



**KENTUCKY STATE
UNIVERSITY**

MASTER OF SCIENCE IN AQUACULTURE/AQUATIC SCIENCE

The School of Aquaculture at Kentucky State University offers a Master of Science degree in Aquaculture/Aquatic Science. Aquaculture is the rearing of aquatic organisms under controlled or semi-controlled conditions. Interest in Aquaculture has increased worldwide as fish consumption has increased concurrently with decreasing catches of wild fish. In Kentucky and the southern United States, aquaculture production focuses on raising freshwater species commercially.

The curriculum meets criteria established by the University Programs Standards Committee of the American Fisheries Society for Fish Culture Specializations and criteria established by the United States Aquaculture Society, a chapter of the World Aquaculture Society. This program is designed to provide students with the training and experience required for immediate employment. However, the program is also designed to provide the academic foundation for further graduate studies.

The program requires each student to have a graduate committee. This committee will be responsible for evaluating the student's competencies based on comprehensive evaluation, and thesis presentation and defense. Upon completion of the program, students should have knowledge of production and reproduction of primary aquaculture species, basic genetics, physiology and nutrition of aquatic vertebrate and invertebrate culture species, mechanics, and operation of primary production methods, causes and controls of pathogenic organisms, the function and manipulation of biological and chemical cycles in ponds and recirculating systems, and the design and analysis of experiments.

Advisement

During the first semester at KSU the student will be assigned an advisor who will work with the student to design a course of study based on the student's academic background, experience, and future aspirations in terms of employment or further graduate study. The program has a new graduate student orientation meeting each semester where important deadlines are covered. This is a required meeting for all new graduate students, if you cannot make the meeting the day it is offered you are responsible to obtain the information. The committee will consist of at least three voting members which will be members of the College's graduate faculty. The committee will be responsible for establishing the courses required for this student's course of study.

Program Admissions Criteria Application

Admission to the Graduate Program in Aquaculture/Aquatic Sciences is based upon evidence that the applicant has already attained a

certain minimal level of academic proficiency. Applicants must assume responsibility for filing complete admission data, as listed below.

Application Form

Each student must submit a completed application form, providing all requested information. The Graduate Application can be found at: <https://apply.kysu.edu/residential> (<https://apply.kysu.edu/residential/>). A letter (1-2 pgs.) describing the applicant's goals and career objectives is also required.

Transcripts

Each applicant must provide official copies of transcripts of all previous college/university credits showing all grades received and any degrees or certificates that have been awarded. The student who has not completed his/her undergraduate degree at the time of application for admission to the Aquaculture Program must submit an official transcript at the time of application, as well as an official transcript with the posted degree once the degree requirements have been completed. Graduates from all schools other than Kentucky State University should contact their registrars and request that official copies of their transcripts be forwarded directly to the Graduate School at Kentucky State University. Students seeking full admission must be graduates of an accredited four-year institution of higher learning authorized to grant the baccalaureate degree, or foreign equivalent (see specific instructions for international students under the Graduate Admissions section of this catalogue)

Recommendation

Applicants should solicit three recommendations from instructors at previous institutions and request that they be submitted or mailed to the Office of Graduate Studies.

Application Deadlines

Applications should be received by May 15 for fall semester and by October 15 for spring semester admission. However, applications received after these dates may be considered.

Types of Graduate Admission

After evaluation of an applicant's credentials, the applicant will be notified by letter that

1. admission has been granted under one of the categories listed below,
2. admission has been denied, or
3. a decision has been deferred for reasons listed in the notice.

An admission letter will be issued by the Director of Graduate Studies stating the conditions of admission and the period of validity of the admission. An applicant who has not received an admission, denial, or deferment notice one month prior to the beginning of the final regular registration period should contact the Director of Graduate Studies for clarification. Attendance in the Master of Science in Aquaculture/Aquatic Science Program at Kentucky State University is not a right; it is a privilege which the University can withdraw as deemed necessary in order to safeguard the University's standards.

1. Regular Admission:

Applicants who meet the requirements for admission to the graduate program are eligible for unconditional admission. General requirements for unconditional admission are:

- a. A baccalaureate degree from an accredited institution;
- b. An overall undergraduate grade-point-average of 3.0 (on a 4.0 scale);

- c. Significant work experience in the field, or satisfactory completion of certain graduate courses, may be given consideration for students with lower than threshold scores in 1. B. and/or 1. C.

