

**Thesis Writing & Communication in Genetics
Spring Semester 2022**

COURSE SYLLABUS

Course Number:	01:447:415
Class Location:	Waksman 311
Class Meeting Times:	Mondays from 5:40 PM – 7:00 PM
Learning Management System:	canvas.rutgers.edu
Instructor:	Dr. Chris Rongo, Ph.D.
Office:	124 Waksman Institute (Busch)
Phone:	(848) 445-0955
Email:	crongo@waksman.rutgers.edu
Office Hours:	By Appointment

Course Description: Communication is an essential part of science. Whether it is communicating research findings to other scientists or conveying complex concepts to a lay audience, a scientist must have effective communication skills in order to succeed. Communication in science is typically through publications, posters, or oral presentations. The goal of this course is to provide students with guidance and practice in effectively communicating scientific findings, with particular emphasis on the completion of the written Honors thesis and its oral defense. Emphasis will be on analysis of research data and writing the discussion.

Course Goals: Students are expected to:

- Analyze research data so as to write the Results and Discussion sections of their thesis
- Prepare a fifteen-minute platform talk
- Prepare a longer talk for their thesis defense
- Prepare a poster that explains their research to the general public
- Learn to effectively incorporate critiques from peers and faculty in their revision of written and oral communication
- Learn to describe their research effectively, using relevant discipline-specific terminology with precision, accuracy & purpose
- Learn to present advanced scientific concepts accurately and effectively through oral Powerpoint and poster format presentations.

SAS Core Learning Goals Satisfied by the 447:414-415 combination:

WCr- Respond effectively to editorial feedback from peers, instructors, &/or supervisors through successive drafts & revision

WCd- Communicate effectively in modes appropriate to a discipline or area of inquiry.

Departmental Learning Goal:

- Use genetic information and ideas to critically analyze published research articles in genetics
- Design, conduct, analyze, and interpret experiments using appropriate laboratory techniques
- Effectively incorporate critiques from peers and faculty in their revision of written and oral communication
- Effectively describe their research, using relevant discipline-specific terminology with precision, accuracy & purpose

- Accurately and effectively present advanced scientific concepts through oral presentations.

Optional Textbook

[Scientific Writing and Communication: Papers, Proposals, and Presentations \(Third edition\)](#), Angelika H. Hofmann, Oxford University Press, 2016; ISBN: 9780190278540

The previous edition (Second edition, Oxford University Press, 2014; [ISBN: 9780199947560](#)) is perfectly fine as well, and cheaper used copies of it are available online.

[The Elements of Style \(Fourth Edition\)](#), Strunk, W. and White, E.B., Pearson Educational Limited, 2014; ISBN: 9780205309023. [PDF will be available on course canvas website.](#)

Course Purpose: This is the second semester of a two one-semester series titled *Thesis Writing and Communications*. The emphasis this semester will be the writing of the Results and Discussion sections of the thesis, plus updating and editing the parts of the thesis drafted in the fall. By the end of this semester students will have written their complete thesis. The entire thesis will go through multiple drafts, with edits from the instructors and most of your student colleagues. In addition, students will learn how to present their research effectively in seminar and poster formats.

Course Expectations: This is a course in effective communication in the area of genetics. It includes multiple written assignments and an oral presentation. This course is not a repeat of the English Department's Expository Writing course. Students are expected to attend and participate in every class. Students will be responsible for material presented in class, and any instructions or syllabus revisions announced in class and/or sent to the students by email or posted on Canvas.

What is Expected of Students: Students will (1) read published research articles in order to critically summarize their content, and read review articles as models for their Introduction; (2) write a Results section and a Discussion section modeled after such sections in research articles; (3) critique the written work of their fellow students, as editing and critiquing sharpens one's own writing skills; and (4) revise what has been written in response to the Instructor's and fellow students' critiques. Each week's task in class should be completed as described in the assignment instructions on Canvas. Students are expected to attend and participate in each remote class, and to submit correctly formatted assignments to Canvas before the due date and time.

Students are also expected to (1) present their research via Powerpoint, (2) listen attentively to the research presentations of other students, (3) ask probing questions about the presented science following the presentation, and (4) provide constructive feedback about each presentation.

Instructor's Role: The instructor will not teach how to write correct English grammar. Rather, the instructor will discuss published scientific articles as examples, will help to organize the content related to the student's thesis, will provide written critiques, and will provide the opportunity to revise material for each draft. The Instructor will also coordinate and demonstrate oral presentations in the form of research seminars and short talks.

