

SYLLABUS

ENR 6000

Research in Environment & Natural Resources
The Ohio State University
2 credits, graded S/U
Autumn Semester 2023 (AU23)

COURSE OVERVIEW

The use of science and research to understand and address environment and natural resource challenges. Students will develop and write a literature review for their MS research project. The course is graded satisfactory/unsatisfactory (S/U). Students will complete seven scaffolded writing assignments that build upon each other towards a final literature review. This course is largely self-paced within weekly modules to give students the ability to access and satisfy requirements within a flexible time frame. This course has no quizzes and no exams. All course requirements must be completed during the semester of offering. No textbook is required. All course content will be delivered and/or completed using Carmen (<https://carmen.osu.edu>).

Instructor - Dr. Brian H. Lower, Ph.D.

Course Email - Lower.30@osu.edu

Course description

This course will introduce new graduate students in the School of Environment and Natural Resources to graduate education and help students begin a successful graduate research program. As such, we will overview available university and school resources and requirements. The main objective of this course is for students to write a literature review for their MS thesis. Each student will work in consultation with their advisor, to write a literature review of their research area with the impetus on the student to develop the ideas that will become part of their MS thesis. This course is designed to facilitate this process through the completion of seven scaffolded writing assignments that build upon each other towards a final literature review.

Course learning outcomes

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

- Develop a detailed concept map for their MS research project.
- Draft extensive Search Criteria and References for their MS research project.
- Write a Literature Review of what has been published in the primary literature of their research area.

HOW THIS COURSE WORKS

Mode of delivery: We will meet in-person according to the course schedule shown below. All instructions and assignments will be delivered by the instructor and completed by students through Carmen (<https://carmen.osu.edu>).

Communication: Dr. Lower will provide important information (e.g., course schedule, due dates, assignment information, reading materials) to students using weekly **Carmen Announcements** (<https://carmen.osu.edu>). Students are expected to read these announcements on Carmen each week. Students can reach Dr. Lower by email at any time during the semester at Lower.30@osu.edu to ask questions, discuss concerns or set up a time to talk with Dr. Lower in-person or by Carmen Zoom.

Pace of course activities: This course is divided into **weekly modules**. Students are expected to keep pace with weekly deadlines but may schedule their efforts freely within a module's time frame.

Credit hours and work expectations: This is a **2-credit-hour course**. According to [Ohio State policy](#), students should expect to spend 4-6 hours per week working in class (e.g., instruction, library, readings, writings, assignments) in order to receive a grade of (S) satisfactory.

Attendance and participation requirements: We will meet for in-person class according to the course schedule and attendance is required. Attendance is also based on your activity and participation in weekly modules on Carmen. You are expected to log into the course on Carmen every week to work in our class (e.g., read announcements, post discussions, download journal articles, submit assignments, complete peer reviews). If you have a situation that might cause you to miss an entire week of class, you should email Lower.30@osu.edu to discuss adjusted timelines. Dr. Lower often meets with students for one-on-one instruction as needed or requested by student. Students can contact Dr. Lower to choose a time for in-person or Zoom meetings.

COURSE MATERIALS AND TECHNOLOGIES

Textbooks and Readings

No textbook is required. All reading materials (e.g., journal articles, literature reviews, concept maps) will be provided by Dr. Lower to all students using Carmen. All reading materials will be FREE for all students.

Course technology

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

BASELINE TECHNICAL SKILLS FOR ONLINE COURSES

- Basic computer and web-browsing skills
- Navigating Carmen: for questions about specific functionality, see the [Canvas Student Guide](#).

REQUIRED EQUIPMENT

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Microphone: built-in laptop or tablet mic or external microphone
- (Recommended) Webcam: built-in or external webcam, fully installed and tested
- Other: a mobile device (smartphone or tablet) or landline to use for BuckeyePass authentication

REQUIRED SOFTWARE

- [Microsoft Office 365](#): All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Full instructions for downloading and installation can be found [at go.osu.edu/office365help](http://go.osu.edu/office365help).

CARMEN ACCESS

You will need to use [BuckeyePass](#) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the [BuckeyePass - Adding a Device](#) help article for step-by-step instructions.
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click “Enter a Passcode” and then click the “Text me new codes” button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Download the [Duo Mobile application](#) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357 (HELP) and the IT support staff will work out a solution with you.

