01:447:489-490 Advanced Independent Study in Genetics

Expectations of the Advanced Independent Study Student

Advanced Independent Study in Genetics is an opportunity for students to complete a scholarly project under the direct supervision of a faculty mentor. Projects are varied, but could include library research on a topic of mutual interest to both the student and the faculty member, computer simulations, informative website design, or development of teaching materials. To make the experience worthwhile for both the student and the research mentor, we expect the student to commit a sizable amount of time to the project. This course is not, and should not, be “an easy A” course. On average, the student should expect to spend between 3 to 5 hours a week per credit on the project during the Fall or Spring semesters. Thus, for a typical three-credit course, students would be expected to work 12-15 hours per week. During this period, the student will be expected to be conducting library research, designing and implementing relative materials, reading about their research project, attending appropriate functions and meetings, and completing reports and their research paper.

End of Semester Paper

A written research paper in the format of a scientific paper or a review article is required at the end of each semester. The research paper can include an Introduction, Results (based on data researched from the literature), Discussion, and References. Alternatively, the Results section can describe the computer simulation, website, or teaching materials that are developed during the semester.

In general, we require a minimum of 10 pages for a one, two or three credit course (double spaced, no larger than 12 pt. font). When registering for more than three credits, students are expected to write an additional 3 pages per credit above the minimum 10-page paper. Please consider these page guidelines as rock-bottom minimums. The student’s report needs to be long enough to get the job done and to satisfy research mentor’s expectations.

Students should submit a draft of their paper to their research mentor well in advance of the due date, so that he or she can make corrections and give suggestions. The report for subsequent semesters does not need to be completely different from the first semester report if the student is continuing the project (i.e., much of the Introduction can simply be updated).

The paper is a major part of the grade and must be written in the student’s own words. The student should avoid extensive quotes and paraphrases. Papers that are not original may be rejected (see below). All papers will be checked with TURNITIN.

The student must upload an electronic copy of the paper to the SAKAI (https://sakai.rutgers.edu/portal/) site for Independent Study in Genetics for that particular semester. Papers may be submitted in either .doc, .pdf, or plain text (.txt) formats. The Submission Title for your paper should be the student’s name, the course number, and RUID. For example, Gregor Mendel 489 RUID 301001121. Do not use titles such as “Research Report.” We will download the final paper from the email for our archives, and we need each paper to be easily identifiable.
The research paper is due for SAKAI upload by the first day of final exams by 11:30 AM. If a grade is not received by this time, the student will receive a grade of NG on their transcript. It is the responsibility of the student to know the due date.

Grading
For each rubric/question, the research mentor should select the appropriate evaluation. When completed, the research mentor should send a copy of this grading rubric form to the Vice Chair (heiman@dls.rutgers.edu) by the first day of exams.

1. How would you rate the student’s ability to research the primary literature and/or develop a project, as well as communicate findings?
   - **Outstanding:**
     - Skillfully employs technologies to access information, research an issue or test a hypothesis, and communicate findings.
     - Makes effective and efficient choices.
     - Demonstrates a sophisticated understanding of the strengths and limitations of a particular technology (or methodology the technology allows).
   - **Good:**
     - Efficiently employs appropriate technologies to access information, research an issue or test a hypothesis, and communicate findings.
     - Identifies the strengths and limitations of a particular technology (or methodology the technology allows).
   - **Satisfactory:**
     - Satisfactorily employs appropriate technologies to access information, research an issue or test a hypothesis, and communicate findings as directed by the course.
     - Satisfactorily recounts the strengths and limitations of a particular technology (or methodology the technology allows).
   - **Unsatisfactory:**
     - Does not employ appropriate technologies to access information, research an issue or test a hypothesis, and communicate findings.
     - Cannot identify the strengths and limitations of a particular technology (or methodology the technology allows).

2. How would you rate the student’s ability to analyze and critically assess scientific and/or technological data?
   - **Outstanding:**
     - Thoroughly and skillfully assesses the credibility, timeliness, relevance, completeness, and value (significance) of information or source of information (author and publisher) accessed through traditional and emergent technologies.
     - When assessing statistical and scientific research, applies standards of replicability, falsifiability, and generalizability.
   - **Good:**
     - Critically assesses the credibility, timeliness, relevance, completeness, and value (significance) of information or source of information (author and publisher) accessed through traditional and emergent technologies.
     - When assessing statistical and scientific research, identifies standards of replicability, falsifiability, and generalizability.
   - **Satisfactory:**
     - Satisfactorily assesses the credibility, timeliness, relevance, completeness, and value (significance) of information or source of information (author and publisher) accessed through traditional and emergent technologies.
     - When using statistical and scientific research, satisfactorily identifies standards of replicability, falsifiability, and generalizability.
   - **Unsatisfactory:**
• Fails to assess the credibility, timeliness, relevance, completeness, and value (significance) of information or source of information (author and publisher) accessed through traditional and emergent technologies.
• When invoking statistical and scientific research, fails to identify standards of replicability, falsifiability, and generalizability.

What letter grade do you wish to assign to the student?

☐ **A** The student has surpassed the expectations of the course and demonstrated “outstanding” achievement evaluations in most or all rubrics.

☐ **B+** The student has surpassed the expectations of the course and demonstrated a combination of “outstanding” and “good” achievement evaluations in the rubrics.

☐ **B** The student has achieved the learning goals of the course and demonstrated “good” achievement evaluations in most or all rubrics.

☐ **C+** The student has achieved the learning goals of the course and demonstrated a combination of “good” and “satisfactory” achievement evaluations in the rubrics.

☐ **C** The student has achieved some but not all of the learning goals of the course and demonstrated “satisfactory” achievement evaluations in most or all rubrics.

☐ **D** The student barely achieved any of the learning goals of the course and demonstrated a combination of “satisfactory” and “unsatisfactory” achievement evaluations in the rubrics.

☐ **F** The student did not achieve any of the learning goals and demonstrated “unsatisfactory” achievement evaluations in most or all rubrics.

*Note: if this is the student’s first semester in your lab or group, then please calibrate your expectations accordingly. A brand new student in your lab or group might not achieve “outstanding” in all of the rubrics above, but still be doing “A” grade work when calibrated for his or her inexperience.*