FISHERIES AND AQUATIC SCIENCES

Program Information

Director: Terrell "Red" Baker III
Graduate Coordinator: Robert Ahrens

Since 1937 the School of Forest Resources & Conservation has prepared students for professional careers caring for natural resources. We emphasize the role of people in managing both terrestrial and aquatic systems, to produce the myriad of benefits and services they provide. Our faculty have a broad range of interests, including ecology, economics/policy, and recreation/education, and are united by an interest in environmental resources, rather than by traditional academic discipline. The School is composed of three programmatic areas: Fisheries and Aquatic Sciences, Forest Resources and Conservation, and Geomatics. Combined, these programs offer seven different degree options (including two professional masters degrees), as well as concentrations and certificates in a diversity of specific areas.

The School's program in Fisheries and Aquatic Sciences leads to the Master of Science, Master of Fisheries and Aquatic Sciences (nonthesis), and Doctor of Philosophy degrees with a program in Fisheries and Aquatic Sciences. Minimum requirements for these degrees are given in the Graduate Degrees (http://catalog.ufl.edu/graduate/degrees/) section of this catalog.

The Fisheries and Aquatic Sciences program also offers a combined bachelor's/master's degree program. Contact the graduate coordinator for information.

The School of Forest Resources and Conservation's program in Fisheries and Aquatic Sciences conducts research, teaching, and extension programs in four broad areas:

- Sustainable fisheries
- Aquaculture
- Aquatic animal health
- Conservation and management of aquatic environments

Faculty encompass both freshwater and marine environments, as well as managed aquaculture systems. Collaborators include the UF College of Veterinary Medicine, National Biological Survey, National Marine Fisheries Service, Harbor Branch Oceanographic Institute, Mote Marine Laboratory, the US Geologic Survey, the Florida Fish and Wildlife Conservation Commission, and others. Academic programs are structured to emphasize direct engagement of students with faculty. Further information, including specific degree options, faculty biographies, and information on the admissions process, is available at: http://sfrc.ufl.edu.

Degrees Offered

Degrees Offered with a Major in Fisheries and Aquatic Sciences

- Doctor of Philosophy
  - without a concentration
  - concentration in Geographic Information Systems
  - concentration in Natural Resource Policy and Administration
  - concentration in Wetland Sciences
- Master of Fisheries and Aquatic Sciences
  - without a concentration
  - concentration in Geographic Information Systems
  - concentration in Natural Resource Policy and Administration
  - concentration in Wetland Sciences
- Master of Science
  - without a concentration
  - concentration in Geographic Information Systems
  - concentration in Natural Resource Policy and Administration
  - concentration in Wetland Sciences

Requirements for these degrees are given in the Graduate Degrees (http://catalog.ufl.edu/graduate/degrees/) section of this catalog.

Courses

School of Forest Resources and Conservation Courses

Geomatics Concentration Courses

Code	Title	Credits
GIS 6103	GIS Programming and Customization	3
GIS 6116	Geographic Information Systems Analysis	3
SUR 5365	Digital Mapping	3
SUR 5385	Remote Sensing Applications	3
SUR 5386	Image Processing for Remote Sensing	3
SUR 5525	Least Squares Adjustment Computations	3
SUR 6395	Topics in Geographic Information Systems	3
SUR 6427		3
SUR 6535	GPS-INS Integration	3
SUR 6905	Special Problems in Geomatics	1-6
SUR 6934	Topics in Geomatics	1-4

Fisheries and Aquatic Sciences Program Courses

Code	Title	Credits
FAS 5015	Aquaculture I	3
FAS 5203C	Biology of Fishes	4
FAS 5255C	Diseases of Warmwater Fish	3
FAS 5276C	Field Ecology of Aquatic Organisms	4
FAS 5335C	Applied Fisheries Statistics	4
FAS 5407	Biology of Fishery and Aquaculture Invertebrates	3
FAS 5901	Scientific Thinking in Ecology	2
FAS 6154	Marine Adaptations: Environmental Physiology	3
FAS 6165	Fish and Crustacean Nutrition	3
FAS 6176	Algae Biology and Ecology	3
FAS 6256	Fish and Aquatic Invertebrate Histology	3
FAS 6272	Marine Ecological Processes	3
FAS 6273	Trophic Ecology of Fishes	3
FAS 6337C	Fish Population Dynamics	4
FAS 6339C	Advanced Quantitative Fisheries Assessment	4
FAS 6355C	Fisheries Management	4
FAS 6408	Aquaculture II	3
FAS 6416	Spatial Ecology and Modeling of Fish Populations	2
FAS 6905	Individual Study	1-6
FAS 6910	Supervised Research	1-5

FAS 6932	Special Topics in Fisheries and Aquatic Sciences	1-4
FAS 6933	Graduate Symposium	1
FAS 6935	Contemporary Problems in Fisheries and Aquatic Sciences	2
FAS 6940	Supervised Teaching	1-5
FAS 6971	Research for Master's Thesis	1-15
FAS 7979	Advanced Research	1-12
FAS 7980	Research for Doctoral Dissertation	1-15

