Executive Summary

Graduate Certificate Program in Feed Science

Department of Poultry Science
College of Agriculture and Life Sciences

The faculty in the Department of Poultry Science has been working with the faculty in the Interdepartmental Nutrition Program to develop graduate courses that will be offered by distance education in the Professional Masters of Nutrition Program. These courses (PO/NTR 515 Advance Comparative Nutrition and PO/NTR/FM Advance Feed Science and Technology) will be combined with a quality assurance course to create the foundation of the Graduate Certificate in Feed Science. A Graduate Certificate requires a minimum of 12 hours; the certificate will have 9 required hours and 3 electives from a list of other feed milling and nutrition courses.

The Graduate Certificate Program in Feed Science is designed to prepare professionals and current degree program students to work in the feed industry. Students enrolled in the Master of Nutrition offered via distance education and graduate students on campus can add the certificate to their program. The program will provide advanced content in feed science technology, animal nutrition and formulation, and feed industry leadership. Courses will be delivered both on campus and by distance education methods.

The objectives of this program are for the student to acquire an understanding of the technical aspects of modern feed and pet food manufacturing, feed mill operations and leadership, feed and ingredient quality assurance, food chain safety, feed industry regulations, animal nutrition and feed formulation, feed product marketing and strategic planning, and how to apply technical and academic skills to the challenges of the global feed industry. Students that wish to focus on feed processing research will have the opportunity to utilize the newly opened state-of-the-art Feed Mill Educational Unit located at the Lake Wheeler Field Laboratory, which is a $5.5 million investment of state and private feed industry resources.

There are over 900 feed mills in the United States registered with the Food and Drug Administration to produce medicated feeds. Of these, 46 mills are located in North Carolina. The certificate program will allow feed manufacturing and allied industry companies to provide training and development opportunities to their employees without taking them away from their normal work duties for an extended period of time. The feed industry and its allied partners are continuously seeking qualified people to formulate diets and provide technical support for their customers in North Carolina, the nation, and world. Currently, the Department of Grain Science and Industry at Kansas State University leads the nation and world in training individuals in the feed industry. Other than the Department of Grain Science, which offers a Minor, B.S., M.S., and Ph.D. in Feed Science no other university in the nation offers a formal education program in Feed Science. The Certificate in Feed Science will also open new opportunities to partner with potential clientele in Asia and Latin American and offer graduate level courses through distance education programs. The Feed Science Advisory Board members, which represent the commercial, integrated, and allied feed industries, as well as feed and grain trade organizations have reviewed the proposed courses in the program and support their content.

This program will expand the course offerings in both the Feed Science and Nutrition programs to meet the needs of a growing feed industry as it strives to supply both high quality and safe feed to efficiently produce meat, milk, and eggs throughout the nation and world.
**Graduate Certificate Program in Feed Science**

**Department of Poultry Science**  
**College of Agriculture and Life Sciences**

**Description**

The Graduate Certificate Program in Feed Science is designed to prepare professionals or current degree program students to work in the feed industry. The program will provide an advanced foundation in feed science technology, animal nutrition and feed formulation, and feed industry leadership. All courses will be delivered by distance education methods.

The objectives of this program are for the student to acquire an understanding of the technical aspects of modern feed and pet food manufacturing, feed mill operations and leadership, feed and ingredient quality assurance, food chain safety, feed industry regulations, animal nutrition and feed formulation, feed product marketing and strategic planning, and how to apply technical and academic skills to the challenges of the global feed industry.

**Requirements**

A minimum of 12 credit hours from the prescribed list of courses and a grade of 'C-' or better in these courses is required to receive credit for the certificate. To receive a Graduate Certificate in Feed Science, a student must have a minimum 3.0 grade point average on all certificate course work. All course work must be registered through NC State University, transfer credit from other universities is not allowed. All work must be completed in four (4) calendar years, beginning from the time the application is approved by the Director of Graduate Programs. A student may obtain more than one graduate certificate in a different field. Each certificate must have at least nine (9) credit hours that are unique to it.

**Required Courses (9 credit hours)**

- PO/NTR 515 Advanced Comparative Nutrition (3 cr.)
- FM/NTR 525 Advanced Feed Science and Technology (3 cr.)
- FM 580 Feed and Ingredient Quality Assurance (3 cr.)

**Elective Courses (3 credit hours)**

- FM 460 Feed Mill Operations and Leadership (2 cr.)
- NTR/FM 790 Advanced Feed Formulation (3 cr.)
- FM 594 Advanced Feed Mill Experience (1-2 cr.)
- FM 601 Feed Science Seminar (1 cr.)
Admissions to the Graduate Certificate Program in Feed Science

Individuals interested in this certificate program must complete the admissions form and send it to the Director of Graduate Programs:

Dr. John T. Brake  
William Neal Reynolds Distinguished Professor  
of Poultry Science, Physiology, and Nutrition  
Department of Poultry Science  
Campus Box 7608  
North Carolina State University  
Raleigh, NC 27695-7608 USA  
Voice: 919-515-5060  
Fax: 919-515-2625  
john_brake@ncsu.edu

Applicants must have a BS/BA degree or equivalent four year degree in order to apply to the program.

Graduate Certificate Program in Feed Science Faculty

Dr. Jim Croom  
Professor of Poultry Science, Nutrition, and Physiology  
334 E Scott Hall  
919-515-4033  
jim_croom@ncus.edu

Dr. Peter Ferket  
William Neal Reynolds Distinguished Professor  
of Poultry Science and Nutrition  
234E Scott Hall  
919-515-5409  
peter_ferket@ncsu.edu

Dr. Charles Stark  
Assistant Professor of Poultry Science and Nutrition  
Feed Science Program Coordinator  
234C Scott Hall  
919-515-5399  
charles_stark@ncsu.edu

"Academic success in this certificate program might have a strong bearing on admission to a graduate degree program BUT completion of a certificate program in no way guarantees entry into a graduate degree program, which is a separate application process."