

**J. Sargeant Reynolds Community College  
Course Content Summary**

**Course Prefix and Number:** BIO 299

**Credits:** 4

**Course Title:** Supervised Study in Ecology: Advanced

**Course Description:** Assigns problems for independent study incorporating previous instruction and supervised by the instructor. Provides students an opportunity to research scientific literature on their selected topic, design a field study to be conducted, assemble and analyze observed field data, and complete a final report on this research. Prerequisites: One year of college biology (including BIO 102) and MTH 161 or MTH 167 or faculty approval. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

**General Course Purpose:** The purpose of this course is to introduce the student to the process of scientific research, conducted in a systemic fashion utilizing the scientific method and concluding with the presentation of a scholarly journal article. Student will conduct a detailed and complex research project. The course may be used as an elective in the Science AS degree.

**Course Prerequisites and Co-requisites:**

Prerequisites: One year of college biology (including BIO 102) and MTH 161 or MTH 167 or faculty approval.

**Student Learning Outcomes:**

Upon completing the course, the student will be able to

- a. Understand and implement the scientific method to study biological problems;
- b. Complete a thorough scientific literature search;
- c. Utilize experimental design to develop research protocols;
- d. Collect, analyze, and statistically evaluate data;
- e. Explain data and trends and correlate the data to what is currently known in the field;  
and
- f. Present the research by writing a journal-level article for possible publication, as well as presenting the data at a formal scientific meeting.

**Major Topics to Be Included:**

- a. General ecology concepts
- b. Natural history of researched organisms
- c. Animal behavior topics
- d. Population ecology concepts

**Date Created/Updated (Month, Day, Year):** January 23, 2019