Forest Resources and Conservation Program Courses

Code	Title	Credits
FNR 5072C	Environmental Education Program Development	3
FNR 5335	Agroforestry	3
FNR 5462		3
FNR 5608	Research Planning	3
FNR 6061	Conflict and Collaboration in Natural Resources	3
FNR 6560	Intro to Bayesian Statistics for Life Sciences	3
FNR 6564	Ecohydrology	3
FOR 5157	Ecosystem Restoration Principles and Practice	3
FOR 5159	Ecology and Restoration of Longleaf Pine Ecosystems	3
FOR 5161	Forest Productivity and Health	3
FOR 5435	Forest Information Systems	3
FOR 6628	Community Forest Management	3
FOR 5756		3
FOR 6005	Conservation Behavior	3
FOR 6151	Forest Ecosystem Health	3
FOR 6154	Analysis of Forest Ecosystems	3
FOR 6156	Simulation Analysis of Forest Ecosystems	3
FOR 6164	Silviculture: Concepts and Application	3
FOR 6170	Tropical Forestry	3
FOR 6215	Fire Paradigms	3
FOR 6340	Physiology of Forest Trees	3
FOR 6345C		2
FOR 6543	Natural Resource Economics and Valuation	3
FOR 6628	Community Forest Management	3
FOR 6665	Landscape Planning for Ecotourism	3
FOR 6905	Research Problems in Forest Resources and Conservation	1-6
FOR 6910	Supervised Research	1-5
FOR 6933	Seminar	1
FOR 6934	Topics in Forest Resources and Conservation	1-4
FOR 6940	Supervised Teaching	1-5
FOR 6971	Research for Master's Thesis	1-15
FOR 7979	Advanced Research	1-12
FOR 7980	Research for Doctoral Dissertation	1-15
PCB 5530	Plant Molecular Biology and Genomics	3
PCB 6528	Plant Cell and Developmental Biology	3
PCB 6555	Introduction to Quantitative Genetics	3
SUR 6377	Geospatial Application of UASs	3
SUR 6502C	Foundations of UAS Mapping	3
SUR 6940C	Practicum in UAS Mapping	3

College of Agricultural and Life Sciences Courses

Code	Title	Credits
ALS 5156	Agricultural Ecology Principles and Applications	3
ALS 5905	Individual Study	1-4
ALS 5932	Special Topics	1-4
ALS 6046	Grant Writing	2
ALS 6166	Exotic Species and Biosecurity Issues	3
ALS 6921	Colloquium on Plant Pests of Regulatory Significance	1
ALS 6925	Integrated Plant Medicine	4
ALS 6931	Plant Medicine Program Seminar	1
ALS 6935	Topics in Biological Invasions	3
ALS 6942	Principles of Plant Pest Risk Assessment and Management	3
ALS 6943	Internship in Plant Pest Risk Assessment and Management	1-10
ANS 6936	Graduate Seminar in Animal Molecular and Cell Biology	1-2
BCH 5045	Graduate Survey of Biochemistry	4
FYC 6422	Policy Issues and Case Studies in Nonprofit Organizations	3
STA 6093	Introduction to Applied Statistics for Agricultural and Life Sciences	3
STA 6329	Matrix Algebra and Statistical Computing	3

Student Learning Outcomes

Fisheries & Aquatic sciences (PHD)

SLO 1 Knowledge
Describe and explain key concepts, theories and information in their discipline.

SLO 2 Knowledge
Apply the scientific method and the appropriate methodologies to the generation of new knowledge.

SLO 3 Skills
Communicate effectively in both written and oral form.

SLO 4 Skills
Develop and execute proper experimental or sampling designs.

SLO 5 Skills
Utilize critical thinking to evaluate spoken and written communications.

SLO 6 Professional Behavior
Work in teams with peers; interact honestly, ethically and with cultural sensitivity; translate skills, knowledge and motivation into observable behaviors related to success in specific situations.

Fisheries & Aquatic sciences (MFAS)

SLO 1 Knowledge
Describe and explain key concepts, theories and information in their discipline.

SLO 2 Knowledge
Apply the appropriate methodologies to the synthesis of existing knowledge.

SLO 3 Skills

Communicate effectively in both written and oral form.

SLO 4 Skills
Develop and execute proper project design.

SLO 5 Skills
Utilize critical thinking to evaluate spoken and written communications.

SLO 6 Professional Behavior
Work in teams with peers; interact honestly, ethically and with cultural sensitivity; translate skills, knowledge and motivation into observable behaviors related to success in specific situations.

fisheries & Aquatic Sciences (MS)

SLO 1 Knowledge
Describe and explain key concepts, theories and information into their discipline.

SLO 2 Knowledge
Apply the scientific method and the appropriate methodologies to the generation of new knowledge.

SLO 3 Skills
Communicate effectively in both written and oral form.

SLO 4 Skills
Develop and execute proper experimental or sampling designs.

SLO 5 Skills
Utilize critical thinking to evaluate spoken and written communications.

SLO 6 Professional Behavior
Work in teams with peers; interact honestly, ethically and with cultural sensitivity; translate skills, knowledge and motivation into observable behaviors related to success in specific situations.