

Dear Research Mentor,

Thank you for allowing our honors student into your lab and taking the time to mentor them. The experience conducting independent scholarship is invaluable for their future career. For this reason, to graduate with a major in Genetics, students are required to conduct independent scholarship, over at least two semesters. During these semesters, the student registers for research credits and are graded on their work. Therefore, at the end of the semester, we require your evaluation of their effort in your lab. We understand that you are busy and want to make the final evaluation as easy and quick as possible.

On page 2 of this document, I am providing you the expectations for the student. Knowing the student expectations at the beginning of the semester will help with your evaluation at the end. I encourage you to discuss these expectations with the student in the beginning of the semester so that there are no misunderstandings.

**MENTOR'S EVALUATION:** Two weeks before the last day of classes, the department coordinator, Amy Meerovich, will send you an email containing a link to the Mentor's Evaluation Rubric (using the Qualtrics survey system). This survey rubric (see below table) is your evaluation of the student's work while in the lab and for the semester research paper. **The Qualtrics rubric also asks research mentors some additional questions that will help us assess the level of Honors to award the student.** To help with your evaluation of the rubric and grade, I have provided some guidelines on how to evaluate the student on the subsequent pages (pages 3-5). We will also include this information in the Qualtrics survey. Because the evaluation is part of the student's semester grade, we need your evaluation by the last day of class. The student can provide you with that date.

Thank you again and best wishes,

Gary A. Heiman, PhD  
Vice Chair and Undergraduate Director  
Department of Genetics  
Rutgers, The State University of New Jersey  
E) [heiman@dls.rutgers.edu](mailto:heiman@dls.rutgers.edu)  
P) 848-445-9576

### RESEARCH MENTOR'S EVALUATION RUBRIC

Rubrics	Ranking (Lowest to Highest)			
	Unsatisfactory	Satisfactory	Good	Outstanding
A. Field Knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Statement and Justification of Hypothesis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Technical Ability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Analysis, Presentation, & Interpretation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Conclusions, Implications, & Future Directions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Effective Oral Communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Effective Written Communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Student semester grade for time in your lab and the semester paper: \_\_\_\_\_

#### Grading for the course:

A (90-100), B+ (87-89), B (80-86), C+ (77-79), C (70-76), D+ (67-69), D (60-66), F (0-59)

Percent of grade	Description
85%	Research mentor's grade (end of the semester)
15%	Completing other course requirements (detailed in next 4 rows)
• 5%	• SURVEY: Current Independent Scholarship project & mentor information
• 10%	• Submitting Final Revised Thesis

Please see following pages for expectations for student and the guidelines for evaluation rubrics and grade.

## Student Expectations and Mentor Evaluation Guidelines for 01:447:409 *Honors in Genetics*

*This form should be read at the beginning of the semester by both the student and his/her research mentor.*

### EXPECTATIONS OF THE RESEARCH HONORS STUDENT

To make the experience worthwhile for both the honors student and the research mentor, we expect the student to commit a sizable amount of time to the Honors Research course. The course is not, and should not, be “an easy A” course (many students do not get an "A"). On average, the student should expect to spend a minimum of 3 to 5 hours a week per credit in the lab during the Fall or Spring semesters. Thus, for a typical three-credit course, students are expected to work a minimum of **9-15 hours per week**. For a student performing 6 credits of Honors, the expectation is a minimum of 18-30 hours per week. During this period, the student is expected to be in the lab conducting experiments, organizing their data, reading background literature, attending lab functions and meetings, and completing reports. In addition, the student is expected to complete the **Honors thesis**.

### HONORS THESIS

Honors students take an additional course *Thesis Writing and Communication in Genetics* (01:447:415) to assist them in writing their Results and Discussion sections of their thesis by Genetics Department Honors Day, as well as with their oral presentations required for their research. Students should submit draft of these sections to their research mentor well in advance of the due date, so that the mentor can review and provide comments, corrections, and edits. The written thesis 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.

**ORAL THESIS DEFENSE:** As part of honors thesis, the student must select members of the thesis committee. The thesis committee is composed of at least three faculty members, including the research mentor. At least one Genetics Department faculty member must serve on the thesis committee. The student will also make an oral thesis defense to this same committee, and this defense must take place before the Genetics Department Honors Day (typically during the first or second week of April).

### Mentor’s Evaluation Rubric and Grade

A major part of the student’s course grade (01:447:409) is based on **research mentor’s evaluation**. Two weeks before the last day of classes, the department coordinator, Amy Meerovich, will send the mentor an email containing a link to the Mentor’s Evaluation Rubric. This rubric includes the research mentor’s grade for the student’s time in the lab. Since the mentor’s evaluation is part of the semester course grade, we need the evaluation by the **last day of classes**. The student is responsible to alert the research mentor of this deadline.

**IMPORTANT: If your research mentor does not complete the Qualtrics rubric by the time grades are due at the registrar, the student will receive a "TZ" grade for the course!!!**

## Mentor's Evaluation Guidelines for Rubric

### A. Field Knowledge – Factual and Conceptual

- **Outstanding:** Background information is completely accurate and has the appropriate level of specificity to provide useful context to aid the audience's understanding; primary literature references are relevant, adequately explained and indicate a reasonable literature search.
- **Good:** Background information has the appropriate level of specificity to provide relevant context; primary literature references, while few, are relevant and adequately explained. Background information may contain minor omissions/inaccuracies, but these do not detract from the major point of the presentation.
- **Satisfactory:** Background omits information or contains inaccuracies which detract from the major point of the presentation; background information is overly narrow/general and only partially relevant; primary literature references, if present, are inadequately explained.
- **Unsatisfactory:** Background information is missing or contains major inaccuracies; background information is accurate, but irrelevant or too disjointed to make relevance clear; primary literature references are absent or irrelevant, many containing website or secondary references.

