

# AGRICULTURAL SCIENCES (ANFS)

<https://colsa.unh.edu/agriculture-nutrition-food-systems>

## Overview

### Degrees offered: Master of Science (M.S.) and Doctor of Philosophy (Ph.D.)

*These programs are offered in Durham.*

The Department of Agriculture, Nutrition, and Food Systems offers advanced degrees in Agricultural Sciences at the Masters and Doctoral levels.

Emphasis is placed on acquiring basic and practical knowledge and research experience in one or more of the diverse components of plant and animal agriculture and food systems including: breeding and genetics, physiology, environmental interactions, organismal health, field and greenhouse production, aquaculture, and the social and economic dimensions of food production and distribution systems. The agricultural sciences graduate programs prepare students to become highly knowledgeable and competent in professional fields related to agriculture and food systems, and leaders in collaborative and interdisciplinary efforts to address local, regional, national and/or global agricultural issues.

With a M.S. or Ph.D. in Agricultural Sciences, students may pursue careers in plant and animal agriculture, aquaculture, food production and distribution systems, teaching, public service, positions in federal, state, nonprofit, private organizations, and/or related fields.

## Programs

- [Agricultural Sciences \(M.S.\)](#)
- [Agricultural Sciences \(Ph.D.\)](#)

## Courses

### Agriculture, Nutrition, and Food Systems (ANFS)

**ANFS #840 - Aquaponics**

**Credits: 4**

Aquaponics integrates aquaculture and hydroponic systems producing fish and plants. The integration of these systems first requires an understanding of the needs for each system. This experiential course will dive into the concept of turning wastes into resources with hands-on growing and management experience in aquaponic food production systems. We will cover the fundamentals, and challenges of integrating recirculating aquaculture and hydroponic systems. Students are required to sign up for one farm day per week.

**Grade Mode:** Letter Grading

**Special Fee:** Yes

**ANFS 895 - Special Topics**

**Credits:** 1-4

Advanced studies in specific areas of relevance to agriculture, nutrition, and/or food systems.

**Repeat Rule:** May be repeated for a maximum of 8 credits.

**Grade Mode:** Letter Grading

**ANFS 899 - Master's Thesis**

**Credits:** 1-10

Master's thesis research.

**Repeat Rule:** May be repeated for a maximum of 10 credits.

**Grade Mode:** Graduate Credit/Fail grading

**ANFS 901 - Introduction to Agriculture, Nutrition, and Food Systems  
Graduate Studies**

**Credits:** 1

This course explores foundational ANFS graduate program expectations (proposed timelines, programmatic requirements, resources, and research opportunities) while modeling collaborative, interdisciplinary, and inquiry-based systems learning. Students will investigate selected topics that permeate across traditional discipline boundaries, thus developing skills ubiquitously applicable to all. Students will sharpen critical thinking, writing and presentation skills to apply systems thinking to graduate research studies. The importance of values, ethics, networking, and work/life balance will be explored.

**Grade Mode:** Letter Grading

**ANFS 933 - Design, Analysis, and Interpretation of Experiments**

**Credits:** 4

Through in-depth consideration of common general linear models used in the analysis of variance, this course introduces graduate students to the fundamental concepts and statistical methods necessary to plan, conduct, and interpret effective experiments. The course provides an opportunity for graduate students to receive critical input on the experimental design and analysis of their individual research projects. All analyses are conducted using the open-source package R; no previous coding experience is required.

**Grade Mode:** Letter Grading

**ANFS 997 - Agriculture, Nutrition, and Food Systems Seminar**

**Credits:** 1

Graduate student, faculty and invited presenters on current topics in agriculture, animal science, plant science, nutritional sciences and food systems. Open to COLSA graduate students only.

**Repeat Rule:** May be repeated for a maximum of 4 credits.

**Grade Mode:** Graduate Credit/Fail grading

**ANFS 999 - Doctoral Dissertation Research**

**Credits:** 0

Doctoral dissertation research.

**Grade Mode:** Graduate Credit/Fail grading

## Faculty

Please see <https://colsa.unh.edu/agriculture-nutrition-food-systems/faculty-staff-directory> for faculty.