If you experience connection problems with Carmen then the very first thing that you should try is another web browser such as Firefox, Explorer, Chrome, and Safari. If you are having difficulty opening a document or viewing an image or any other issue associated with this class, then it is most likely a problem with your computer, Internet connection or Internet browser. Everything for this class has already been thoroughly tested by thousands of students from all over the world to ensure that it works. Occasionally we do make mistakes, and when we do, we will always make it right.

GRADING AND FACULTY RESPONSE

How your grade (S/U) is calculated

ASSIGNMENT	PERCENTAGE
Biosketch, OSU Libraries and Concept Map	20%
Search Criteria and List of Articles	20%
First Draft Literature Review	20%
Peer Reviews	20%
Final Draft Literature Review	20%
Total	100%
See course schedule below for due dates. Students will earn Satisfactory (S) or Unsatisfactory (U) for each assignment. Students are expected to complete ALL Assignments listed above in order to earn a grade of S for the course.	

Late assignments

Writing Assignments: Assignments can be completed on Carmen within a flexible time frame of approximately 1-3 weeks. These can be completed at any time within the 1–3-week submission window. Submission after the due date for assignments will result in a 20% deduction per day from the overall grade. The submission areas will automatically close after 5 days from the due date and will not reopen. Dr. Lower will excuse missed deadlines under extreme circumstances, such as long-term sickness or hospitalization, family emergency, extensive issues at work, death in the family. If you experience one of these issues, you must contact Dr. Lower as soon as possible by email Lower.30@osu.edu to work out another arrangement. Dr. Lower will determine if your excuse is acceptable. Dr. Lower will not accept late assignments that are sent by email. All late assignments must be uploaded to Carmen.

Exams: there will be no exams for this course.

Quizzes: there will be no quizzes for this course.

Grading scale

The course is graded satisfactory/unsatisfactory (S/U). Participation is expected for all class assignments and assignments are due on the dates specified below. While excellence in assignment completion may not be visible in a final grade of “Satisfactory”, excellence will be evident in the final research product of the student’s graduate program (e.g., students typically include the literature review that they write for this course as the first chapter of their thesis and some students have even published their literature review as standalone articles). For comparison purposes, a satisfactory grade (S) for an assignment in this course is comparable to a grade of 80% B- or higher for a traditional graduate-level graded course (i.e., course where a student earns a grade of A through E).

Faculty feedback and response time

- **Grading and feedback:** For writing assignments, students can expect a grade and feedback within **7 days**.
- **Email:** Instructors check and reply to emails daily. Please email Lower.30@osu.edu to contact Dr. Lower. Please use your OSU email account to send emails to this account.

OTHER COURSE POLICIES

Academic integrity policy

POLICIES FOR THIS COURSE

- **Written assignments:** Your written assignments, including discussion posts, should be your own original work. In formal assignments, you should follow the provided course style to cite the ideas and words of your research sources. You are encouraged to ask a trusted person to proofread your assignments before you turn them in—but no one else should revise or rewrite your work. We use Turn It In software (<https://www.turnitin.com>) to check all writing assignments for potential plagiarism. Plagiarized assignments will not be accepted and will result in a grade of 0%.
- **Reusing past work:** In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with Dr. Lower at Lower.30@osu.edu.

OHIO STATE'S ACADEMIC INTEGRITY POLICY

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's *Code of Student Conduct*, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's *Code of Student Conduct* is never considered an excuse for academic misconduct, so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Statement on Title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

Your mental health

A recent American College Health Survey found stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other, and alcohol use among the top ten health impediments to academic performance. Students experiencing personal problems or situational crises during the quarter are encouraged to contact Ohio State University Counseling and Consultation Service (614-292-5766; www.ccs.osu.edu) for assistance, support and advocacy. This service is free and confidential.

ACCESSIBILITY ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

Requesting accommodations

If you would like to request academic accommodations based on the impact of a disability qualified under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of

1973, contact your instructor privately as soon as possible to discuss your specific needs. Discussions are confidential.

