

Chapter 18 - Graduate Programs

College of Applied and Natural Sciences

Administration

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More information about the College of Applied and Natural Sciences can be obtained by writing to
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Ruston, LA 71272
(318) 257-4287
and by visiting the College's web site at:
<http://www.ans.latech.edu>

Graduate Degrees Offered

Master of Science

- Biology
- Family and Consumer Sciences
- Molecular Sciences and Nanotechnology
- Nutrition and Dietetics

Requirements for Admission

Students seeking admission to a graduate program in the College of Applied and Natural Sciences are required to have an earned bachelor's degree from an accredited college or university. Prospective students are also required to submit an official copy of their General Test scores from the Graduate Record Exam (GRE). Students admitted to a graduate program in the College of Applied and Natural Sciences may be awarded either unconditional or conditional admission status, based on the student's undergraduate grade point average (GPA) and GRE scores. In the School of Biological Sciences (Master of Science in Biology) the minimum GPA required for unconditional admission status is 3.00. In the School of Human Ecology (Master of Science in Family and Consumer Sciences, and Master of Science in Nutrition and Dietetics) the minimum GPA required for unconditional admission status is 2.75. Students may qualify for conditional admission status for each of the College's programs with a minimum GPA of 2.50. Unconditional admission status requires the minimum GPA, and a score of 1400, or higher, using the formula

$$(GPA \times 200) + (GRE\text{-}verbal + GRE\text{-}quantitative) = 1400$$

Conditional admission status requires the minimum GPA, and a score of 1200, or higher, using the formula

$$(GPA \times 200) + (GRE\text{-}verbal + GRE\text{-}quantitative) = 1200.$$

Students admitted to a graduate program will have their transcripts reviewed for previous course work completed. Students who lack necessary prerequisite course work may be

required to satisfy deficiencies in the early stage of their graduate program.

School of Biological Sciences

The School of Biological Sciences offers both thesis and non-thesis programs of study leading to the Master of Science in Biology (with concentrations available in Cell and Molecular Biology, Environmental Biology, and Organismal Biology).

Admission

Applicants to the Master of Science in Biology program must meet the general admission requirements of the Graduate School and the College of Applied and Natural Sciences.

Program of Study

Thesis Plan

The program of study for the degree of Master of Science in Biology with the thesis plan consists of a minimum of 30 semester hours of graduate credit of which at least 15 hours must be earned in 500-level, or above, courses. Required courses include BISC 502 (Research Methods in Biological Sciences), BISC 509 (Biological Sciences Seminar), BISC 535 (Current Topics in Biological Sciences), 9 semester hours of electives in the concentration area, 6 semester hours of general electives, and 3 semester hours of statistics. A maximum of 6 semester hours of credit for BISC 530 (Biological Sciences Special Problems) combined with BISC 540 and BISC 541 (Biological Sciences Internship) can be applied toward the degree. Enrollment in 3 hours of graduate credit is required each quarter the student is using university resources (faculty time, laboratories, computing facilities, etc.) for thesis work. A maximum of 6 semester hours of BISC 551 is granted as partial fulfillment of the degree plan. Students will pursue original research in a specialized field of interest, supervised by a thesis advisor and approved by the student's Graduate Advisory Committee. Completion of the thesis plan includes an oral defense of the thesis and oral examination, conducted by the student's Graduate Advisory Committee.

Non-Thesis Plan

The program of study for the degree of Master of Science in Biology with the non-thesis plan consists of a minimum of 36 semester hours of graduate credit of which at least 18 hours must be earned in 500-level, or above, courses. Required courses include BISC 502 (Research Methods in Biological Sciences), BISC 509 (Biological Sciences Seminar), BISC 517 (Applied Biological Sciences Research), BISC 535 (Current Topics in Biological Sciences), 12 semester hours of electives in the concentration area, 12 semester hours of general electives, and 3 semester hours of statistics. A maximum of 6 semester hours of credit for BISC 530 (Biological Sciences Special Problems) combined with BISC 540 and BISC 541 (Biological Sciences Internship) can be applied toward the degree. Non-thesis students are required to pass comprehensive written and oral examinations, conducted by the student's Graduate Advisory Committee.

Master of Science in Molecular Sciences and Nanotechnology

The School of Biological Sciences and the College of Applied and Natural Sciences offers an interdisciplinary Master of Science degree in Molecular Sciences and Nanotechnology (MSNT) in collaboration with the College of Engineering and Science. Please see Chapter 16 of this catalog for more information.

Research Activities

Faculty members conduct a wide range of research that may serve as the basis for student theses or independent study projects. Students interested in pursuing research are encouraged to contact the appropriate graduate faculty member, the Director of the School of Biological Sciences, or the Associate Dean for Graduate Studies and Research. Information describing faculty research areas is available directly from the faculty, from the School of Biological Sciences, or online at <http://www.ans.latech.edu>.

