

If the student takes Bio 094 for more than one credit, an oral presentation to the faculty and students before the end of the semester and subsequent evaluation by the faculty is mandatory. Specific instructions for both the written and oral reports required for Biology 94 follow.

1) Written Report

A 10-15-page paper should be written in the style and format of a scientific paper following the format used in Introductory Biology. The paper should include the following:

- a) Title page including
 - 1) Title of paper,
 - 2) Your name and date of oral presentation (if applicable), and
 - 3) Name and institution of host scientist or adviser.
- b) Abstract - a one-paragraph summary of the study, summarizing the main points from each section of the paper.
- c) Introduction - a 1-2 page explanation of the question and the purpose of the investigation.
- d) Materials and Methods - a description of the equipment and materials used in the experiment.
- e) Results - text and graphical presentation of results. Data should be shown in graph or table form when possible; captions and labels should provide sufficient detail for readers not familiar with the field.
- f) Discussion - A discussion of the main conclusion of the paper as evidenced by the data. Relate the conclusions to work done by other investigators in the same area.
- g) Acknowledgments
- h) Literature cited - Use an accepted form found in scientific journals.
- i) It is preferable to have the figures included in the body of the paper but it is not essential. The figures and tables are not included in the 10-15 page limit.
- j) The Introduction, Materials and Methods, Results and Discussion should be double-spaced and the Abstract, Acknowledgments, and Literature Cited, as well as figure legends and table headings should be single-spaced.

These papers will be read by two selected faculty members, including your advisor.

2) Oral Report

The oral presentation is an important part of a student research project and its evaluation. It is a public presentation given before the Biology faculty, staff and students and is limited to 15 minutes for the presentation and an additional 5 minutes for a question and answer period. It is necessary, therefore, for the student to devote time and study to the planning and preparation of the oral presentation.

The talk should begin with an introduction that is broad enough to give the audience the background necessary for understanding the investigation. It should be assumed that the audience has only an introductory level of biological knowledge. The problem, the hypothesis, and the purpose of the investigation should be explained. Materials and methods should be described only briefly unless a new apparatus was designed especially for this experiment. Questions may be asked later about specific procedures or equipment.

Students should present the results of the study in a manner that will enable the audience to grasp the meaning as clearly and easily as possible. Talks should be illustrated with slides of tables and graphs so that data can be interpreted quickly. Statistical analyses should be included if possible. Detailed or trivial data not necessary to the conclusion of the investigation should be omitted. The final discussion should concentrate on a conclusion and generalization about the experimental results. Findings and interpretations should be compared with the work of previous investigators, making certain to indicate any differences in the conditions of the experiments. If possible, make predictions and suggest further experiments.

One of the most important aspects of the talk is its length. It is absolutely necessary to practice ahead of time so that the talk can be given within a 15-minute time limit. The careful selection of topics to be included and the consequent elimination of other data and ideas is one of the most difficult but important tasks in preparing an oral presentation.

3) Grade

The grade is determined by the faculty of the Biology Department and is based on:

- . a) The oral presentation.
- . b) An evaluation of the work from the host scientist or faculty mentor.
- . c) The written paper.