Format: During some classes, the instructor will give a lecture, ask questions, and lead a discussion of the assigned topic. During classes involving presentations, individual students will present their work to the class, and the instructor will guide discussion and provide critical

feedback. The PowerPoint slides for the lecture will be available before the lecture on Canvas. **In case of snow-days or other in-class cancellations, the course will transition to Zoom, and a the relevant Zoom information will be provided.**

Technology: Students are expected to view and participate in each class. A desktop or laptop computer with a webcam, audio capability, and internet access are necessary in case we need to hold a class via Zoom. Adequate browsers include Firefox, Chrome, and Safari. If a Zoom meeting is required, the “join meeting” URL for Zoom will be available on the course Canvas site as an announcement and sent to students’ default email address (if it hasn’t been changed in Notifications). Information about Canvas and about Zoom can be found at the URLs listed below. Computer technical help is available from the Office of Information Technology, Email: help@oit.rutgers.edu or by phone [833-OIT-HELP](tel:833-OIT-HELP). **File formats for written assignments must be MS-Word docx. File formats for oral presentations must be MS-PowerPoint pptx.**

Canvas: <http://canvas.rutgers.edu>

The Learning Management System (LMS) Canvas will contain the following items in the Files tab: Syllabus with schedule of topics, Modules with due dates and materials for weekly assignments, lecture slides available before the lecture, and files with additional information. Student’s work will be submitted to Canvas as assignments through individual modules. Announcements will include any relevant course information. A student guide to Canvas is available at: <https://canvas.rutgers.edu/students/getting-started-in-canvas-students/>

Zoom: Although this course will be given in-person, there is always the possibility of a class cancellation because of inclement weather (e.g., snow) or other issues (e.g., Covid outbreak). In this case, lectures and discussions during class will be synchronous and live using Zoom. The recurring “join meeting” Meeting ID, Passcode, and URL for accessing the class on Zoom will be available as an announcement on the course Canvas site and sent to students’ email. Lectures will be recorded and available for viewing after class on the course Canvas site. A short video on how to join a Zoom meeting can be found at:

https://www.youtube.com/embed/hlkCmbvAHQQ?rel=0&autoplay=1&cc_load_policy=1

Academic Integrity Policy: Rutgers University takes academic dishonesty very seriously, and students in this course are expected to maintain the highest level of academic integrity. By enrolling in this course, you assume responsibility for familiarizing yourself with the Academic Integrity Policy and the possible penalties (including suspension and expulsion) for violating the policy. As per the policy, all suspected violations will be reported to the Office of Student Conduct. Academic dishonesty includes (but is not limited to):

- Cheating (e.g., the use or possession of inappropriate or prohibited materials, information, sources, or aids in any academic exercise)
- Plagiarism (e.g., submitting papers, research results or reports, analyses, and other textual or visual material and media as one’s own work when others prepared them)
- Aiding others in committing a violation or allowing others to use your work
- Failure to cite sources correctly
- Fabrication (e.g., synthesizing research data, altering data without describing the alteration methodology, or altering data with the purpose to deceive)
- Using another person’s ideas or words without attribution—re-using a previous assignment
- Unauthorized collaboration
- Sabotaging another student’s work (if in doubt, please consult the instructor)

Please review the [Academic Integrity Policy](#) or the [Academic Integrity Resources for Students](#)

Use of external website resources such as Chegg.com or other such websites to obtain solutions to homework assignments, quizzes, or exams is cheating and a violation of the University Academic Integrity policy. Cheating in the course may result in grade penalties, disciplinary sanctions or educational sanctions. Posting homework assignments, or exams, to external sites without the instructor's permission may be a violation of copyright and may constitute the facilitation of dishonesty, which may result in the same penalties as plain cheating.

Almost all original work is the intellectual property of its authors. These works may include syllabi, lecture slides, recorded lectures, homework problems, exams, and other materials, in either printed or electronic form. The authors may hold copyrights in these works, which are protected by U.S. statutes. Copying this work or posting it online without the permission of the author may violate the author's rights. More importantly, these works are the product of the author's efforts; respect for these efforts and for the author's intellectual property rights is an important value that members of the university community take seriously.

For more instructions on copyright protections at Rutgers University, please refer to the [Rutgers Libraries](#).

Honor Pledge: To create a strong culture that promotes academic integrity, Rutgers has adopted the following honor pledge to be written and signed on examinations and major course assignments submitted for grading: ***On my honor, I have neither received nor given any unauthorized assistance on this examination or assignment.*** Participating in this class remotely, including submission of assignments, will be the equivalent to writing and signing the Honor Pledge.