2. Provisional Admission:

An applicant unable to supply all the required application materials prior to admission consideration, but who otherwise meets the admission requirements, may be granted provisional admission. Complete and satisfactory credentials must be received by the Graduate School before the end of the semester in which the student has registered in a provisional status. A student normally will not be permitted to enroll with a provisional status for more than one semester. Provisional admission does not guarantee, in any way, subsequent unconditional admission.

3. Probationary Admission:

An applicant who does not meet conditions B and/or C of the admission requirements for unconditional admission but does show promise for successful graduate studies may be granted probationary admission. Students must be removed from probationary admission prior to registering in any graduate coursework beyond an initial 12 semester credit hours. The minimum condition for transfer from probationary admission status to unconditional admission status is the successful completion of at least nine semester credit hours of graduate coursework in the School of Aquaculture and Aquatic Sciences at Kentucky State University while maintaining a graduate grade-point-average of at least 3.0 and with no more than one grade (regardless of the number of course credit hours) of "C" or lower. The student will be informed of all conditions for consideration for unconditional admission at the time the student is granted probationary admission status. A student admitted under the probationary admission status should not attempt any graduate coursework graded pass/fail. International students will not be admitted on a probationary admission basis.

4. Non-Degree Admission:

An individual wishing to take graduate aquaculture courses for personal or professional development, but who does not plan to pursue a graduate degree, may be admitted as a non-degree student. A non-degree student must hold a baccalaureate degree from a regionally accredited institution and must have a minimum overall undergraduate GPA of 2.5.

5. Certificate Seeking Admission:

An individual wishing to pursue the Graduate Certificate in Aquaculture, but not the full MS degree may be admitted as Certificate Seeking. A Certificate Seeking student must hold a baccalaureate degree from a regionally accredited institution and must have minimum overall undergraduate GPA of 2.8 on a 4.0 scale. Students must pass all courses with a C or higher to successfully complete the Graduate Certificate in Aquaculture.

Thesis Option

To successfully complete the thesis option, 29 hours of Coursework and 6 hours of Thesis and/or Research Credit are required (total of 35 credit hours needed). Required courses and thesis topic must be approved by the student's graduate committee. The purpose of the thesis option is to demonstrate the student's ability to investigate a research topic and report the findings in proper scientific publication style. This enables the student to gain experience in a specific area of aquaculture and/or aquatic sciences and to report research results in a publishable document. Experience in literature review, experimental design, data collection, record-keeping, statistical analysis, and manuscript preparation are obtained by students completing the thesis

option. Students who intend to further their graduate education (e.g. pursue a doctoral degree) should choose this option, because doctoral programs often require students to have demonstrated their ability to successfully complete a master's thesis. Please refer to the Aquaculture Graduate Student Handbook for specifics on the Thesis including format and processes. The handbook is available from your advisor and the program coordinator.

Non-Thesis Option

To successfully complete the non-thesis option, 35 hours of Coursework and 3 hours of Internship (Work-Study) for a total of 38 credit hours are needed. Graduate students enrolled in the Non-Thesis Option are required to perform a work-study program as determined by their major professor and approved by their committee. Some settings where the student might work include an aquaculture/aquatic sciences facility such as a fish farm, processing plant, feed manufacturer, disease lab, university, or a state or federal fisheries facility. Cooperative Extension work may also be chosen. A report would be written along with a review of literature for a specific aspect of the work-study experience. A detailed proposal will be written by the student and approved by the student's committee before the work-study is performed.

School of Aquaculture Courses

Code	Title	Hours
ENV 506	Exper. Design & App. Stats.	3
AQU 507	Fish Genetics	3
AQU 510	Fish Diseases Laboratory	1
AQU 511	Fish Diseases	3
AQU 512	Fish Morphology/Physiology	4
AQU 521	Fish Nutrition	3
AQU 522	Principles of Aquaculture	3
AQU 527	Fish Reproduct/Spawning Tech	3
AQU 528	Fish Reproduction Labs	1
AQU 551	Survey of Production Methods	3
AQU 552	Aquaponics	3
AQU 560	Water Quality Management	3
AQU 561	Water Quality Management Lab	1
AQU 570	Recirculating Aquaculture	3
AQU 591	Internship: Aquaculture	1-4
AQU 600	Research Aquaculture	1-9
AQU 601	Thesis	1-3