Financial Support

A limited number of university and externally funded assistantships are available on a competitive basis. Students holding assistantships will have out-of-state fees waived, if applicable. Students may also be employed as student workers. For additional information concerning financial support, contact the Director of the School of Biological Sciences.

School of Human Ecology

The School of Human Ecology offers both thesis and non-thesis programs of study leading to the Master of Science in Family and Consumer Sciences (with concentrations available in Early Childhood Administration, Early Childhood Education, Family and Consumer Sciences Education, Family and Child Development, and Human Ecology).

The School of Human Ecology also offers both thesis and non-thesis programs of study leading to the Master of Science in Nutrition and Dietetics (with concentrations available in Clinical Dietetics and Community Dietetics. This degree is awarded only to individuals who have satisfied requirements to take the examination to become a registered dietitian.

Dietetic Internship

The Dietetic Internship is a four-quarter program allowing students to meet the American Dietetic Association performance requirements required to be eligible to take the registered dietitian examination. Graduates of an accredited or approved didactic program in dietetics (DPD) may apply for admission to the dietetic internship. The program is implemented through facilities in Shreveport, Ruston/Monroe, and Alexandria. Students are assigned to facilities in one city to minimize required travel.

Dietetic internship students enroll in Graduate School and earn undergraduate and graduate credit while completing the program. Students are required to enroll in 6 hours of graduate credit during the summer, and 3 hours of graduate credit work during fall, winter, and spring. Students are encouraged to complete the Master of Science (MS) degree, although receipt of the Dietetic Internship verification statement does not require completion of the MS program.

Accreditation

Graduate programs support undergraduate degree programs in human ecology education which are included in the University accreditation by the National Council for Accreditation of Teacher Education, and approved for certification by the Louisiana State Department of Education. The human ecology teacher preparation programs are maintained through the joint activities of the faculty of the School of Human Ecology and the Louisiana Tech University Teacher Education Council.

The School of Human Ecology is an official member of the AAFCS Higher Education Unit. The undergraduate programs are accredited by the Council for Accreditation of the American Association of Family and Consumer Sciences and approved by the American Dietetic Association.

The Dietetic Internship is accredited by the Commission on Accreditation/Approval for Dietetic Education of the American Dietetic Association (216 West Jackson Boulevard, Chicago, IL 60606), a specialized accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation and the United States Department of Education.

Admission

Applicants to a graduate program in the School of Human Ecology must meet the general admission requirements of the Graduate School and the College of Applied and Natural Sciences. Applicants must have an earned bachelor's degree from an accredited college or university with a major in human ecology, or a related field.

Program of Study

Requirements for a Master of Science degree in the School of Human Ecology include

1. For the thesis plan, a total of 30 credit hours, including 6 hours of HEC 551 (Research and Thesis).
2. For the non-thesis plan, a total of 36 credit hours.
3. A grade point average of **B** on all graduate work pursued.
4. A minimum of one-half of required credit hours earned in 500-level or above courses.
5. Credit in HEC 504 (Methodology in Human Ecology Research), HEC 546 (Microcomputer Applications), and a statistics course available for graduate credit.
6. Completion of a thesis or multi-quarter independent study project.

Each student will develop an individualized plan of study, based on their selected area of study, with the guidance of their Graduate Advisory Committee. Recommended course work is listed in the School of Human Ecology Graduate Student Handbook. Students should contact the School of Human Ecology to obtain a copy of the Handbook.

Research Activities

Faculty in the School of Human Ecology are involved in areas of research which may serve as a foundation for students' theses or independent studies. Faculty research in Family and Consumer Sciences relates to young and older adults (e.g., close relationships, abstinence education for teenagers, intergenerational mentoring), children (e.g. child care availability, infant and toddler development, children's dietary intake and body images, preschool education methodology and teaching strategies, and developmentally appropriate practice), and shopping behaviors (e.g., the older shopper, behavior related to dress and image, and fashion cycles). Faculty research in Nutrition and Dietetics includes nutritional and dietary assessment (e.g., dietary fat intake, calcium intake, fruit and

vegetable intake, dietary supplements, risk factors for cardiovascular and osteoporosis diseases, and effects of size acceptance and body image perception on food intake), life cycle effects (e.g., maternal and child nutrition, and geriatric nutrition), food service management (e.g., environmental issues, financial, and employee productivity), and education (e.g., dietetic, and education factors that influence dietary intake).

Financial Support

A limited number of university and externally funded assistantships are available on a competitive basis. Students holding assistantships will have out-of-state fees waived, if applicable. Students may also be employed as student workers. The Merle Burke, Willie Fletcher, and Jeanne Mack Gilley scholarships are available for Human Ecology students. For additional information, contact the Director of the School of Human Ecology.