



University Council

January 13, 2023

UNIVERSITY CURRICULUM COMMITTEE – 2022-2023

Susan Sanchez, Chair

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Public and International Affairs – Rongbin Han

Public Health – Pamela Orpinas

Social Work – Harold Briggs

Veterinary Medicine – Shannon Hostetter

Graduate School – Christof Meile

Ex-Officio – Provost S. Jack Hu

Undergraduate Student Representative – Kate Lindgren

Graduate Student Representative – Yehia Abdelsamad

Dear Colleagues:

The attached proposal from the Warnell School of Forestry and Natural Resources to offer a new Minor in Fisheries and Aquatic Sciences will be an agenda item for the January 20, 2023, Full University Curriculum Committee meeting.

Sincerely,

Susan Sanchez, Chair

University Curriculum Committee

cc: Provost S. Jack Hu
Dr. Marisa Pagnattaro

PROPOSAL FOR MINOR PROGRAM OF STUDY

1. **School/College:** Warnell School of Forestry and Natural Resources
2. **Department/Division:** Warnell School of Forestry and Natural Resources
3. **Minor Name:** Fisheries and Aquatic Sciences
4. **Proposed Effective Date:** Fall 2023
5. **Which campus(es) will offer this program?** Athens
6. **CIP:** 26130401

7. Program Description:

The Warnell School of Forestry and Natural Resources has a renowned Aquatic Sciences program providing undergraduate and graduate training for students pursuing a career in research and management of aquatic resources. The program integrates a variety of disciplines - such as ecology, biology, human dimensions, and policy - to provide the skills and knowledge needed for success in a variety of aquatic-focused professions. The Warnell aquatic courses provide hands-on training and experience, creating unique experiences for students that are often the most beneficial and memorable aspects of their tenure at UGA.

Global impacts to aquatic ecosystems have led to the gradual change in interests of students from managing aquatic resources for consumptive and recreational uses to the conservation and enhancement of imperiled or native species. These students may ultimately decide to pursue other majors – such as wildlife conservation – despite strong interests in aquatic ecosystems. Conservation of wildlife, whether aquatic or terrestrial, rely on holistic approaches involving many stakeholders with varying expertise. Faculty anticipate the offering of a Fisheries and Aquatic Sciences minor will be of strong interest for those students pursuing other related disciplines, including other majors in Warnell, B.S. in Ecology (Odum School of Ecology), B.S. in Ocean Science (Department of Marine Sciences), B.S. in Biology with an Emphasis in Marine Biology (Division of Biological Sciences), and others.

The Fisheries and Aquatic Sciences minor will provide an opportunity for students to expand their knowledge base, particularly for those otherwise interested in fisheries and wildlife science and conservation, human dimensions of conservation, water and soil sciences, and ecology. Furthermore, a Fisheries and Aquatic Sciences minor will be particularly attractive to other majors that lack courses in fisheries biology, management, and conservation.

8. Program of Study/Requirements:

The Fisheries and Aquatic Sciences minor consists of a minimum of 17 semester hours of coursework. At least 9 of the 17 hours must be upper division coursework. The proposed curriculum includes 5 to 6 required hours in fundamental courses on the principles of fish and wildlife management as well as a theoretical basis in ecology. Options for the ecology requirement were selected from several units on campus from which the minor is likely to draw students. Two courses (6-8 hours) must be taken from the following Foundational

Fisheries Courses.

Required Courses

- WILD(FISH) 3000W, Introduction to Fish and Wildlife Management (2 hours)

Choose one of the following Theoretical Basis in Ecology options (3-4 hours):

- ECOL 3500, Ecology (3 hours), and ECOL 3500L, Ecology Laboratory (1 hour)
- FANR 3200W, Ecology of Natural Resources (3 hours), and FANR 3200L, Ecology of Natural Resources Laboratory (1 hour)
- MARS 3200, Fundamentals of Ocean Science (3 hours)

Choose two of the following Foundational Fisheries options (6-8 hours):