### B. Statement and Justification Of Hypothesis

- **Outstanding:** Clear statement of hypothesis with clear justification in context of the field.
- **Good:** Clear statement of hypothesis with some degree of justification.
- **Satisfactory:** Clear statement of hypothesis without clear justification.
- **Unsatisfactory:** No clear statement of hypothesis.

### C. Technical Ability

- **Outstanding:** Skillfully employs technologies to access information, research an issue, 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, 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, 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, test a hypothesis, and communicate findings. Cannot identify the strengths and limitations of a particular technology (or methodology the technology allows).

### D. Analysis, Presentation and Interpretation of Data

- **Outstanding:** Clear and effective analysis and presentation of data. Accurate interpretation of data and recognizing its limitations. When assessing statistical and scientific research, applies standards of reproducibility, falsifiability, and generalizability.
- **Good:** Clear analysis and presentation of data.
- **Satisfactory:** Presentation of data with little to no analysis and interpretation.
- **Unsatisfactory:** Poor presentation of data and no analysis and interpretation.

### E. Drawing Appropriate Conclusions and Identifying Implications And Future Directions

- **Outstanding:** Draws accurate and relevant conclusions from data; makes appropriate connections between hypothesis, data and conclusions; conclusions address and logically refute or explain lack of/conflicting data; insightful or sophisticated identification of implications and future directions.
- **Good:** Draws accurate conclusions from data; reasonable and clear chain of logic from hypothesis to data to conclusions is made; conclusions attempt to discuss or explain conflicting/missing data; offers appropriate implications based on the conclusions and offers appropriate directions for future work.
- **Satisfactory:** Attempts to draw conclusions, but they are inaccurate; connections between hypothesis, data and conclusions are present but weak; conflicting/missing data are poorly addressed; offers implications and future directions that are not very relevant to the project.
- **Unsatisfactory:** Makes no attempt to draw conclusions or make appropriate implications.

## F. Effective Communication – Oral

- **Outstanding:** Effective audience engagement (e.g., eye contact), supporting audience involvement; effective variations in rate/volume/tone/voice inflection for audience/purpose; fluent delivery and effective response to all questions asked.
- **Good:** Fluent delivery and appropriate response to most questions asked. Engagement with audience is not consistent or not with the entire audience; effective rate/volume; appropriate tone/voice inflection for audience/purpose.
- **Satisfactory:** Minimal audience engagement; some reading of content; some rate/volume inadequacies; little variation in tone/voice inflection; somewhat halting delivery with frequent space fillers (e.g. “um,” “like,” etc.); unable to completely answer most questions.
- **Unsatisfactory:** Little or no audience engagement; reads content; speaks too fast/too slow; speaks too loud/too soft; speaks with monotone/highly erratic voice inflection; halts delivery with frequent distracting fillers; unable to answer any questions.

## G. Effective Communication – Written

- **Outstanding:** The document can be easily followed. A combination of the following are apparent: effective transitions are used throughout, a professional format is used, and the graphics/figures are descriptive and clearly support the document’s purpose; the document is clear and concise and appropriate grammar is used throughout.
- **Good:** The document can be easily followed. A combination of the following are apparent: basic transitions are used, a structured format is used, and some supporting graphics are provided but not clearly explained; the document contains minimal distractions in thought, graphical presentations, and grammar/mechanics.
- **Satisfactory:** Organization of the document is difficult to follow due to a combination of inadequate transitions, rambling format, insufficient or irrelevant information, and ambiguous graphics/figures. The document contains numerous distractions that appear in the form of flow in thought, graphical presentations, and grammar/mechanics.
- **Unsatisfactory:** There appears to be no organization of the document’s contents; sentences are difficult to read and understand.

## Guideline for student’s semester grade for time in your lab and the semester paper

- **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.

**Additional Questions Regarding Level of Honors**

1. *When did the student start in your lab?*
2. *What kind of commitment (e.g., hours per week) did the student make to his/her research in your lab?*
3. *How much independence did the student achieve while working in your lab?*
4. *How much did the student accomplish, experimentally while in your lab? Was there an accumulation of data on the student's part?*
5. *Did the student show evidence of creativity in regard to his/her research, e.g. come up with original ideas or approaches, do independent literature research on the topic and uncover information relevant to the project.*
6. *How would you rate the quality of the written thesis? Is the introduction a comprehensive review of the subject? Are the results and figures described in an understandable and informative style? Did the student put significant effort into preparing the written thesis and how much did you have to edit the thesis?*
7. *How would you rate the quality of the thesis presentation? Was the oral presentation organized lucid, informative? How did the student respond to questions and how was the student's grasp of the project both theoretically and experimentally?*
8. *Did the student present this work at a scientific meeting?*
9. *Was the work published or will it soon be published?*
10. *Are there any special factors, which should be taken into account in determining the level of honors that you think the student deserves?*
11. *How does this student compare to other students whom you have had work in your laboratory?*  
 Top 5%  
 Top 10%  
 Top 20%  
 Top 50%  
 Out of how many students?
12. *Does the student merit consideration for a top departmental award (e.g., Henry Rutgers Scholar Award, MacMillan most outstanding research thesis, et cetera) based on their work in your lab?*  
 Yes       No

Comments: