** None

Application Deadlines

- **Fall:** June 25 (US); March 1 (Int)
- **Spring:** November 25 (US); July 15 (Int)
- **Summer 1:** March 25 (US); December 15 (Int)
- **Summer 2:** May 10 (US); December 15 (Int)

Degrees

- Food Science (MR) (<http://catalog.ncsu.edu/graduate/agriculture-life-sciences/food-science/food-science-mr/>)
- Food Science (MS) (<http://catalog.ncsu.edu/graduate/agriculture-life-sciences/food-science/food-science-ms/>)
- Food Science (PhD) (<http://catalog.ncsu.edu/graduate/agriculture-life-sciences/food-science/food-science-phd/>)
- Food Science (Minor) (<http://catalog.ncsu.edu/graduate/agriculture-life-sciences/food-science/food-science-minor/>)
- Food Safety (Certificate) (<http://catalog.ncsu.edu/graduate/agriculture-life-sciences/graduate-certificate/food-safety-cert/>)

Full Professors

Jonathan C. Allen

Kenneth E. Anderson

Rodolphe Barrangou

Frederick Breidt

Benjamin James Chapman

Lisa Louise Dean

Mary Anne Drake

Lora Suzanne Goodell

Scott A. Hale

Gabriel Keith Harris

Hosni Moustafa Hassan

Lee-Ann Jaykus

Sophia Kathariou

Saad A. Khan

Colin David Kay

Mary Ann Lila

K. P. Sandeep

John Douglas Sheppard

Assistant Professors

Alexander Vladimirovich Chouljenko

Lynette Marie Johnston

Marvin Leonel Moncada Reyes

Deepti Arvind Salvi

Ondulla Tyvette Toomer

Minliang Yang

Haotian Zheng

Practice/Research/Teaching Professors

Fernanda Bottaro de Oliveira Santos

Josip Simunovic

Nicola Singletary

Adjunct Faculty

Pablo Marcelo Coronel

Jack Parker Davis

Brian E. Farkas

Mario Giovanni Ferruzzi

William Ronald Aimutis Jr.

Katherine Patterson Maloney

Tawanda Muzhingi

Shengmin Sang

Associate Professors

April Fogleman

Dana J. Hanson

Suzanne Dunn Johanningsmeier

Slavko Komarnytsky

Andrew Peter Neilson

Ilenys Muniz Perez-Diaz

Clinton Dale Stevenson