

**GEOLOGY DEPARTMENT, PORTLAND STATE UNIVERSITY**  
**G650- Research Methods I**  
**Fall 2021- 4 credits**

**Instructor:** Dr. John Bershaw  
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PSU Phone: 503-725-3378

Drop-in / Office Hours: MW 10:15-11:15am  
& By appointment

**Class Times & Room Numbers:** M 2-3:30pm & TH 11-12:30pm: CH-69

**Course Texts:** Readings & Papers will be provided

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**COURSE LEARNING OBJECTIVES:**

*The goal of this course is to build your research skills around obtaining, using, and communicating scientific information. This course will help you to use the scientific literature, understand the development of scientific argument, and communicate research ideas through writing and presentation.*

At the end of this course, students should be able to:

- Identify the different forms of scientific communication as well as the purpose and components of these.
- Identify criteria/best practices for good scientific communication.
- Identify the important points of scientific papers and communicate those points clearly and succinctly in a summary.
- Identify the hypothesis statement and conclusion of a paper and make connections between these and data in the paper.
- Discuss and critique the argument within a scientific paper.
- Discuss and critique the use of figures in a scientific paper.
- Give professional-level scientific presentations, expertly utilizing text, images, speech, and gestures.
- Give and utilize critical peer-review feedback on scientific writing and presentations.
- Identify strategies for a comprehensive search of scientific references.
- Identify strategies for reference management.
- Build a reference list and an annotated bibliography and identify the purpose of references in supporting understanding and writing in science.
- Engage in the synthesis of ideas from multiple references to address a common question.
- Prepare the outline of a research proposal and prepare and present these ideas in a thesis proposal presentation.

**GRADING & COMPONENTS OF THE COURSE:**

During the first 2-3 weeks of the term, grades will be assigned on a did or did not complete basis. As the term progresses, grades will be awarded based on a scaled rubric. These will be provided separately. The final reference list, annotated bibliography outline, and research goals/proposal outline will be given to your advisor to assess; the advisors assessment will be factored in to the final grade for these assignments.

Grading will be assigned based on scores as follows: 95% or above = A, 90-94.99% = A-, 87-89.99% = B+, 83-86.99% = B, 80-82.99% = B-, 77-79.99% = C+, 73-76.99% = C, 70-72.99% = C-, 67-69.99% = D+, 63-66.99% = D, 60-62.99% = D-, less than 60% = F. Letter grades will conform to the standards given in the PSU course catalog (A = excellent, B = superior, C = average, D = inferior, F = failure). I generally avoid giving "I" grades.

**...AND OTHER DETAILS YOU NEED TO KNOW:**

**IN-CLASS BEHAVIOR:** I expect you to treat your fellow classmates, the class space, and me with respect. Derogatory or harassing language is not acceptable in this class, whether shared with the entire class directly

or told as a joke a bit too loudly with your neighbor. I expect you to come to every class on time, to stay awake, and to participate in class as the situation requires. Please show your respect for the class by placing your cell ringers, text announcements, email alerts, and alarms on silent during class time, and only use your tech devices for class-related activities during class time.

**REPORTING SEXUAL HARASSMENT/SEXUAL VIOLENCE:** As an instructor, one of my responsibilities is to help create a safe learning environment for my students and for the campus as a whole. Please be aware that as a faculty member, I have the responsibility to report any instances of sexual harassment, sexual violence and/or other forms of prohibited discrimination. If you would rather share information about sexual harassment, sexual violence or discrimination to a confidential employee who does not have this reporting responsibility, you can find a list of those individuals here: [www.pdx.edu/sexual-assault/get-help](http://www.pdx.edu/sexual-assault/get-help). For more information about Title IX please complete the required student module [Creating a Safe Campus](#) in your D2L.

**ACADEMIC MISCONDUCT:** Academic misconduct includes cheating, plagiarism, and all forms of misrepresentation in academic work, and violates the Student Code of Conduct at Portland State University. I have a **zero tolerance** policy for cheating and plagiarism in this class, and instances of cheating will be dealt with accordingly (see <https://www.pdx.edu/dos/academic-misconduct>).