- FISH 4200/6200, Aquatic Biology (3 hours), and FISH 4200L/6200L, Aquatic Biology Laboratory (1 hour)
- FISH(ECOL)(MARS)(WILD) 4300/6300, Environmental Biology of Fishes (3 hours), and FISH(ECOL)(MARS)(WILD) 4300L/6300L, Environmental Biology of Fishes Laboratory (1 hour) – *lab optional*
- FISH 4500/6500, Fish Physiology (3 hours), and FISH 4500L/6500L, Fish Physiology Laboratory (1 hour) – *lab optional*
- FISH(ECOL)(MARS)(WILD) 4550/6550-4550L/6550L, Sustainable Aquaculture (4 hours)
- FISH 4650L/6650L, Georgia Fishes Field Study (4 hours)
- FISH 5360/7360, Fisheries Management (3 hours), and FISH 5360L/7360L, Fisheries Management Laboratory (1 hour) – *lab optional*

Elective Courses (choose 6 hours not taken above)

- ECOL 4050/6050-4050L/6050L, Ichthyology (4 hours)
- ECOL(MARS) 4225- 4225L, Methods in Marine Ecology (4 hours)
- ECOL(FISH)(WASR) 4310/6310, Freshwater Ecosystems (3 hours), and ECOL(FISH)(WASR) 4310L/6310L, Freshwater Ecosystems Lab (1 hour)
- ECOL(BIOL)(MARS) 4330/6330-4330L/6330L, Tropical Marine Invertebrates (4 hours)
- ENTO 4940/6940-4940L/6940L, Aquatic Entomology (4 hours)
- FISH 3900, Fisheries Internship (1-3 hours)*

- FISH 4200/6200, Aquatic Biology (3 hours), and FISH 4200L/6200L, Aquatic Biology Lab (1 hour)
- FISH(ECOL)(MARS)(WILD) 4300/6300, Environmental Biology of Fishes (3 hours), and FISH(ECOL)(MARS)(WILD) 4300L/6300L, Environmental Biology of Fishes Laboratory (1 hour) – *lab optional*
- FISH(ECOL) 4360/6360, Fish Ecology (4 hours)
- FISH 4500/6500, Fish Physiology (3 hours), and FISH 4500L/6500L, Fish Physiology Lab (1 hour) – *lab optional*
- FISH(ECOL)(MARS)(WILD) 4550/6550-4550L/6550L, Sustainable Aquaculture (4 hours)
- FISH 4650L/6650L, Georgia Fishes Field Study (4 hours)
- FISH 5360/7360, Fisheries Management (3 hours) and FISH 5360L/7360L, Fisheries Management Laboratory (1 hour) – *lab optional*
- MARS 3100, Oceans in Peril (3 hours)
- MARS 3450, Marine Biology (3 hours)
- MARS 3550, Life in Fluids (3 hours)
- MARS 4400/6400, Introduction to Marine Policy (3 hours)
- MARS 4740L/6740L, Scientific Diving I (2 hours)
- WILD(ECOL) 4040/6040-4040L/6040L, Herpetology (4 hours)

*Students must apply for internship credit before starting work.

8. Approvals:



Associate Dean for Academic Affairs

12/19/2022

Department Head

Department

Date



Warnell School

12/20/2022

Dean

School/College

Date

Documentation of Approval and Notification

Proposal: Minor in Fisheries and Aquatic Sciences

College: Warnell School of Forestry and Natural Resources

Department: Warnell School of Forestry and Natural Resources

Proposed Effective Term: Fall 2023

School/College:

- Warnell School of Forestry and Natural Resources Associate Dean, Dr. Robert Bringolf, 12/19/22
- Warnell School of Forestry and Natural Resources Dean, Dr. Dale Greene, 12/20/22

Notification/Use of Courses:

- Entomology Department Head, Dr. Kris Braman, 1/6/23
- Marine Sciences Department Head, Dr. Daniela Di Iorio, 1/6/23
- Odum School of Ecology Associate Dean, Dr. Pejman Rohani, 1/6/23