Degree Completion Requirements

Application for Degree

An application for graduation must be received in the School of Aquaculture and Aquatic Sciences according to the University Academic Calendar for the semester in which the program completion is expected (see the Academic Calendar for submission dates). Graduation application forms are available upon request from the Office of the Registrar. Students should refer to the following section for complete details concerning application for graduation. Fees will be billed to the student's account by the cashier. Students will be considered candidates for graduation only if they have an overall and program graduate grade-point average of 3.0 or higher at the beginning of the term in which they wish to graduate.

Master's Thesis

Students who submit a thesis in partial fulfillment of the master's degree must prepare it in conformity with regulations approved by the School of Aquaculture and Aquatic Sciences. Instructions for the preparation should be obtained from the graduate student handbook provided at the graduate orientation and can be found on the program's website (www.ksuaquaculture.org (<http://www.ksuaquaculture.org>)) before the thesis is typed. Theses must be developed under the direction of a full member of the Aquaculture Graduate Faculty.

Minimum Hours Required

The Master of Science in Aquaculture/Aquatic Sciences Degree Program requires a minimum of 35 semester credit hours for the Thesis Option or 38 semester hours for the Non-Thesis Option.

Comprehensive Examination(s) and/or Final Thesis Defense

All candidates shall perform satisfactorily on written examination(s) of the contents of their program of studies. Written comprehensive examinations are scheduled after the application for the degree has been filed and evidence exists indicating that the student will complete all degree requirements. A written comprehensive examination may not be given while the student's overall graduate grade-point average is below 3.0.

The committee chair must file the Schedule of Written/Comprehensive Examination in the Aquaculture Research Center with copies to the student and committee members at least two weeks prior to the comprehensive examination. Committee chairs shall certify the results of the completion of the comprehensive examination to the Chairperson, School of Aquaculture and Aquatic Sciences no later than 30 days in advance of Commencement.

Students taking the Thesis Option will complete a written comprehensive examination and an oral presentation and defense of the completed Thesis. Non-Thesis students will complete a written comprehensive examination, an oral presentation covering the capstone work-study experience, and an oral comprehensive examination. The pass/fail decision on the written comprehensive, oral comprehensive, and/or thesis defense will be made by the student's graduate committee according to established School of Aquaculture and Aquatic Sciences procedures.

A review period of no less than 60 days, and no more than one year, is required of candidates who fail the written comprehensive examination, thesis final defense, or oral comprehensive (non-Thesis). Additional courses or thesis work may be required of an unsuccessful candidate. Committee changes are not normally approved between the first taking of the comprehensive examinations or thesis final defense and the retake. The written comprehensive examination may not be retaken more than once for the master's degree.

Graduate Certificate in Aquaculture/Aquatic Sciences

The Graduate Certificate in Aquaculture/Aquatic Sciences can be earned by successfully completing 12 hrs. of Aquaculture (AQU) 500 level courses. These courses can be virtual, classroom, or any combination. To enroll, students must first be admitted to the University on either a degree seeking or non-degree seeking basis. Work completed for the Certificate may later be applied toward the Masters of Aquaculture and Aquatic Science degree. As with all graduate level classes, students must pass all classes for this certificate with a grade of "C" or higher.

Time Limit for Degree Completion

All program requirements must be completed ideally within three years of initial admission but no more than six years, unless otherwise approved by the Chairperson of the School of Aquaculture and Aquatic Science.

Class Attendance

The University expects all students to attend class regularly. Students are responsible for coursework covered during all class periods. Each instructor will record absences and deal with them in a manner consistent with University policy. If a student presents the instructor with an adequate and documented reason for an absence, the instructor normally will give the student an opportunity to make up the work missed, if this is feasible. Adequate reasons involve circumstances beyond the student's control, such as personal illness, critical illness or death in the immediate family, or participation in an approved University activity. It is the student's responsibility to initiate the request to make up class work missed. Students should familiarize themselves with each faculty member's course syllabus for specific details.

Graduate Student Assistantships

A limited number of Graduate Research Assistantships provide student assistance for the Aquaculture Program. Students holding these positions work 20 hours per week. Assistantships are awarded on the basis of need and high academic achievement.