In addition to contacting the instructor, please contact the Student Life Disability Services at [614-292-3307](tel:614-292-3307) or slds@osu.edu to register for services and/or to coordinate any accommodations you might need in your courses at The Ohio State University. Go to <https://slds.osu.edu> for more information. There are already a number of accessibility accommodations for students built into ENR 6000. These are listed in the Student Resources module under the Modules tab in the Carmen course. We work to provide these accommodations to ALL students and want to make sure all students have a positive learning experience in the course. Please send documentation from SLDS to Lower.30@osu.edu in order to establish any further accommodations needed during the semester.

DETAILS ABOUT COURSE ASSIGNMENTS

We have seven course assignments: (1) Biosketch, (2) OSU Libraries, (3) Concept Map, (4) Search Criteria and List of Articles, (5) First Draft Literature Review, (6) Peer Reviews, and (7) Final Draft Literature Review. Details for each assignment are listed below. Each assignment should be completed by the student on their own or in collaboration with their academic advisor. We use Turn It In software (<https://www.turnitin.com>) to check all writing assignments for potential plagiarism. Plagiarized assignments will not be accepted and will result in a grade of 0%.

1. Biosketch

To get to know your classmates, you will post a brief biographical sketch describing yourself to the Carmen discussion board (<https://carmen.osu.edu>). You can write about your background, where you earned your undergraduate degree, research/career interests, hobbies, etc. You are also required to respond to at least 2 of your classmates' discussion board posts.

2. OSU Libraries

The purpose of this assignment is to help get you started finding literature related to your MS research project. You will learn how to (i) develop a strategy to efficiently find different kinds of resources (e.g., journal articles, technical reports, books) for your research project; (ii) design good questions and searches to find materials such as journal articles and book chapters; (iii) get your hands on materials from OSU Libraries; (iv) use a concept map and search structure to find resources such as journal articles; (v) use different bibliographical software (e.g., Zotero, EndNote, RefWorks) to organize resources, create and format bibliographies and build annotated bibliographies.

3. Concept Map

As part of this course, you will develop a concept map that outlines the core of your research area. We recognize that your concept map could change as you get farther into your literature review but starting here is a good exercise for thinking about the work ahead of you – a solid concept map should guide your writing. For example, you may decide to detail out your research questions and how different key search words relate or not to those questions as well as to each other. For this class, you are required to **submit your concept map to Carmen** (<https://carmen.osu.edu>) in a format that works best for you. Examples include online software such as Visual Understanding Environment (<http://vue.tufts.edu/>), Microsoft PowerPoint, or simply pen and paper. Also, get creative and take care with your ideas – it's possible that your final product could be a figure in your thesis or other published work! Dr. Lower will provide several good examples of concept maps from previous students on Carmen.

4. Search Criteria and List of Articles

We will focus on literature and systematic reviews, and you will be provided instructions on how to conduct a systematic review. Please read the articles on these topics provided on Carmen (<https://carmen.osu.edu/>). You are not required to do a full systematic review as part of this class (but you are welcome to do so). However, you *are* required to submit (i) a list of key search terms that you will use to pull from the primary research literature, including any search terms that you will exclude from your search; (ii) information on the database(s) from which you expect to obtain that literature; (iii) complete list of journal articles obtained using those criteria.

The list of key search terms and database(s) as well as the total # of articles should be submitted as one Microsoft Word document to Carmen (<https://carmen.osu.edu/>). However, the articles you pull using your key search terms can be submitted in any format (e.g., .doc, .pdf, .xls) that works for your research. Dr. Lower will provide several good examples of search terms and article list from previous students on Carmen.

5. First Draft Literature Review

This assignment requires that you submit a draft of your literature review to Carmen (<https://carmen.osu.edu/>). Your review must cite at least 30 articles pulled from the primary literature during your search. The draft should be complete (full sentences and paragraphs, figures included, and formatted in a particular journal style) enough so that another colleague could reasonably provide you with feedback/guidance that will facilitate final writing of your review during this course. Note: When you submit

this draft to Carmen (<https://carmen.osu.edu/>), you should also consider submitting the draft via email to your advisor – hopefully, you have already received feedback by this point, as part of this assignment is to get you collaborating with your advisor and developing those collaborative ideas. Also, an annotated bibliography is unacceptable unless you have obtained permission from your advisor to do so AND provided documentation of that permission to Dr. Lower prior to this due date. Dr. Lower will provide several good examples of literature reviews from previous students on Carmen.

