

Appendix C: GRAD 5124 Lesson Plan, Learning Objectives, and Weekly Assignments

1 Credit, pass/fail course at the graduate level. To balance the weeks that had more reading/activities, the course was constructed to include 12 lessons and 3 final projects spanning the 15 week academic semester.

Week 1: Introduction

Learning Objectives

- Familiarize themselves with the online instruction platform interface.
- Identify their Subject Librarian
- Explore the concept of "professional identity"

Assignments

- Meet with your Subject Librarian
- Summarize your personal goals of what you want to gain from this course
- Discussion board: Introduce yourself to others in the class

Week 2: Ethics and Information

Learning Objectives

- Define research ethics and forms of plagiarism
- Identify ethical expectations of graduate students
- Recognize training opportunities for IRB, ethics and plagiarism

Assignments

- 2 assigned readings
 - Write a short reflection regarding those readings
- Quiz on plagiarism
- 2 readings about the Virginia Tech Honor Court
 - Discussion board: discuss cases from the readings
- Discussion board: Identify training opportunities for further skill development related to your area of interest(IRB, CITI, etc.)

Week 3: Basics of Information and Using the University Libraries

Learning Objectives

- Outline the information timeline and define where primary, secondary, and tertiary sources appear in that timeline
- Describe how information is organized and searched
- Explain the difference between platforms and databases
- Discuss how to find materials using the Summon search engine, as well as where to find help using the Library Homepage

Assignments

- Discussion board: list experience using library services, list new services discovered through this week's lesson
- Quiz on information sources

Week 4: Basics of Data Collection and Grants

Learning Objectives

- State the purpose of grants related to the research process
- Recognize key requirements associated with research projects
- Define best practices for data collection
- Identify research methodologies appropriate to your projects
- Describe the library's data services

Assignments

- 2 readings
- 4 videos to watch
- Quiz that incorporates the above readings and videos for comprehension

Week 5: Organizing Your Digital Life

Learning Objectives

- Explain how your digital life is currently organized
- Differentiate between various online tools you can use for different purposes
- Describe methods to locate tools when you need them

Assignment

- Reflection on current practices
- 4 readings that describe four classifications of digital tools
 - Organizational
 - Collaborative
 - Cloud Storage
 - Library and Resource Management
- Reflection on which of the above tools could be incorporated into current workflows

Week 6: Citation Managers

Learning Objectives

- Identify the basic common functions of citation managers
- Compare and evaluate the specific functionality and applicability of three citation managers
- Use one citation manager to import a reference from a research database or other source, and to create a document with an in-text citation to this source and a bibliography listing this source.

Assignments

- Pre-reflection on utilizing citation managers in workflow (current practice or assumptions about using them)
- Choose one citation manager to use for the course and provide a screenshot of incorporating a source into a document as both an in-text citation and bibliography
- Reflection on experience using a citation manager to complete the assignment, pros/cons of the selected manager, thoughts about using a manager in research process

Week 7: Creating Effective Searches

Learning Objectives

- Demonstrate successful search strategies using Boolean operators and other search tools to refine search results
- Identify appropriate sources to search
- Explain the value of incorporating evaluation criteria when selecting materials

Assignments

- Submit a completed “Concept table and search statements” worksheet about your chosen topic
- Reflection of current practices for evaluating sources
- Five short readings incorporating the evaluation criteria in five different scenarios
- Reflection on applying different components of the evaluation criteria to greater levels, based on the scenarios provided

Week 8: Core Subject Databases

Learning Objectives

- Describe how a database works to retrieve results from searches
- Assess how effective an individual database is regarding your research topic
- Investigate some of the special searching and added features of a particular database
- Explain how to export results into your bibliographic manager for a particular database
- Construct a research log

Assignments

- Provide a summary of experiences searching the assigned databases, include pros/cons of each, along with special searching features highlighted in the lesson
- Submit a research log that demonstrates the searches conducted and the adjustments made to the search to improve/modify search results

Week 9: Other Subject-Related Databases

Learning Objectives

- Identify additional subject databases not covered in the previous week that cover your research topic
- Identify databases that are relevant for your area of research, but may be outside of your discipline
- Illustrate how searching the same search statement retrieves different types of results in the databases searched thus far

Assignments

- Request a subject database from your subject librarian that you haven’t already used
- Locate a database using the subject guides or database search
- Search Google Scholar
- Summarize the types of information sources retrieved by the above three sources; add searches to research log
- Quiz on searching multiple sources to find information about a topic

Week 10: Theses & Dissertations

Learning Objectives

- Identify and access trusted databases for theses and dissertations
- Investigate some of the special searching and added features of these databases
- Explain ways to access theses and dissertations from these databases
- Describe how to export results into your bibliographic manager from these databases

Assignments

- Search at least two theses/dissertations databases covered in this week's lesson and add the searches to your research log
- Quiz on locating and using previously published theses and dissertations

Week 11: Measuring Scholarly Impact

Learning Objectives

- Explain the different types of scholarly impact measurements (publication vs. individual)
- Describe how scholarly impact had been measured in the past and developments for the future
- Define what "impact factors" are, how they are calculated, and how they can be used and misused
- Identify how altmetrics are being developed to provide additional measurements regarding one's scholarly impact at an individual level

Assignments

- Four readings that incorporate examples of the scholarly metrics used, and those that are emerging
- Worksheet that incorporates impact factors, the h-index, and reflections about how these types of metrics should and shouldn't be used

Week 12: Authorship and related Issues

Learning Objectives

- Explain "open access" and why it is a relevant topic
- Reflect on open access mandates and opportunities, and make decisions for yourself within this context
- Identify and use OA repositories
- Explain your rights, as an author
- Define "predatory publishing" and identify predatory publishers

Assignments

- 4 readings: open access, copyright, creative commons, and predatory publishing
- Worksheet to determine appropriate open access publication compared to a predatory publisher
- Quiz on author rights and open access

Final projects:

Bibliography

For your bibliography, you will need to import 25 citations you gathered throughout the course from your bibliographic manager (EndNote, Zotero, etc) into the attached worksheet. You will be asked to include:

- your name
- topic/thesis statement
- citation style you chose to use (APA, MLA, Chicago, Journal of Dairy Science, Nature Genetics, etc)
- 25 citations from the resources you searched throughout this course provided in your selected citation style

Research Log

This final research log should include information from all the other sources you searched throughout this course. Additionally, respond to the following five prompts:

- 1) Based on your log, which proved to be the most useful database(s)/index(es) for your topic? Was this surprising or expected?
- 2) Which was/were the least useful database(s)/index(es)? Was this surprising or expected?
- 3) Please discuss the various databases introduced in this course and their advantages and disadvantages for your topic. Which one did you like the most and what in particular did you like about it?
- 4) Which search statement(s) did you find to be the most useful/effective regarding your topic? What do you think made this search statement to be so effective for your topic?
- 5) Would you consider using a research log (either this one, or a modified version) in the future, why or why not?

Reflection

In the first week of this course, you summarized your personal goals of what you want to gain from this course. In your final reflection, discuss how the content of this course has influenced your ideas and processes/procedures of conducting research. Your reflection should be between 1 to 2 pages and should include observations regarding the following five discussions points:

- 1) how well the content of this course did or did not meet your expectations
- 2) what research skills you feel you have improved upon as a result of this course
- 3) what research skills you feel you still think need improvement
- 4) any resources/services you learned about that you found to be particularly useful or not useful for you
- 5) how you plan on applying what you learned from this course in future research projects you embark upon