**ACCESS AND INCLUSION FOR STUDENTS WITH DISABILITIES:** PSU values diversity and inclusion; we are committed to fostering mutual respect and full participation for all students. My goal is to create a learning environment that is equitable, useable, inclusive, and welcoming. If any aspects of instruction or course design result in barriers to your inclusion or learning, please notify me. The Disability Resource Center (DRC) provides reasonable accommodations for students who encounter barriers in the learning environment. If you have, or think you may have, a disability that may affect your work in this class and feel you need accommodations, contact the Disability Resource Center to schedule an appointment and initiate a conversation about reasonable accommodations. The DRC is located in 116 Smith Memorial Student Union, 503-725-4150, [drc@pdx.edu](mailto:drc@pdx.edu), <https://www.pdx.edu/drc>. If you already have accommodations, please contact me to make sure that I have received a faculty notification letter and discuss your accommodations. Students who need accommodations for tests and quizzes are expected to schedule their tests to overlap with the time the class is taking the test. For information about emergency preparedness, please go to the Fire and Life Safety webpage (<https://www.pdx.edu/environmental-health-safety/fire-and-life-safety>) for information.

**STUDENT HEALTH AND WELLNESS:** If you are in need of a COVID-19 test, flu shot or need to speak with a counselor for mental health reasons, the Center for Student Health and Counseling is open Fall term and taking tele-health appointments. Schedule a tele-health appointment by calling 503.725.2800, and schedule your flu shot by calling 503.725.2800. Find all SHAC resources on their website at <https://www.pdx.edu/health-counseling/>

**FALL 2020- G610- RESEARCH METHODS I ~ TENTATIVE COURSE SCHEDULE**

	<b>Paper Summary</b>	<b>Collaborative Document</b>	<b>Peer Review</b>	<b>Paper Presentation</b>	<b>In-Class Discussion</b>	<b>Ref List-Bibliography-Proposal</b>
<b>Week 1 Monday</b>	N/A	N/A	N/A	N/A	Grad Degree Path; Scientific Communication	N/A
<b>Week 1 Thursday</b>	Purpose Statements of Papers	Parts of Papers	Purpose Statements of Papers	N/A	Types of Scientific Papers & Evarts et al., 2009	One paper citation related to research
<b>Week 2 Monday</b>	Hypothesis Statement only: Horst et al., 2020	Sections of paper; Major points made in each section	Purpose & Sections of a Paper	N/A	Hypothesis	N/A
<b>Week 2 Thursday</b>	Hypothesis Statement & Conclusion only: Nelson et al., 2006	Sections of paper; Major points made in each section	Hypothesis Statements & Conclusions	N/A	Connecting Hypothesis & Conclusions	Two paper citations related to research with reason for choosing
<b>Week 3 Monday</b>	Hypothesis Statement & Conclusion only, assigned paper: Wells & Simpson, 2001 OR Wells & McCaffery, 2013	Sections of paper; Major points made in each section	Hypothesis Statements & Conclusions	Two groups- One presentation per paper: Wells & Simpson, 2001 OR Wells & McCaffery, 2013	Discussion of Presentations; Paper Discussion	N/A
<b>Week 3 Thursday</b>	Full Summary: Schmandt, B., and E. Humphreys, 2011	Sections of paper; Major points made in each section; Review comments on paper	Full Summary; Presentations	Single person paper presentation: Schmandt, B., and E. Humphreys, 2011	Paper Discussion	Three paper citations related to research with reason for choosing
<b>Week 4 Monday</b>	<b>Library Training Session: Finding References &amp; Reference Management Software</b> <i>Monday October 19<sup>th</sup> (10:30-11:55pm) Zoom meeting</i>					
<b>Week 4 Thursday</b>	Full Summary: Schmidt et al., 2008	Sections of paper; Major points made in each section; Review comments on paper	Full Summary; Presentations	Single person paper presentation: Schmidt et al., 2008	Paper Discussion	Six paper citations related to research with reason for choosing