6. Peer Reviews

You will have two weeks to complete peer reviews for two other students' manuscripts and **submit both of your reviews to Carmen** (<https://carmen.osu.edu/>). Please plan your time accordingly. Peer reviews are one of the most critical aspects of publishing that are aimed at ensuring only methodologically-rigorous and scientifically-appropriate articles are published in the primary literature. Additional instructions on conducting your peer-reviews will be provided on Carmen and via email.

7. Final Draft Literature Review

The bulk of this course provides you the time and structure in which to complete a literature review constructed around your problem statement outlined in your concept map. The literature review is a presentation of the body of knowledge relevant to your research problem. In this review, you recognize the contributions of important authors to that body of knowledge and present the theory(ies) that defines the research area and results of past studies that support (or not) this theory (or theories). Furthermore, you should describe gaps or deficiencies in the published literature and how the research you will undertake should help to correct these problems.

For this course, we expect **you to produce a Literature Review consisting of 7-10 pages, single-spaced, with at least 30 references from your search of the relevant literature. The final product will be developed in collaboration with your advisor and given to your advisor upon completion. You will submit a Final Draft Literature Review (i.e., .pdf file, .doc file) to Carmen** (<https://carmen.osu.edu/>). We encourage you to find a published literature review (or even better, a systematic review) in your area of study (or similar) and use it as a guideline in developing your own review – even better if that published piece has identified methods that can be replicated.

This assignment is intended to be relevant and useful to your MS research project (e.g., serve as an introduction chapter for your thesis). We encourage you to work with your advisor to identify the most appropriate format and necessary content. We expect your literature review to contain an introduction that identifies:

- a. The context (relevance) of your study to environmental and natural resource management;
- b. What is “known” in your area of research (convey the most important information in just a few sentences--use this section to establish the current state of knowledge and set the scene for the next section);
- c. What is “unknown” in your area of research (the gap in knowledge that you will address);
- d. Why it is important to address this lack of knowledge (frame the problem that you plan to address);
- e. Your research question(s) and/or hypotheses. This section should reflect what you aim to answer or accomplish with your research project.

This introduction will then be followed by separate sections of the literature review, typically broken into thematic areas. Your literature review should also conclude with a “significance” section, where you will describe how your results/findings will contribute to environmental and natural resource management. Describe what should be possible to do (or do better) after you’ve done/published your work that was not possible before.

COURSE SCHEDULE

Week	Topic	Assignment	Due Date
1	Students will work from home to familiarize themselves with course on Carmen	Post brief BioSketch on Carmen Discussion Board	Sunday, August 27
2	Meet In-Person for Class (syllabus, introductions, library resources, reference management software)	245 Kottman Hall	Tuesday August 29 5:00-7:00PM
3	On Carmen, Dr. Lower will provide examples of concept maps, search criteria and list of references	Read presentation about OSU Libraries	Sunday, September 10
4	Students create a Concept Map for MS Research Project	Upload “Concept Map” file to Carmen (.doc, .docx or .pdf file)	Sunday, September 17
5	Meet In-Person for Class (concept maps, primary literature)	245 Kottman Hall	Tuesday September 19 5:00-7:00PM

Week	Topic	Assignment	Due Date
6-8	Students develop Search Criteria and List of Articles for MS Research Project	Upload "Search Criteria and List of Articles" file to Carmen (.doc, .docx or .pdf file)	Sunday, October 15
9	Meet In-Person for Class (writing a literature review)	245 Kottman Hall	Tuesday October 17 5:00-7:00PM
10-11	Students will complete the majority (~75%) of the First Draft of their Literature Review	Upload "Nearly Complete First Draft and References" file to Carmen (.doc, .docx or .pdf file)	Sunday, November 5
12	Meet In-Person for Class (peer review, final draft)	245 Kottman Hall	Tuesday November 7 5:00-7:00PM
12	Students will finish the First Draft of their Literature Review	Upload "First Draft Literature Review" file to Carmen (.doc, .docx or .pdf file)	Sunday, November 12
13	Each student will complete 2 peer reviews	Complete "2 Peer Reviews" on Carmen	Sunday, November 19
14-15	Students will write the Final Draft of their Literature Review	Upload "Final Draft Literature Review" file to Carmen (.doc, .docx or .pdf file)	Sunday, December 3
All assignments will be submitted/completed using Carmen (https://carmen.osu.edu).			