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