

**Early Life History of Fishes**  
**FW 474/574**

**Credit hours:** 4

**Term offered:** Fall

**Instructor:** Jessica Miller (co-taught with Lorenzo Ciannelli, COAS)

**Course objectives:** The goals of this class are: 1) to learn about fish development and the importance of early life history stages in ecology, evolution, and fisheries science; and 2) to develop critical evaluation skills.

**Course content:** Students will be introduced to the unique considerations of eggs, larvae, and juvenile fishes as well as conceptual and quantitative models associated with the role of early life history in ecology, evolution, and fisheries science. Students will learn how knowledge on these topics is generated using the scientific method. Concepts will be presented in the context of life history evolution and the development of traits that maximize overall fitness. Particular emphasis will be placed on understanding the factors affecting survival in relation to environmental variation and human activities. We will draw examples from selected case studies, which are representative of the range of life history characters of marine and diadromous fishes. The course will include lecture and laboratory sessions. Students will participate in lectures, laboratory sessions, and be asked to critically review relevant peer-reviewed literature.

**Recommended Prerequisites:** Biology of Fish FW 315.

**Recommended Text:** Fishery Science: The Unique Contributions of Early Life History Stages. 2002. Edited by L. A. Fuiman & R. G. Werner.

Selected articles and lecture notes provided at each meeting

**Term papers:** Undergraduates will demonstrate ability to synthesize and integrate peer-reviewed literature and work within a small group by developing a written and oral review of a specific topic in early life history research.

Graduate students will demonstrate ability to synthesize and integrate peer-reviewed literature and work within a small group as well as formulate hypotheses through the development of a research proposal on some aspect of early life history and an oral presentation of that proposal.

**Testing:** Mid-term and several quizzes.

**Students for whom the course is intended:** Upper division undergraduate and graduate students