Class Attendance (IMPORTANT-READ CAREFULLY): Students are expected to attend and be punctual for all classes. Attendance will be taken at the beginning of class. **Students will lose points for habitual lateness.** If you expect to miss a class, you **MUST** use the University absence reporting website <https://sims.rutgers.edu/ssra/> to indicate the date and reason for your absence. An email is automatically sent to the course instructor. If a student misses more than two classes prior to the withdrawal deadline, they will be asked to withdraw. Poor attendance is grounds for failure.

Assignment Due Dates and Lateness Penalties: Assignment deadlines are clearly indicated on assignments and on Canvas. Each assignment is due by the beginning of the class (5:00 PM).

Late assignments will be penalized 10% of the total grade for that assignment on the first day it is late, and another 10% for each additional 24-hour period past the deadline. **Even one minute late counts as late!** Don't wait until the last minute to submit an assignment. Internet connectivity problems or problems with Canvas will not be accepted as an excuse!

Please note that formatting is an important component of publications, presentations, and theses. **Students will lose points for failing to adhere to formatting guidelines. It is not unreasonable for an assignment to suffer a 10-20% penalty due to errors in formatting or failure to follow instructions.**

Performance Expectations and Evaluation Methods: Grades will be based on student performance on exams and homework assignments. Percent contribution towards the final course grade will be as follows:

- 16% Attendance
- 10% Oral Presentation or Critique of Oral Presentation
- 10% Assignment 1: Updated Draft with Results
- 10% Assignment 2: Practice PPT Presentation
- 10% Assignment 3: Critique Your Colleagues, Pt 1
- 4% Assignment 4: Honors Day Schedule and Thesis Committee Composition
- 10% Assignment 5: Updated Draft with Discussion
- 10% Assignment 6: Critique Your Colleagues, Pt 2
- 10% Assignment 7: Honors Day PPT Presentation
- 10% Assignment 8: Poster Presentation
- 10% Assignment 9: Final Revised Thesis

Grades will be calculated based on overall course performance. The following grading scale will be used:

90% A

85% B+

75% B

70% C+

60% C

I reserve the right to modify the grading scale downward (e.g., making the lowest A an 88%), but I will not adjust the grading scale upward. Grades below "C" will be determined based on the final score distribution at the end of the course.

Important: points will be taken off for not following instructions or not meeting deadlines!

Information for Student-Wellness Services:

Just In Case Web App (<http://codu.co/cee05e>)

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ rhscaps.rutgers.edu/

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / vpva.rutgers.edu/

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 (<https://ods.rutgers.edu/>)

The Office of Disability Services works with students with a documented disability to determine the eligibility of reasonable accommodations, facilitates and coordinates those accommodations when applicable, and lastly engages with the Rutgers community at large to provide and connect students to appropriate resources.

Scarlet Listeners

(732) 247-5555 / <http://www.scarletlisteners.com/>

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.

Psychiatric Emergency

(848) 932-7884 (8:30AM-4:30PM, Monday-Friday)

(855) 515-5700 (after 4:30 and on weekends)

GUIDELINES

A Note About Thesis Guidelines: The format of the thesis drafts submitted for this course should follow the “Thesis Guidelines” provided in the Resources section of the course Canvas site. These are updated from the Thesis Guidelines that appear in the Genetics Major’s Student Handbook. Ideally, the student should continue to build their thesis from the draft completed in the fall semester.

Final Thesis Guidelines, Spring semester, from the Genetics Major’s Student Handbook

- Title Page
- Acknowledgements Page (optional)
- Table of Contents
- Abstract (limited to 1 page)
- Introduction, typically 15-20 pages, broken into sections with subheadings)
- Materials and Methods (5-10 pages)
- Results (10-20 pages)
- Discussion (5-10 pages)
- Appendix (optional, could be anywhere from 1-20 pages)
- References (typically 5-15 pages, perhaps 50-100 references, with the majority being primary references. i.e., not reviews)

ACTUAL Thesis Draft Guidelines, Bold indicates updates to sections done in the fall semester, Notice changes * from above.

- Title Page
- Acknowledgements Page (optional)
- Table of Contents
- Abstract (limited to 1 page)
- **Introduction (minimum of 15-20 pages**, broken into sections with subheadings)
- Materials and Methods (* as appropriate)
- Results (10-20 pages)
- Discussion (5-10 pages)
- Appendix (**required – not optional***; Glossary, Lab protocols, additional optional material, could be anywhere from 1-20 pages)
- References (typically **5-15 pages, perhaps 50-100 references**, with the majority being primary references. i.e., not reviews)

The student’s Research Mentor may request a different format for a different end-of-semester report submitted to the Research Mentor for 447:408; **however, the Thesis Draft submitted for this course Thesis Writing 447:415 must adhere to the guidelines for this course.**