	<b>Paper Summary</b>	<b>Collaborative Document</b>	<b>Peer Review</b>	<b>Paper Presentation</b>	<b>In-Class Discussion</b>	<b>Ref List-Bibliography-Proposal</b>
<b>Week 5 Monday</b>	Full Summary: Cashman et al., 2017	Sections of paper; Major points made in each section; Review comments on paper	Full Summary; Presentations	Single person paper presentation: Cashman et al., 2017	Paper Discussion	Eight paper citations related to research with reason for choosing
<b>Week 5 Thursday</b>	Full Summary: Darold & Humphreys, 2013	Sections of paper; Major points made in each section; Review comments on paper	Full Summary; Presentations	Single person paper presentation: Darold & Humphreys, 2013	Paper Discussion	Ten paper citations related to research with reason for choosing
<b>Week 6 Monday</b>	Full Summary: Ford et al., 2013	Sections of paper; Major points made in each section; Review comments on paper	Full Summary; Presentations	Single person paper presentation: Ford et al., 2013	Paper Discussion	N/A
<b>Week 6 Thursday</b>	Full Summary: Jordan et al., 2004	Sections of paper; Major points made in each section; Review comments on paper	Full Summary; Presentations	Single person paper presentation: Jordan et al., 2004	Paper Discussion	Ten paper citations; reason for choosing (if different)  Annotated bibliography-one citation
<b>Week 7 Monday</b>	Full Summary: A paper of your choosing from your reference list	Sections of paper; Major points made in each section; Review comments on paper	Full Summary; Presentations	Single person paper presentation: Marshall et al., 2015	Paper Discussion	N/A
<b>Week 7 Thursday</b>	<b>No Class-Veterans Day (Nov. 11, 2020)</b>					
<b>Week 8 Monday</b>	Full Summary: A paper of your choosing from your reference list	Sections of paper; Major points made in each section; Review comments on paper	Full Summary; Presentations	Single person paper presentation: LaHusen et al., 2020	Paper Discussion	Ten paper citations; reason for choosing (if different)  Annotated bibliography-two citations annotated
<b>Week 8 Thursday</b>	Full Summary: A paper of your choosing from your reference list	Sections of paper; Major points made in each section; Review comments on paper	Full Summary; Presentations	Single person paper presentation: James et al., 2000	Paper Discussion	Ten paper citations; reason for choosing (if different)  Annotated bibliography-three citations annotated

	<b>Paper Summary</b>	<b>Collaborative Document</b>	<b>Peer Review</b>	<b>Paper Presentation</b>	<b>In-Class Discussion</b>	<b>Ref List-Bibliography-Proposal</b>
<b>Week 9 Monday</b>	Full Summary: A paper of your choosing from your reference list	Sections of paper; Major points made in each section; Review comments on paper	Full Summary; Presentations	Single person paper presentation: Rubin et al., 2003	Paper Discussion	N/A
<b>Week 9 Thursday</b>	Annotated reference: A paper of your choosing from your reference list (You should have 6 completed)	<b>No Class. Holiday. 11/25/2020</b>				Ten paper citations; reason for choosing (if different)  Annotated bibliography- six citations annotated
<b>Week 10 Monday</b>	Full Summary: A paper of your choosing from your reference list	Synthesize Papers	Full Summary & Research Goals	video	Discussion of paper synthesis & Research Goals	N/A
<b>Week 10 Thursday</b>	Draft research goal outline	Final Edits to Best Practices Document	Draft of research goal outline	Begin final presentations: Individual Research Goal Presentations (10mins max)	Short Discussion of research goals (incl. proposals)	Finalized reference list (ten refs) with reason for choosing  Annotated bibliography- ten citations annotated
<b>Finals Week</b>	Wednesday, Dec 9- 12:30-14:20pm	N/A	Presentations	Individual Research Goal Presentations (10mins max)	N/A	Final Research Goal Outline

**\*\*Note: This class schedule is tentative and is subject to change\*\***